Lectures on the morbid anatomy, nature, and treatment, of acute and chronic diseases / delivered in the Theatre of anatomy, Webb Street, by the late John Armstrong ; ed. by Joseph Rix.

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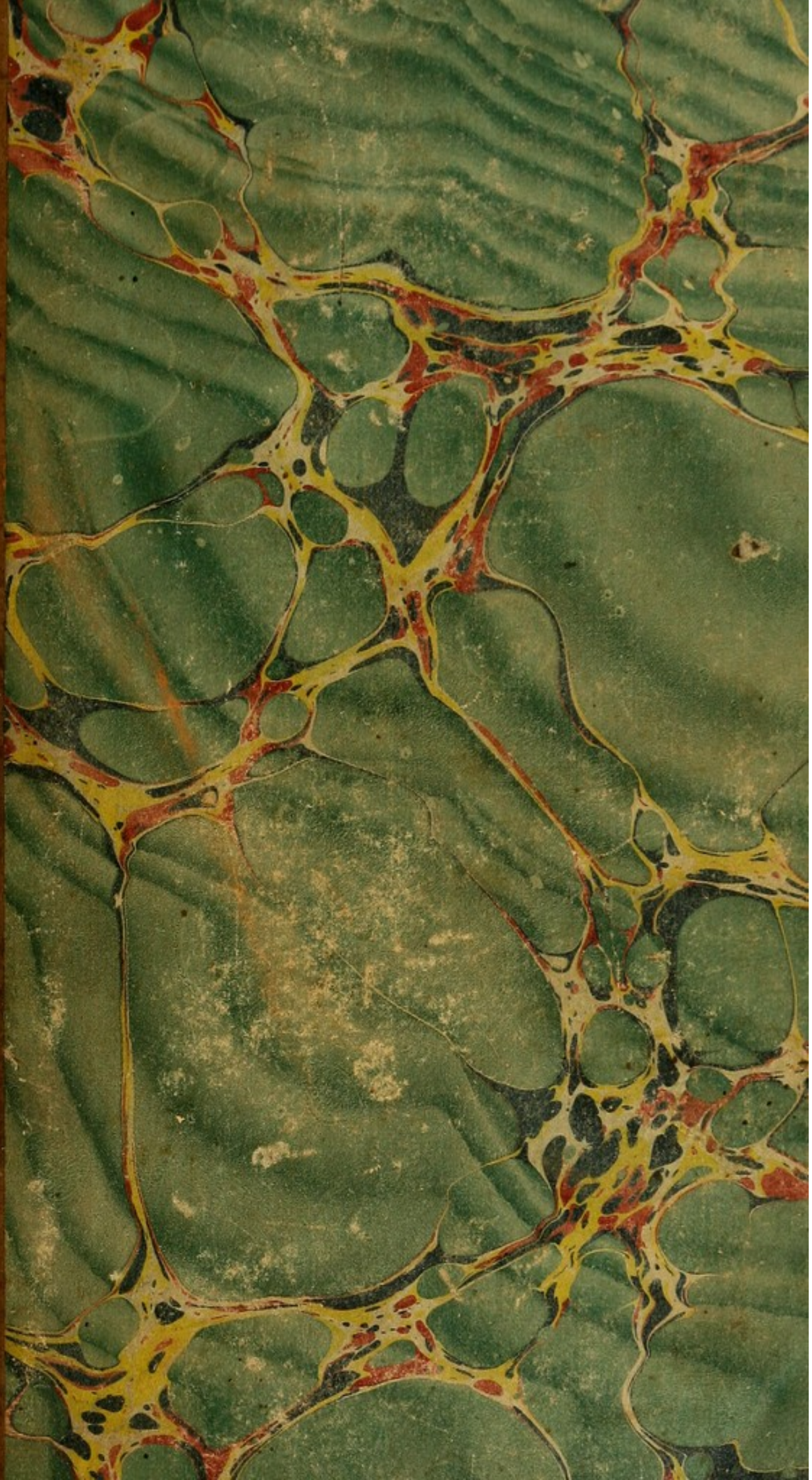

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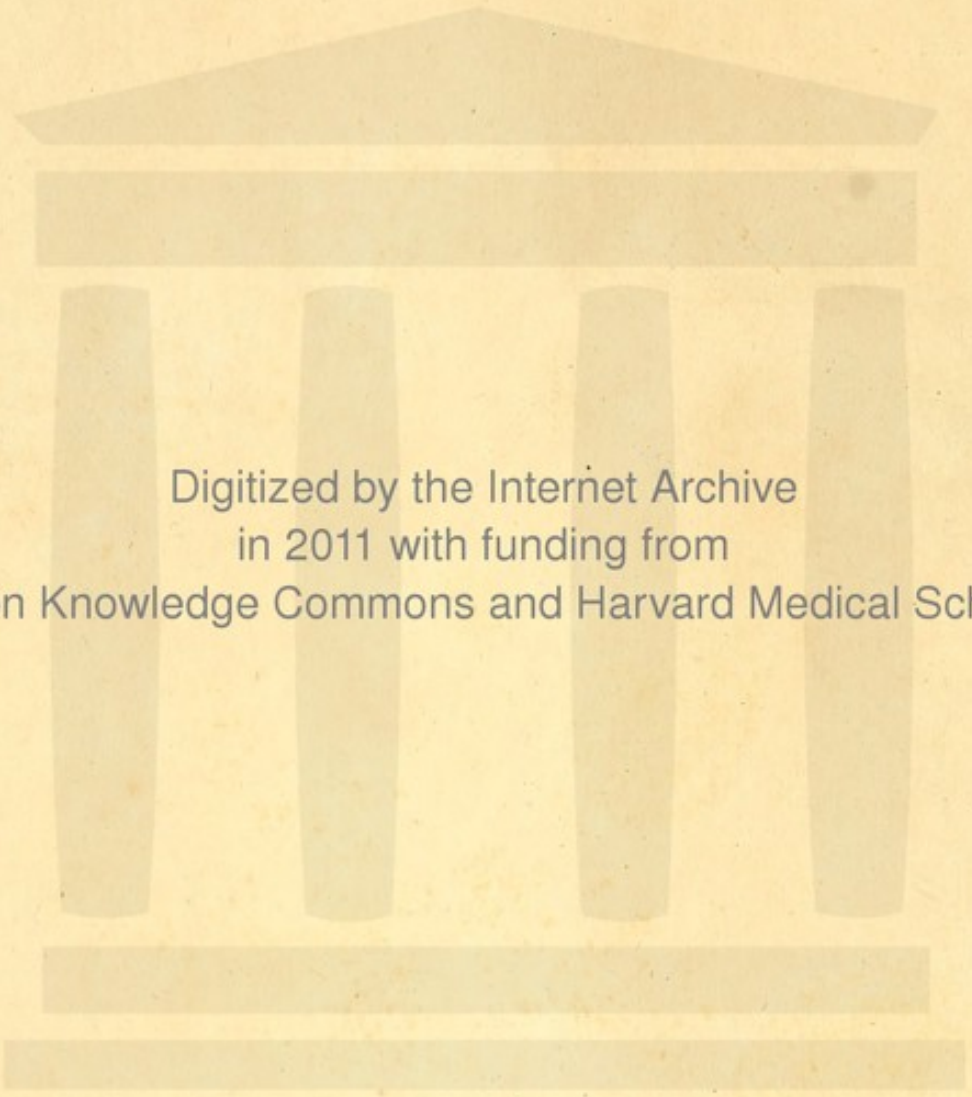

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LECTURES

ON THE

MORBID ANATOMY, NATURE,

AND

TREATMENT,

OF

ACUTE AND CHRONIC DISEASES;

Delivered in the Theatre of Anatomy, Webb Street,

BY THE LATE

JOHN ARMSTRONG, M.D.

CONSULTING PHYSICIAN TO THE FEVER INSTITUTION OF LONDON; AUTHOR OF "PRACTICAL ILLUSTRATIONS OF TYPHUS AND SCARLET FEVER," &c.

EDITED BY JOSEPH RIX,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS IN LONDON.

LONDON:

BALDWIN AND CRADOCK, PATERNOSTER ROW.

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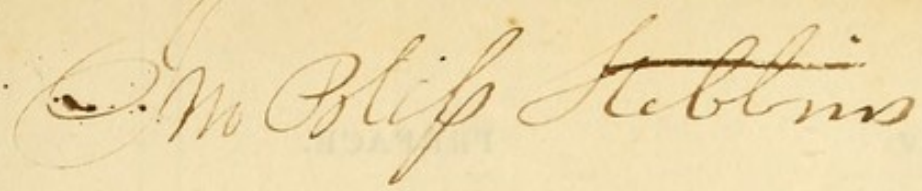

PREFACE.

DR. ARMSTRONG'S Lectures on the Practice of Physic need no recommendation to the medical student or practitioner. The principles they unfold were drawn from, or confirmed by, a zealous observance of the phenomena of disease, at the bedside of the patient: while few men ever possessed more eminently the rich and rare talent of communicating to the mind clear and impressive views of the topic on which he treated. Hence I was induced, during several courses, when attending the lectures of so justly celebrated a teacher, to take very copious notes of them, sedulously endeavouring to secure their substantial accuracy, and to retain, indeed, as far as was practicable, the exact phraseology employed by the lecturer. These are the notes referred to in the accompanying fac-simile. Two copies of them remained long in the possession of Dr. Armstrong, who assisted to render one of them more perfect by furnishing me with his own notes after each lecture, and has attested the fidelity of the MSS. by requesting the use of them, that they might be read to his pupils during his last illness.

The size of the volume prevents the insertion of some

lectures on the Influence of Diet, Air, Temperature, &c., in preventing, producing, and curing disease, which formed part of Dr. Armstrong's course on Materia Medica and Therapeutics.

St. Neots, Feb. 1834. J. R.

Russell Square June 8. 1829.

My dear Sir

I have been excessively jagged this winter by lecturing and practising together. Some months ago I contracted an Epidemic Catarrh, which was attended by a slight affection of the Languor that affection has returned two or three times since, from the

by the return of the mail+ or at all
events as soon as you can — for
I want my friend Dr. Booth to
read them this summer for me

I hope, that your practice
is then extending, and that your
health continues good. With
best wishes believe me

Yours very truly
John Armstrong.

+ The copy which I lately returned to you:

Joseph Rix Espin

Surgeon

St Neots, Huntingdonshire

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82....	2 from bottom,	*for* "he" *read* "she."
83 ...	2,	the same error.
148....	11 from bottom,	*for* "or" *read* "to."
173 ...	31,	*for* "in" *read* "of."
261 ...	9,	*dele* "I. COMMON."
273....	21,	*for* "a case" *read* "a fatal case."
310...	18,	*for* "gastrocnemic" *read* "gastrocnemii."
314....	18,	*for* "upon tongue" *read* "upon the tongue."
314....	27,	*for* "as it was" *read* "from ;—."
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409....	23.	*for* "Hagstroms" *read* "Hagstroem."
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576....		head, *read* "Probable Identity of Typhus Fever,"
608....	4 from bottom,	*for* "simple" *read* "simplex."
670....		head, *for* "Disorder," *read* "Disorders and,"
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LECTURE I.

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INTRODUCTORY.

The object of these Lectures is to illustrate the Principles and Practice of Physic, and to explain the circumstances which are either directly or indirectly connected with what has abstractedly been called Disease.

The first foundation of physic must have been laid at a very early period;—of the practice from instinctive attempts to remove physical suffering, and of the principles afterward, from observing that certain things were useful, and certain others detrimental, to the human species. Herodotus observes that the Babylonians were accustomed to expose their sick in the market place, that those who passed by might communicate information of any remedy which had been used by themselves, or which they had seen administered to others, with success. For a long period probably the practice of physic was not confined to any one class of persons; but in process of time individuals, remarkable for their talents, observation, and industry, were selected from the multitude, and employed as medical men. The application of remedies in the early ages must have been very indiscriminate. In the savage state, if no remedy suited to a disease were pointed out by previous use, man naturally was led to make experiments; if these failed, he invoked some spirit or other, called upon some favourite divinity for relief; and thus superstition became grafted upon physic. The Egyptians erected temples in which they placed the records of medical facts as they occurred; and to dispute the truth of these records was a capital offence. Bacon gave this proof of his superior understanding: he said "that he only found one man up to his time who had studied physic the right way;" that man was Hippocrates, who separated physic from religion, and cultivated it as a distinct science. He was the first who denied that diseases were produced by supernatural agency, and

maintained that the Deity acted by secondary causes, by which diseases were produced. Sydenham concurred in this opinion, and when asked by Blackmore what work he should particularly recommend a physician to read, answered, "Don Quixote," who refers all diseases to witchcraft. Sydenham, equal as a practical observer to Hippocrates himself, was one of the greatest men that ever lived in the medical world. He came to London with a noble object in view. He burst the bubble, and exposed the mockery and mummery of physic as it then existed; and, by his own illustrious example, amidst the fluctuations of theory and fashion, endeavoured to lead men to think and act for themselves. The time, however, had not yet arrived when his discoveries could be appreciated, and the result was that he was slandered, persecuted, and probably driven to an untimely death. But the laurels which his cotemporaries refused to twine around his living brow have been planted on his tomb by the justice of posterity; and that college which stood arrayed in persecution against him—which disgraced herself by attempting to smother the rising flame of his genius—has since bowed to his shrine, and still boasts her brightest ray in the glory of his name.

If we pass on from Egypt to Greece and Rome, where the cultivation of the fine arts was carried to the highest perfection, we shall find that but little progress was there made in the study of medicine; and it may be interesting to trace the causes which retarded the progress of this most important science.

The first was Ignorance: the ancients knew scarcely any thing of anatomy and physiology. Their horror of dissection kept them in a state of profound ignorance of anatomy. Their physiology and pathology, for the same reason, were mere conjectures, and their conjectures were made without good foundation. Rather than wander in doubt the human mind will always rest in error.

The second cause which retarded the progress of medical science was Presumption, out of which arose false philosophy. Men vainly erected imaginary laws to account for phenomena which they observed, and attempted to make the operations of nature accord with their theories. Those laws have been changed; but nature remains immutable, and her operations eternally the same.

The third cause was Credulity. Few men like the trouble of thinking for themselves, and many content themselves with following the opinions of some daring speculator. And this we find to be the case where we should little expect it. A monk, cotemporary with Galileo, discovered some spots on the sun, and

communicated the discovery to a brother monk, who told him that he had read Aristotle through with diligence and attention, and did not see it there mentioned; and, therefore, advised him not to divulge the secret, lest the people should deem him mad.

The fourth cause which retarded the progress of the science of physic was Cunning. The ancient world was composed of two classes—knaves and fools. The knaves, who were the few, contrived to keep the fools, who were the many, in a state of profound ignorance. The priests, to whom the slender knowledge of the healing art which existed was principally confined, increased their authority by concealing their ignorance, and making a mystery of what little they knew. But modern times have been more favourable to the development of general and of medical science. Generation after generation made but little progress; Galen mixed up his own philosophy with the doctrines of Hippocrates; and men were for a long time content with commentaries on the writings of these men, till, in the sixteenth century, Paracelsus, discarding the authority of Galen, attempted to establish chemical principles, some of which exist, at least in practice, to this day.

In the next century Harvey and Sydenham in our own country, Boerhaave, Stahl, and Hoffman, abroad, introduced many changes, both in the theory and practice of medicine. In still more recent times, Cullen, Brown, and Darwin, amid a host of others, have been conspicuous as influencing the progress of the science of medicine by their doctrines. And the improvement of the medical art is one of the most important circumstances of the present times. This improvement has not been produced by one man, but by many men. It is the work of the age in which we live. The revival of ancient literature was one cause of the improvement of medical science. For many ages all the knowledge of the Greeks and Romans was confined in libraries, until at length the Greek language began to be studied, and knowledge began to be diffused. The genius of ancient Greece and Rome arose like a new sun, and enlightened the world, and the gross darkness gave way. It breathed like a spiritual agency, and revived the drooping spirit of science, and the deluge of ignorance began to subside. The Reformation, and the discovery of the art of printing, have also assisted to bring about this improvement; and though medicine has enjoyed the accumulated labours of great and learned men of all ages, yet the present æra is big with important discoveries. The numerous labourers of the present times have well nigh cleared away the ruins and

rubbish of past systems; but the ample superstructure must yet be securely and splendidly reared by the medical architects of future ages. We must not be content with our present state of improvement, but must go on, persevering in our efforts to establish what is right, that truth may trample upon error.

Surgery was separated from physic in the dark ages; and the continuance of this separation, which ought never to have been made, is greatly to be lamented. Euripides says, that one wise head is worth a great many hands. An operating surgeon should have a clear pathological knowledge of febrile disease; for as soon as an operation is performed the case comes under the province of a physician; and the most proper physician for each case is the surgeon who has operated.

The circumstances which are connected with disease are very various, and it is therefore requisite to arrange them under certain heads.

The first important point connected with the study of disease is Anatomy and Physiology—a knowledge of the structure and functions of the different organs of the body. In the earlier ages you will find that, spite of all difficulties, an acquaintance with anatomy and physiology was derived in some degree from the dissection of animals. So also in the most ancient countries in which physic was practised as a separate branch of science, some knowledge of the same subject was acquired by various means, and amongst others by the sacrifices which were made by the priests. But their horror of the dead prevented the ancients from cultivating, to any considerable extent, the study of anatomy and physiology, the knowledge of which has only been acquired through a succession of ages, and especially since this horror has been diminished. By anatomy we acquire a knowledge of the situation, of the structure, and also in part of the functions of the body; but with respect to physiology, we must observe not only the situation and structure of the organs of the body after death, but also their functions during life; and by continuing our observations on both these sources we can alone acquire a competent knowledge of physiology. Nor will Human Anatomy alone be sufficient for this purpose; for many functions can only be understood by a reference to inferior animals,—by observations made on organized creatures throughout the whole range of animated nature; and Comparative Anatomy, if properly attended to, would preclude the necessity of many cruel experiments.

But still another point is important, namely, Experiments.

When the dissection of human bodies, as well as those of the inferior animals, fails to reveal the functions of different organs, then we may properly have recourse to experiments: but we are not justified in making experiments upon living animals without some distinct object. It is criminal to inflict unnecessarily any degree of pain upon the creatures which are placed in our power.

Morbid Anatomy is of material assistance in ascertaining the functions of organs, and is therefore clearly connected with physiology. To give one illustration: if we were carefully to notice the symptoms of a certain affection of the brain, we might infer from the state of that brain, as displayed by dissection, what were the sound functions of the organ. Another important advantage to be derived from morbid anatomy is the removal of any vague conjectures which may have been formed. By showing us the cause of death, it may give us an approximation to first principles—it may lead us to generalise the subject, by referring individual facts to certain more general facts or first principles. Ancient medicine is distinguished by conjectures, modern medicine by facts and legitimate inferences. The hypotheses of the ancients were built on shoals and quicksands, and Time, like a resistless wave, has swept them away; but the present foundation of medical science is laid broad and deep—on the firm rock; upon which may be erected, by the present and future generations, a splendid monument, which shall stand unchanged amidst the shocks and convulsions of nature. The difference, indeed, between ancient and modern medicine chiefly arises from the diminution of the dread of the cultivation of sound and morbid anatomy which has of late years taken place both in the public and amongst private individuals. Great part of modern pathology is the result of observations made within the last half century: Bonetus, Lieutaud, Ruysch, Haller, Morgagni, and others, may have led the way; but I repeat that modern pathology is principally the result of the attention which has of late years been paid to the symptoms of disease, and more especially to the effects of disease as displayed by dissection; and it is strange that magistrates in this country seem to encourage that horror of anatomical research which still exists in the public mind. If any such individual were to reflect upon the important duties which a medical man has to fulfil, he would never throw impediments in the way of any investigation by which a doubt may be cleared up, or that which was obscure may be rendered obvious and plain. Suppose, for example, that a medical man attends a child which dies, and that a doubt has been left on his

mind as to the nature of that complaint which has been the cause of its death; if he were to pause and say to himself, "Am I to add to the miseries which are already the lot of the parents of this child? Am I to ask permission to mangle the body of this child, which but yesterday prattled before them?" If, I say, he were to act thus, he would betray one of the most tender and hallowed trusts which one being can confide to another—he would be like the serpent insidiously stealing into the bosom of a family and inflicting a deadly poison there: he would remain ignorant of the cause of death, and would be one of the most destructive individuals in that society whose confidence he possesses, and whose sacred trust he has sacrificed to a novel and a morbid sensibility. Let us then have no more canting, but let us make the bodies of the dead useful to those of the living. I believe that it is not true that medical men have less feeling than other men; at least as far as my intercourse with them has gone, I think I have observed them display on the whole as kind and compassionate feeling as other men, or even more. I consider that no men practise virtue so much; but medical men make their feelings give way before their judgment, and this constitutes the difference. I repeat, then, that I recommend to you to cultivate minutely, not only sound anatomy, but morbid anatomy; for in these all the mysteries of disease often lie. Each, in the gross, is of very little value, though both combined are very useful: but while both have their utility, yet it is morbid anatomy alone which can make us acquainted with ultimate results,—with the disorganization of the particular structure which has been the seat of a disease occasioning death. Here is still open an extensive field worthy of observation.

But the preceding circumstances or facts are also of great importance: and these admit of certain arrangements—for example: 1. Predispositions; 2. Occasions; 3. Disorders; 4. Diseases.

1. Predisposition is the liability or tendency to disorder or disease.

2. The Occasion is the agent or circumstance which gives rise to such disorder or disease.

3. Disorder essentially consists in some error in the movements of the solids, or in the distribution of the fluids,—or in some change in the blood or secretions.

4. Disease essentially consists in something being added to, or taken from, the natural structure of a part.

1. Predisposition again admits of four sub-divisions; for the tendency or liability to disorder or disease is either—

1st. Hereditary, descending from member to member of particular families;

2nd. Ætal, connected with age;
3rd. Sexual, connected with sex; or
4th. Acquired.

Predisposition is a sort of neutral state, between health and a state of disorder or disease: it consists in a tendency or liability to, without the actual existence of, disorder or disease. This tendency seems to have performed a very conspicuous part of ancient pathology, and is, in my opinion, by far too much neglected by practitioners in the present day. Demosthenes, in one of his beautiful addresses, advises the Athenians not to be afraid of Philip, assuring them that from some shock all his weaknesses will be called forth, as is the case in the human body, in which all the latent infirmities may be called out by some unexpected impression. Celsus clearly pointed out the doctrine, the credit of which is now given to Mr. Abernethy, and which he has indeed done much to illustrate. The doctrine of predisposition is of the greatest importance in a preventive point of view; and if we take the whole of the sources of predisposition which I have enumerated, and trace them through society, we shall find, that in the civilised world at least, scarcely one individual can be said to be physically sound; we shall find in almost every person that there is some latent fault, which may become disorder or disease when such an occasional agent or cause is applied as will disturb the body either generally or locally.

2. Occasions or Agents are very various: they are Common, or Peculiar,—and they are also Mental, or Material.

Common Agents, judging from their effects, produce either a depressing influence, a stimulating influence, an irritating influence, or, to the circulation of the blood, an interrupting influence; and may, therefore, for the sake of brevity, be called—

1st. Depressants;
2nd. Stimulants;
3rd. Irritants;
4th. Interruptants.

Peculiar Agents are also very various; and they likewise admit of arrangement under distinct heads; for example:—

1st. Malaria; a state caused by a certain condition of the earth's surface with a certain condition of the atmosphere—a terrestrial and aërial condition.

2nd. Other states appear to be connected with a certain condition of the atmosphere, perhaps unconnected with any peculiar condition of the surface of the earth.

3rd. Human Contagions.

4th. Putrid Matter.

5th. Animal, Vegetable, and Mineral Poisons.

Common and Peculiar Agents may be said to disturb—

1st. The Mechanical functions; which are chiefly referrible to the heart and vascular system.

2nd. The Chemical functions; which are chiefly referrible to the fluids of the vascular system.

3rd. The Vital functions; which are chiefly referrible to the nervous system.

In fact, they disturb all these functions, which bear a mutual relation to each other; for when one becomes disordered all the others become more or less involved in the disturbance on account of their intimate mutual connexion. They affect also the structure upon which the functions depend. We must, therefore, lay the foundation of an external and an internal pathology; for the systems of physic which now prevail in this country are to physic what the arrangement of Linnæus is to animated nature. Linnæus has, as you know, classed the bat with man: in fact, he has made an external pathology; and you will find quite as great incongruities in some of the eminent systems of medicine. I would not have you attach much importance to nosological arrangements, except as a medium of comprehension between the teacher and the pupil: it is a ladder by which you may ascend, but which, having once climbed it, I should recommend you to throw down. Cullen's Nosology I consider to be founded on the grossest fallacy, and whatever respect I may have for the talents of Dr. Cullen, I consider it to be my duty to say that a great part of his system is very erroneous. The external, or symptomatical, pathology, comprehends merely the signs of disorder and disease; but these signs must be referred to certain changes either in the solids or in the fluids of the body; and a classified arrangement becomes necessary, and tends to facilitate the acquirement of knowledge and truth. It would be absurd for me to come here and throw my thoughts at random about me, like nuts, but I must give them in proper order, and with some regularity of arrangement.

An agreement is to be observed between certain facts and certain classes of phenomena to come at general laws; to arrive from individual facts to certain more ultimate facts, which may be termed general principles. It is also necessary to point out particular facts and circumstances, or those causes which modify the application and effects of remedies.

If I were to endeavour, then, to facilitate the acquisition of information I should begin with—

1st. The physiology and pathology of the human body; and

2nd. I should arrange the various affections of the human body under two classes; the one comprehending the acute and sub-acute affections, and the other the chronic affections. This arrangement into two great classes is written upon the very face of nature.

I. Acute and sub-acute affections are those that begin and terminate in a short period; and they arise from either a common or a peculiar occasion.

1. When they arise from a Common Occasion they may (as is proved by an attention to the symptoms during life, and to the morbid appearances after death) be referred to three varieties, namely--

1st. Common Congestive Fever; 2nd. Common Simple Fever; and 3rd. Common Inflammatory Fever.

1st. Common Congestive Fever, in its most perfect form, consists of a diminution of the heart's action and of the animal heat, attended by a marked interruption to the functions of some organ, which organ, after death, will be found to be more or less the seat of venous congestion. Obscure references to this very important form of fever may be found in the writings of Hippocrates; and Sydenham seems to have observed it, though he does not advert to it distinctly.

2nd. Common Simple Fever consists of a simultaneous increase of the heart's action and of the animal heat, attended with so equal a distribution of the blood through all parts of the body, that no one organ can be said to be positively inflamed.

3rd. Common Inflammatory Fever has all the common characters of common simple fever, with the addition of inflammation, either of some internal, or of some external, part of the body.

2. Peculiar Agents or Occasions, as malaria, certain states of the atmosphere, human contagions, putrid matter, and poisons; produce also, 1st. Congestive Fever; 2nd. Simple Fever; and 3rd. Inflammatory Fever. But the peculiar occasions always produce, with the effects of Common Occasions, some peculiar effects.

1st. Malaria sometimes sinks the strength very rapidly, and the person dies under a congestive form of fever.

2nd. Sometimes malaria produces simple fever, which is peculiar in having such intervals or intermissions as are not observable in common simple fever.

3rd. Sometimes, on the contrary, malaria produces a continued or remittent form of fever, which is blended with inflammation; which inflammation is remarkably uniform as to its seat. It is always found in the same structures, namely, the brain, the bronchial lining, the intestines; together with which there will be a morbid condition of the skin. So that it appears that a taint exists in the blood which affects all individuals in the same manner; and the probability is, that all peculiar agents produce certain peculiar effects on particular parts of the body.

II. Chronic affections, which form the second class, are those which arise and proceed slowly and insidiously. They sometimes follow acute or sub-acute affections; and sometimes precede them, so that acute and sub-acute arise out of chronic affections. Nothing is more common than to find acute or sub-acute inflammatory fever degenerating into a chronic form of inflammation; and, on the other hand, chronic inflammation often goes on for a length of time insidiously, and, at last, creates an attack of acute or sub-acute disorder or disease.

Whether chronic affections arise from a common or a peculiar occasion, they are still referrible to certain morbid conditions. All the symptoms in chronic affections, as in acute and sub-acute affections, are referrible generally to one leading condition or fact. These conditions may be conveniently arranged under the following seven heads.

1. Venous Congestion.
2. Simple Excitement.
3. Inflammation.
4. Certain nervous conditions (for want of a better name), with little or no disturbance of the vascular system; as in hysteria or other affections.
5. Certain changes in the quality of the blood.
6. Changes in the secretions from the blood; as observed in the formation of calculi, and in the deposition of tubercles and other extraneous growths.
7. Mechanical obstructions; as in certain diseases of the heart and blood-vessels.

Sometimes one or other of these states exists separately; sometimes, however, they exist in conjunction; for chronic affections in their progress often become complicated.

In Pathology then, two things seem to require to be considered, namely:—1st. The symptoms or signs; and 2d. The conditions or changes which take place, and which are connected with the

symptoms: in fact, they stand in the relation to each other of cause and effect; and no pathology can be of use unless it connects the symptoms and conditions—the effect and the cause. This enables us to separate possibilities from impossibilities: it gives us an important view of the subject, which can in no other way be obtained. Unless a medical man have a distinct view of the cause of any affection, that is, of the condition upon which the symptoms depend, his practice will be a mere set of experiments on his confiding patient. But by referring the one to the other—as the effect to the cause—we create a close connexion between the remedies and the affection, a connexion which does not naturally exist.

In the human body it will be found that, under given circumstances, certain effects will occur from certain causes. If, for example, we employ any remedy, and ascertain precisely all the circumstances which exist at the time of its administration, we shall find under other circumstances of the same kind an uniformity of result. And should such an uniformity of result not be observed, we shall find upon more close investigation, that we had overlooked some circumstances which modified the effects of the remedy in this particular case.

There are many circumstances which influence the operation of remedies, and which require consideration.

1. The Seat of the disorder or disease.

2. The Nature of the disorder or disease.

3. The Degree of the affection; whether it be acute, whether it be sub-acute, or whether it be chronic.

4. The Duration of the disorder or disease has great influence. Thus the duration of inflammation of a vital organ modifies the treatment remarkably, and those measures which were proper in its commencement may be very unsuitable and injurious towards its close.

5. Age modifies the effects of remedies; so that the same disorder or disease in an infant will require treatment very different to that which would be proper in a middle age; and, again, the same disease in extreme age will require a considerable modification of treatment, compared with that which would be applicable in middle life.

6. Comparative Strength, previous Habits, and other peculiarities, have great influence on the effects of remedies. Medical men should pay great attention to this subject. The same remedial means will have different effects under different states, which are

only to be known by minutely considering all the parts of each particular case. There is no other way of acquiring precision of practice, except that of minutely noting all the facts of each individual case, and all the various effects of each remedy under this and other particular circumstances.

The measures which we employ for the alleviation or cure of disorder or disease are few and simple; and they may be divided into, 1. Medical; 2. Regiminal; and 3. Mental. We do not trust to either of these means separately; but when combined together we bring them to bear on any particular case.

Having made these very rapid and imperfect remarks, I shall proceed to detail the plan which I intend to adopt in delivering these Lectures. I have hitherto begun to lecture in the middle; but, in this course of lectures, my intention is, as Lord Byron says, "to begin with the beginning." I shall divide the Course into three parts.

In the first part I shall explain the various methods of investigating predisposition, disorder, and disease. I shall, for this purpose, divide the body into several artificial systems—eight or nine—and shall take a distinct view of the healthy condition of these systems, and contrast it with their morbid conditions: and thus I shall endeavour to show their mutual relation. In this way I shall give you such preliminary information as will enable you to comprehend the second and third division of the Course; and this part will occupy eight lectures.

In the second part I shall proceed to the consideration of one class of disorder and disease, namely, the Acute and Sub-acute forms. In the beginning I shall consider the common occasions and predisposition; and, by doing this in one or two lectures, I shall save the necessity of so much repetition as I must otherwise employ; and shall devote more time to the morbid conditions, to the symptoms, and to the treatment, of acute and sub-acute affections.

In the third division of the Course I shall consider Chronic affections; and I shall enter much more minutely than I have hitherto done into the detail, not only of the rise, progress, and decline, of such complaints, but of the symptoms, the morbid appearance, and of the treatment of them; and I shall endeavour to refer all chronic affections to some ultimate fact: in short, I shall attempt to generalise the subject as I have done that of febrile affections; and I expect to be enabled to present it to your notice in an equally simple point of view.

A lecturer should exercise at all times the most unbounded

liberality towards his pupils: and if, to any gentleman who may wish to attend these lectures, the fee may be the object of the slightest consideration, I would far rather forego than receive it; and shall be happy to give him a ticket confidentially between him and myself. I trust I lecture here not for the mere consideration of money, but for the purpose of instructing the rising generation of medical practitioners; of refuting, to the best of my abilities, the numerous errors and absurdities which prevail in medicine; and of establishing the truth. If any gentleman were present whose wish is solely to pass through the accustomed forms, in order to attain the mere pecuniary advantages of our profession, I would intreat him not to attend these lectures at all. But with respect to those gentlemen who intend to devote their attention to this important subject on the principle of public utility—who take a liberal and honourable view of the purposes and advantages of the practice of medicine—I shall feel an interest in their welfare and prosperity, which will, I trust, be only equalled by their own.

I must here be allowed to remark that you, as students, have duties to perform which are as responsible as mine. No man can become a good practitioner by merely attending lectures. He must see disease in the miserable and comfortless hut of the poor, as well as visit the sick bed of those in more favourable situations in life. There is a noble study before you; and if you be not diligent, not only will the hopes of your relations be disappointed, but the safety of your patients will be endangered. Humanly speaking, the issues of life and death will be in your hands. The practice of medicine is benevolent and beneficent in its object; it is like the attribute of mercy, which

> "——— is twice bless'd;
> "It blesseth him that gives, and him that takes."

The present age is favourable to every species of improvement. The darkness and thick clouds of ignorance are well nigh passed away and dispersed; and we live under the first general dawn of the human mind. There are yet magnificent discoveries to be made; the field is extensive, and displayed before you; the volume of nature is open, and will amply repay the most diligent research.

LECTURE II.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

GENERAL OBSERVATIONS.—I. EXTERNAL SYSTEM.

1. *Temperature.*

In my last lecture I expressed my intention to divide the course into three parts, in the *first* of which I shall consider the general method of investigating disorder and disease, or the maladies which affect the human body. In the *second* part I shall consider the method of ascertaining, of preventing, and of managing, the first class of those maladies, namely, acute and sub-acute affections; and then, in the *third* part, I shall point out the proper method of investigating, of preventing, and of managing, the second class, comprehending the chronic affections.

I shall commence these with the consideration of the general method of investigating human maladies. This part of the subject requires to be subdivided into several parts: for example, it will be proper to consider—

I. Health;
II. Predisposition;
III. The Remote Occasions;
IV. Disorders; and
V. Diseases.

I. Health claims to be considered. The body is made up of many systems, which perform different offices; and these various functions require to be arranged, and they may be called—

1. The Mechanical functions; 2. The Chemical functions; and 3. The Vital functions.

1. The Mechanical functions are principally displayed in the heart and vascular system.

2. The Chemical functions are chiefly observed in the fluids which are circulating in the vascular system.

3. The Vital functions are chiefly seen in the nervous system, in the sensibility and contractility of the body.

All these functions bear such a mutual relation to each other,

that when one is disordered it is very apt to disturb all the others. In fact, health is nothing more than the harmony of all these functions. But this harmony of function implies an integrity of structure, whether that structure be solid or fluid, since the functions are but the result of structures or organs.

Yet even if there be this harmony of function, Health is but a relative term.

1st. It is relative in one individual compared with the same individual at different ages. Compare a person in infancy with the same person in middle age; and again compare him in middle age with himself in extreme old age. You are aware that many physiologists believe that all parts of the body are undergoing a constant change; and probably this opinion has been carried to too great a length; for it has been thought that the human body, like an old ship, is so constantly undergoing a renovation in part, that in a few years no part of the original structure is left; and on this assumption an ancient philosopher founded an argument in favour of the immateriality of the mind.

2nd. Health is relative in one compared with another individual. One individual is robust, another weak. One, a well-fed London servant for instance, tells you that he is in good health; but when you look at him, you see that he is remarkably florid in his countenance, and if blood be abstracted from him at this time, it will exhibit a superabundance of the red particles. Another, a puny and ill-fed pauper of the same metropolis, tells you that he is in good health; but you see that, contrary to the last individual, he is remarkably pale, and his blood, when drawn, indicates a deficiency of the red particles. One displays a general excess of blood—a general repletion or plethora, while another displays a general deficiency of blood; one individual is remarkably torpid, while another is remarkably sensible; and yet all these persons will assert that they are in perfect health. Health is modified by habit and climate. The rete mucosum of the negro being darker, his skin is not so easily blistered as that of an European. The negro requires also larger quantities than the European of particular medicines, in order to produce the usual effects, as tartarized antimony, opium, &c. If we examine the subject minutely, we shall find that we may refer these circumstances to different parts; and hence we must not take a mere general view of the subject, but we must investigate the health of the different organs—and this I shall endeavour to do in these lectures.

II. Predisposition seems to be intermediate between health

and disorder or disease; it is, in fact, the tendency or liability to disorder or disease, and exists very remarkably in certain individuals.

Predisposition admits of four subdivisions. It is

1. Hereditary; that is, a tendency or liability to this or that affection in this or that organ occurs in several members of the same family. And so true is this, that if we investigate the affections of different families, we shall find that in some families affections of the head prevail; in others affections of the lungs prevail; in others affections of the viscera of the abdomen prevail.

Predisposition is

2. Ætal; that is, connected with the age of the individual. It is well known that certain affections prevail most in infancy, that others are most prevalent about the period of puberty, that others occur most in middle life, and others in extreme old age; and all these differences are referrible to changes which the organs undergo at the different periods of life. Hereditary predisposition is

3. Sexual. There are affections which appertain peculiarly to males, and others to females, from the difference of organization of the sexes. It is

4. Acquired; and, as I shall have occasion to show, it is acquired by a number of agents, which operate either externally or internally upon the body. A disorder or disease once affects the body, and having been removed, leaves behind some weak part, some latent fault, which, though not seen under the tranquil state of the body, becomes disorder or disease when the body receives a shock. The weak part sustains all the injury when any remote occasion operates on the body. And next let us consider

III. The REMOTE OCCASIONS. The remote occasion is that which produces disorder or disease. It has been called the remote cause very commonly. The ancient authors described the remote causes as either predisposing or exciting causes; and they consider—

1. The Predisposing causes, as those which give a tendency or liability to disorder or disease.

2. The Exciting causes, as those which induce the affection, whether it be disorder or disease. And, besides these remote causes, they have what has been commonly called

3. The Proximate cause, which they say is that which being present occasions the disease, which being changed changes the disease, and which being removed removes the disease. In plain English it can be nothing but the disease itself.

I shall not, therefore, make use of the term "Proximate Cause," but I shall substitute for it the term "Pathological Condition;" and for the term "Remote Cause," I shall substitute the term "Remote Occasion;" and thus, as the word "Cause" is very unphilosophically used, I shall get rid of it altogether.

We must refer, then, to the various agents or Remote Occasions, which induce disorder or disease: and they are either Common or Peculiar.

1. The Common Occasions are the common or ordinary agents of nature. The temperature of the atmosphere, the moisture of the atmosphere (or, to speak more precisely, the dryness or dampness of the atmosphere), diets, drinks, mental emotions, habits, &c., are all Common Occasions.

2. The Peculiar are distinguished from the Common Occasions by some peculiarity found in their effects, and which is not to be found in those of the Common Occasions. Thus, for example, if I am asked what Malaria, chemically speaking, is, I must confess that I do not know; but the effects of Malaria are peculiar; and hence I infer that it is a Peculiar occasion or agent. By very careful and very minute investigation we might perhaps ascertain how, and under what precise circumstances, it is that this poisonous state of air is produced. Some facts render it almost certain that it is formed by some influence between the earth and the air; and, perhaps, I say, by careful investigation it might be found what are the precise circumstances under which, and what is the precise manner in which, it is formed; and thus its formation or effects might be prevented.

As Peculiar Occasions, we may mention also certain other states of the atmosphere: Celsus calls them "Tempestates;" Sydenham calls them "Constitutions;" and they are known only by their effects. Upon this principle it is that whole districts, a whole country, or many countries, may be affected in a particular manner. Epidemic catarrh, for example, will prevail in one or more countries to a very great extent, the peculiar effects being the result of something which is added to the common constitution of the atmosphere.

Putrid matter introduced into the human body produces peculiar effects. For instance, a student of anatomy labours very hard, his skin becomes faded, his strength begins to fail, and in this state he punctures his finger with the point of a knife which has just been in contact with putrid matter; irritation of the wound occurs, the absorbents become affected, the glands in the axilla become inflamed, and the individual has an attack of disease,

attended by very peculiar symptoms,—by symptoms so peculiar as fully to justify the opinion that something has been absorbed which taints the whole mass of the blood. And experiments prove the same thing; for it has been found that peculiar effects follow the introduction of putrid animal or other matter under the skin in the inferior animals. I think that effluvia floating in the atmosphere taint the blood and sometimes produce low fever, or some slow chronic disease.

There are also certain Human Contagions which produce peculiar effects, such as the poison of small-pox, of scarlet fever, of measles, &c. But we know nothing of the production of human contagions, that is, of their generation *de novo*. Peculiar effects are also produced by certain animal poisons, of which the saliva of a rabid dog may serve as an example.

So also the vegetable poisons (for example, the narcotic vegetables) produce peculiar effects. Certain mineral poisons produce peculiar effects, as some preparations of arsenic and mercury.

All these then are Peculiar Agents, and they all produce peculiar effects, by which their operation may be known, if the subject be minutely and carefully investigated.

The body, then, being thus predisposed, is obnoxious to the influence of all these agents or Occasions of disorder or disease, against some of which we are warned by instinct, while observation and experience teach us to avoid others. But we cannot avoid them all, and hence they produce their influence on the body, which they affect in one of two ways, that is, either by Disorder or Disease.

IV. Disorder is of four kinds. It consists—

1. In some error in the solids. Of this we have a remarkable example in the heart, the action of which may be diminished, or it may be increased. It is very remarkably diminished by those agents which act as depressants; and this diminution of the heart's action produces a corresponding influence on all the organs of the body. And so also when the heart's action is preternaturally increased, a corresponding disturbance of the functions of other organs frequently is produced. Disorder may consist—

2. In some irregularity in the distribution of the fluids. We have numerous examples of this. In some there is an error in the distribution of the blood: thus a deficiency of blood shall exist in one part, while in another part there is an overplus of blood. Many instances of this kind exist in the different forms of inflammation. Heat may also be considered to be a fluid; and there are

many instances of irregularity in its distribution through the body. And the probability is, too, that we have many examples of an irregularity in the distribution of what is called the nervous influence. Experiments which have been made, and facts which have been observed, seem clearly to indicate that there is such a thing as the nervous influence or nervous fluid, and that it is liable to irregularities of distribution, as I shall have occasion hereafter to prove by a reference to facts. Disorder may be said to consist—

3. In some change in the quality of the blood. An individual, for example, is kept for a long time upon dry salt provisions, and the consequence is, that the whole mass of blood is tainted, and there comes on an attack of scurvy. If inflammation of the lining of the air-passages occur, and, in consequence, a superabundance of mucus be poured out upon the bronchial lining, the whole blood becomes changed, from the secretion preventing the blood undergoing that change which in health takes place in it there; and a dark blood circulating produces, in many cases, as much influence on the brain as a full dose of opium. Disorder may consist—

4. In some change in the quality of the secretions of the blood. Certain secretions take place in health; but the animal heat becomes higher than natural, the heart's action is increased, the pulse becomes quicker than natural,—and then the secretions become changed. The secretion of the tongue becomes changed, the secretion of the bowels becomes changed, the secretion of the kidneys becomes changed, and sometimes these secretions in their turn become sources of irritation. The secretion of the intestines becoming changed may irritate the lining membrane of the intestines, and the secretion of the kidneys may irritate the kidneys or the urinary passages; and at length the consequence may be an attack of disease. This leads me, however, to observe that—

V. DISEASE consists,—not in some error in the solids of the body; not in some irregularity in the distribution of the fluids; not in some change in the quality of the blood, or of the secretions; but—

1. In something being superadded to, or taken away from, the natural structure.

There are certain ordinary habits of health; for what we call Nature is nothing but a series of habits established by the Deity in the human body. Disorder may be said to be a deviation from those habits; and there is in the human body always a natural tendency to return to those habits if all opposing circumstances be removed; and, therefore, in many instances, by what are called the natural efforts alone, if the cause be removed,—or at least by

very mild treatment, disorder will be remedied. But not so with Disease, which is far more serious; for it consists, as I have already observed, in something being superadded to, or taken from, the natural structure. Though we can repair disorder of function as we can repair a machine, yet we cannot repair disease of structure as we can a machine which has some fault in its structure.

Disorder may exist without disease; it may exist independent of any alteration of structure. But disease hardly ever exists without disorder. If something be superadded to, or taken away from, the natural structure, disorder is at length linked with the disease, not always in the commencement, but almost always in its progress.

Therefore, on the one hand, disorder often produces disease, while, on the other hand, disease often produces disorder.

It is likewise to be obsorved that there are certain Evidences of disorder or disease. Some of this evidence is rather *circumstantial;* and some of it is rather *direct.*

1. The Symptoms are the *circumstantial* evidence of disorder or disease.

2. The appearances on dissection, or the Morbid Anatomy, afford the more *direct* evidence of disorder or disease.

By means of this evidence, direct and circumstantial, we arrive at the secrets of nature. By carefully noting the symptoms during life, and by making minute, very minute, examination of the organs of the body after death, we come, in a great number of instances, at the cause of death.

The symptoms, then, take place as the evidence of disorder or disease. You must not mistake the nature of the symptoms. They are merely the external signs (as clouds are the signs of thunder or rain—but are neither the one nor the other), but they are not the thing signified. The thing signified is to be inferred, however, from the more circumstantial evidence of the symptoms; and ascertained, if possible, from the more direct evidence of the morbid appearances as presented in the examination after death. It is, in fact, an induction.

The evidence of disorder or disease consisting of the symptoms and appearances, is, therefore, external and internal; and, for the sake of distinctness, it may be arranged under four heads:—

1. Some change manifested on the surface of the body.
2. Some external or internal uneasy sensation or feeling.
3. Some impeded function of one or other part of the body.
4. Some morbid alteration revealed by examination after death.

If you wish to prosecute Pathology satisfactorily, if you wish to discharge aright the important and sacred duties which you owe to society, you must not be content with the superficial view of the subject contained in nosological arrangements, but you must endeavour to penetrate into the secrets of nature—connecting the internal with the external evidences—so as to get at the precise condition upon which the symptoms and results have depended. In this, as I have before observed, consists the great difference between ancient and modern physic; and hence the writings of the old authors are filled by idle conjectures and by mere external pathology.

The only mode of removing any doubt which may exist is, in the majority of cases, by an examination of the morbid appearances after death.

Physic may be compared to Navigation. The ancient navigators merely coasted round an island, without daring to lose sight of its shores—and the views and notions of the ancient physicians were equally confined; but the moderns have ventured out to sea, and, guided by the compass and the chart of observation and experience, have accomplished many things which had been hitherto untried. Modern medicine, equally with modern navigation, has been improved; its discoveries have been numerous and valuable, and have led towards certain general principles.

For the sake of convenience of arrangement, the human body requires to be separated into various artificial systems; and I shall therefore use the following division—

I. The more EXTERNAL SYSTEM, comprehending the cutaneous system, the cellular system, the synovial system, the fibrous system, the osseous system.
II. The NERVOUS AND MUSCULAR SYSTEMS.
III. The RESPIRATORY SYSTEM.
IV. The SANGUIFEROUS SYSTEM.
V. The CONCOCTIVE AND ABSORBENT SYSTEMS.
VI. The URINARY SYSTEM.
VII. The SEXUAL SYSTEM.

I shall consider, as I advance, the connexion of these systems with each other; and, in speaking of—

I. THE MORE EXTERNAL SYSTEM,

I may observe, that a great many important facts, and, by consequence, a great many important inferences, are to be derived from the survey of the surface of the body. It will be convenient to arrange the subject under several heads.

1. The Temperature of the surface of the body is very important, and requires attention in the investigation of disorder and disease. It is a very curious fact, that the temperature, while in health, is the same under all climates, ranging from 96° to 98° Fahr. The degree of temperature of the surface differs sensibly, however, at different ages. The temperature of an infant is generally lower than that of an individual at twenty-one years of age; and, at seventy years of age, the surface of the body is generally cooler than at twenty-one, or than at forty. Some individuals have naturally a higher, and so also some have naturally a lower, degree of heat on the surface than others. It is a circumstance very essential to be recollected, that infants and old persons have less power of preserving the animal heat than persons in the middle period of life. The same observation applies also to convalescents, who have been weakened by a protracted disorder or disease, or by fasting or by excessive evacuations: they have very little power of preserving the temperature of the body. This then is a very important subject, and one upon a knowledge of, and an attention to which, the salvation of infants and old persons very much depends. For example:—

A nurse carries *an infant* out very lightly clothed on a very cold day; she stands in the corner of a street—a blast of cold air strikes the infant—it becomes chilled, and either dies of congestion in the brain, or of inflammation of the brain or of the bronchial lining.

An *old person* under similar circumstances is chilled, and falls down suddenly and dies, either of an attack of apoplexy or of congestive fever. If you refer to the newspapers you will find that a great many old persons die, in intensely cold weather, very suddenly. These effects might in a great measure be prevented, in infants and very old persons, by very warm clothing and by avoiding exposure to a very low degree of temperature. Numbers of old individuals might avoid attacks of this kind, and live comfortably through the winter, by being covered with fleecy hosiery.

Very often a *convalescent* is chilled and dies in the same way, either of congestive or of inflammatory fever. A convalescent, in a very weak state, for instance, gets up on a very cold day, and, on account of his weakness, he is less able to retain the animal heat than usual, and is consequently more easily affected by a low temperature than usual; he is chilled, and dies either immediately or after some time from the results of the chill.

The Temperature may be affected in various ways.

1st. There may be a *local deficiency, or a local excess, of the animal heat;* and it is very important to take this into account. First, of—

a. Local excess. Suppose you were called in to see a young child, one of the first things you would do would be to feel the heat of the hands. An infant, when in health, almost always has cool hands. In the febrile affections of infancy you will almost invariably find that the palms of the hands are not cool as in health, but are hotter than natural. When there is a local excess of heat on other parts of the surface of the body, you may infer that something is wrong. The integuments of the head are hotter than natural under inflammation of the brain or of its membranes. The same very often takes place over the thorax: a local excess of heat about the integuments of the chest generally attends an attack of inflammation of the pleura. The same is very remarkably the case in inflammation of the serous and mucous membranes of the stomach and intestines. If the inflammation be acute or sub-acute in the serous or mucous membrane of the stomach, the integuments over the epigastrium will be hotter than natural: there is a pungency of heat, almost as if the part were too hot for the fingers to touch. The same takes place over the other parts of the abdomen when the intestines are inflamed, either acutely or subacutely, either in their mucous or serous membranes. So that from this local excess of heat you will be able to draw correct inferences, if you connect it with the concomitant circumstances, after further investigation. When erysipelatous inflammation takes place in the skin the heat is higher than natural; and the same when inflammation of the cellular membrane takes place, as in phlegmon; for then the skin about the part is hotter than natural. Also, if the veins of a limb be inflamed, as in Phlegmasia Dolens or the painful white swelling of the limb usually occurring in the puerperal state, the heat in the thigh of the affected side will be found to be higher than in that of the opposite side. If the heat be higher than natural about a joint, it will be found that some inflammation exists about the synovial or fibrous membranes there.

b. Sometimes one part of the body is hotter than natural, while at the same time another part is cooler than natural. In inflammation of the brain the integuments of the head are often very hot, while the feet are very cold; and, by decreasing the heat of the one and increasing that of the other, much benefit may be rendered.

c. Sometimes there are sudden changes of temperature in particular parts. This occurs sometimes in Gout and in Rheumatism.

This is almost always the case in those instances in which the stomach is simultaneously affected. There are translations of heat to the different parts. In Gout, for example, by diminishing the temperature of the wrist and increasing that of the great toe, the attack may be translated from the one to the other. This circumstance particularly requires to be attended to, lest the attack be translated to one or other of the vital organs.

d. There may be a local deficiency of temperature. In affections of the stomach, and in those of the head, the hands and the feet are very apt to be cold; and when, therefore, you see this indication, make further investigation to find out whether or not any disorder of function exist either in the head or stomach.

2nd. The *deficiency or excess of heat* may be *general*, instead of local.

a. In most febrile affections, whether they arise from common or from peculiar occasions, it happens that the temperature of the whole surface of the body is higher than natural,—there is a general excess of heat on the surface. When the febrile affection is fully developed the heat is universally increased over the surface. It is most desirable that the state of what has been called Fever should be understood. This increased development of heat on the surface assumes the perfect form of fever till it reach a certain point or acmé; and then it begins to decline, which is another very important circumstance.

b. The decline of the heat is, in some cases, favourable; but in others it announces approaching death. For instance, after an attack of inflammation of the intestines, the heat begins to fall, first in the extremities and afterwards in the trunk: and this is a very suspicious indication, and requires that you should attend to the concomitant circumstances. There may be, instead of a local, a

c. General deficiency of heat on the surface. In the onset of all those affections which arise from depressing agents, there is this general deficiency of heat; but unless you take into account the circumstances connected with it, you may be deceived. The skin may be universally cold, and yet the individual may be in health,—the blood being so equally distributed through the veins that no part is disturbed. But if the universal deficiency of heat be attended by an accumulation of blood in the veins of any one organ of vital importance, so as to interrupt the functions of that organ, then it becomes one of the most serious affections which we have to encounter. In congestive fever the universal deficiency of heat on the surface is one of the most alarming symptoms which I know of. In like manner also

there are many chronic affections of the skin and internal mucous membranes, which are attended by a deficiency of heat. The skin seldom has its functions affected without some other part participating in the disturbance; and that other part generally is some portion of the internal mucous membranes. This skin and the mucous membranes perform similar functions, and are modifications of the same structure. A great many chronic diseases occur,—for example, amongst medical men who work very hard,—which are at first indicated by a cool surface; and the same in many children who are badly clothed, &c.;—and this state of skin goes on for a length of time. A warm bath will restore the skin to its natural state and functions. I am sure that I have saved many individuals by ordering a warm bath at the precise point when some chronic affection has been insidiously stealing on. But these remarks are still more applicable to acute and sub-acute affections. Many, a great many, acute and sub-acute affections might be prevented by the use of a warm bath. The skin is cold, often for hours before the malady is developed; and the attack comes on in consequence of the superabundance of blood internally and the deficiency of blood externally. If a medical man were called in before occurrence of serious symptoms, when the skin was universally cold, by recommending the use of a hot bath at the temperature of about 100° he might prevent the attack of either a chronic or an acute affection. The efficacy of a warm bath, then, is very great; for persons will, I repeat, go about for hours with a cold skin before an acute attack comes on—or even for weeks and months before a chronic disease is established.

It is surprising that baths are not more numerous in London than they are. In Paris there are about an hundred and fifty baths; and persons are constantly going from house to house with hot water and portable baths: on the contrary, there are not more than a dozen baths in London. It is very surprising that in this country, where individuals are daily liable to be chilled, a mode of preventing affections so easy should not be in more general use. I am now in the habit of recommending all persons in the middle and upper ranks of society to have such a bath; and I advise you to recommend mothers to accustom their children to a warm bath from a very early period; for in many affections of children requiring a warm bath, it happens that immense mischief is done by children being frightened at it, whereas, if they be early accustomed to it, they will be pleased with it.

You will see then that the subject of the temperature of the surface is of much importance.

LECTURE III.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

EXTERNAL SYSTEM (CONTINUED).

2. *Colour.* 3. *Moisture and Dryness.* 4. *Texture.* 5. *Superadded Appearances.*

In the last lecture I proposed to consider the investigation of the more External system, and I made some remarks on the temperature of the surface. Another part of the external system which it is requisite to attend to is—

2. The Colour of the skin. And it will be proper, in order to observing the deviations, to take into account—

1st. *The natural colour* of the skin, which, like the natural temperature, varies at different periods of life. In infants the skin is remarkably blanched and nearly white, but the hands, fingers, and toes are pink; and every old nurse knows that in infancy this pink colour of those parts is the sign of health. There is also in children, in health, a beautiful bloom on the cheek,—provided they be put to bed early, be properly fed and properly clothed, and be placed in a fresh atmosphere. In the middle period of life the skin has a different hue from that which it had in childhood; and again in old age it has a different hue from either. It is impossible accurately to describe these various hues in words; but they are to be readily detected and distinguished by attentive observation. I advise you to cultivate the faculty of observation by the study of colours and faces, and by drawing. An individual, for example, who is in the habit of sketching faces, will detect variations in different countenances which are so slight that others would have overlooked them. The study of drawing is of great use to a medical man, and so is that of music. Plato has been ridiculed for supposing music to be a part of the education of a philosopher; but, to a medical man, it will be ex-

tremely advantageous, as, for instance, in the employment of Laennec's instrument—the stethoscope. One medical friend of mine has acquired great precision in the use of this instrument, and, having a musical ear, he acquired it much more rapidly than I have done.

The tunica conjunctiva of the eye may also be considered as a part of the skin, and it is important to attend to its natural colour. In infants it is, in health, of a bluish white colour. Contrast its colour in infancy with its colour in the adult, and you will see the difference.

Under various morbid affections great changes take place, in consequence, in the colour of the surface. Under some diseases—

2nd. *The Conjunctiva* undergoes a remarkable change in appearance, as *in pulmonary consumption.* I observed the eye of a gentleman, and the moment I saw it I made up my mind that he was consumptive; and then I investigated the case carefully, and found that my opinion was correct. The eye becomes in these cases of a dead white,—a hue so peculiar, that if you contrast it with the eye of health the change will be very obvious. It is difficult to describe, but it is somewhat—if you could strip it of its brightness—like the inside of the shell of an oyster.

Other changes of colour occur on the surface.

3rd. *Paleness* of the surface of the body attends almost all great mental or bodily shocks. If an individual undergo an operation, or fall from a height, or receive any distressing news, he becomes remarkably pale; and this universal pallidity is sometimes attended by great internal disorder: and an accident, or an operation, or the communication of some disagreeable news, may thus prove fatal, by the blood oppressing, and, as it were, suffocating, the functions of some particular organ. In this excessive paleness, sometimes—nay, always,—there is a deficiency of blood in the circulation through the skin, with an accumulation of blood internally. Paleness of the skin attends many Acute affections, as Congestive Fever: it accompanies also many Chronic affections. A change in the colour of the skin is one of the first symptoms of what is called a break-up of the general health; as you may observe during the winter, in the lecture-room, especially after an individual has been dissecting a great deal. You will see a similar change in children, in London, who are kept up late at night, and who are improperly fed. When you observe this change you may be quite sure that there is something wrong, and most probably in the internal mucous membranes, which are generally affected simul-

taneously with the skin. In this way a great many cases of what are called bilious affections occur, if my observations on this subject be correct.

It becomes, then, highly necessary to attend to the colour of the skin. In health there is a remarkable freshness of colour, which undergoes a change when any disorder or disease exists. Often it happens that there is—

4th. A very *peculiar pallidity*,—an *alabaster whiteness*,—in individuals, and this always indicates something very serious. Sometimes it arises from repeated abstraction of blood by the medical practitioner; sometimes it occurs from hemorrhage from the bowels; sometimes from excessive uterine hemorrhage. Whenever, then, you observe this change you should take great pains to ascertain from what source it has its origin.

5th. If the skin be *white, with great emaciation, and a blue varicose vein* be seen running here and there, ramifying over the surface like the veins in white marble, you may be certain that something is very seriously wrong. This appearance in the skin of phthisical patients has been described with anatomical accuracy by a poet, who says of a female—

> " Her brow was fair, but very pale,
> " And looked like stainless marble ; a touch methought would soil
> " Its whiteness. On her temple, one blue vein
> " Ran like a tendril ; one through her shadowy hand
> " Branched like the fibre of a leaf away."

If the individual have a tongue with a vividly red tip, you will generally find that there is some disease in the mesenteric glands;—if he have a cough probably there are tubercles in the lungs;—and so forth. I repeat, therefore, that you must endeavour to ascertain the precise condition by the means which I shall afterwards point out. Sometimes—

6th. A *tawny condition* of the skin is one of the first changes observed in disorder or disease; as in affections of the liver. Sometimes when the liver is inflamed there is a dark line observed under each eye. There are also other conditions which mark a disordered state of the liver; for example, in some instances the skin looks like tallow, or putty, in colour. This hue of the skin often attends the grey granulated state of the liver accompanied by a varicose state of the vena portæ.

7th. The *yellow colour* of the skin is sometimes an indication of some obstruction to the flow of bile under which the skin becomes jaundiced. And how is this state known?—The urine is tinged

with bile, so as to look like water in which saffron has been infused; or, if there be much bile, it looks like porter: the stools at the same time display a deficiency of bile and are clay-coloured. Sometimes there may be seen—

8th. A *lemon colour* of the skin; and, as far as I know, this is always a mortal sign. It occurs shortly before death. The skin, for example, after fever, becomes of a lemon hue, and you might perhaps, if you were careless, take it for a jaundiced appearance; but where this lemon hue exists, the urine is remarkably pale—it is not tinged with bile—and if a blister be raised in this state, the serum will not be tinged with bile, as in jaundice. It is accompanied also by a sickly-faint cadaverous odour of the breath, which, combined with this hue, is a most mortal sign.

9th. Another very remarkable colour of the skin is almost invariably accompanied by some internal disease; very often by tubercles in the lungs or elsewhere. It consists of *a willow shade,—a yellowish white colour.*

Another colour of the skin is—

10th. *Paleness with lividity.* The colour of the face is pale mingled with a leaden hue. In all cases of this kind the lip is purple, violet, or leaden, in its hue, indicating some affection of the respiratory organs,—mostly a change in the secretion of the bronchial lining preventing the oxygenization or the decarbonization of the blood, so that black blood circulates in the arterial system. Or, instead of paleness with lividity, the face becomes of a plum colour, especially in those persons whose face is naturally of a red colour in health, from some great disorder in the lungs or the bronchial lining, preventing the change of the blood which takes place in health. Arterial blood circulates through the surface of the cheek in health, rendering it vividly red; and no wonder then, that when comparatively venous blood circulates through the arteries it is plum-coloured. In individuals then with disease of the lungs, we see those whose countenances are pale in health, pale with lividity; but the faces of those who have naturally a vividly red colour are plum-coloured.

This paleness with lividity attends also affections of the heart. If there be a purple lividity on the cheek and hands, or any of the varieties of this colour which I have mentioned, recollect that it may exist, without any disease of the chest, from mere stagnation of the blood; that is, from the blood circulating slowly through the superficial vessels. It is a very curious circumstance, that arterial blood, when it circulates slowly, very soon loses the arterial, and

assumes the venous character. But there is a different state of skin, as to colour, which may exist.

11th. It is a *preternatural redness*, and this attends most fevers when fully developed. The heart's action is increased in force and frequency, and the surface is more red than natural.

This redness is most conspicuous generally in the face. Sometimes it is circumscribed, on a cheek like alabaster,—as in the flushes of hectic fever. Sometimes the redness is very peculiar. In the beginning of small-pox, a small red spot is seen, which is succeeded by a vesicle having a red base round it. In measles the rash appears in small distinct elevations on the face, and the colour of the rash is generally, but not universally, darker than the efflorescence in scarlet fever. In scarlet fever there is a diffused blush. In erysipelas the appearance is either red like the shell of a boiled lobster, or of a copper colour. In inflammation of the cellular membrane there is a more vividly red colour.

The next part of the External System which requires to be noticed, is—

3. The state of Moisture and Dryness of the skin. These are naturally different at different ages and in different individuals.

1st. If the *moisture* of the surface be *excessive*, it is an indication of something wrong; therefore, whenever very copious perspirations occur, it is desirable to ascertain the reason. For example, an individual labouring under some violent irritation of the urinary organs has a shivering fit succeeded by a hot fit, and then by copious perspiration. Now a profuse perspiration of this kind, together with some local uneasy sensation, would lead you to infer that there was some urinary irritation. In abscesses in the internal organs copious perspirations are not uncommon; and it is a very suspicious circumstance when a hot fit comes on at a certain period of the day, and is succeeded by a sweating fit, provided there be no ague, and that there be no irritation of the urinary organs. Sometimes excessive moisture of the surface depends upon great mental exertions; for instance, in medical men who labour very hard, copious perspirations are very apt to occur; and this state is best removed by getting rid of the mental worry. A constant copious perspiration is excited in some persons, especially ladies, by sitting in a high temperature. I have saved many individuals from a tabid state by reducing the temperature of their sitting-rooms. A great many ladies sit in apartments the temperature of which is so high as to do a great deal of mischief. Remember that in warm weather the

skin is more moist than in cold weather, and you must therefore take into account the season of the year, and also the state of the body.

2nd. There very often is a *deficiency of moisture* on the surface; and this state attends almost all fevers, especially those arising from peculiar occasions, as Typhus Fever, &c. This is an apparent dryness; for we have assumed a deficiency of the insensible perspiration to exist at this time, though perhaps it may in reality be increased, only that the apparently dry skin is produced by its passing off very rapidly. Many patients, who are kept quite quiet in febrile affections, though they take a sufficient quantity of food and have but little evacuation by stool or urine, yet waste rapidly; and how is this? It must be from some evacuation from the lungs or skin, or both. This is a point the explanation of which requires to be more fully developed by experience. In the beginning of many of these cases nothing answers better than a warm bath; but in the middle or towards the close of these fevers, the fatigue of a warm bath may destroy the patient's life.

In many cases of chronic affections, one of the first changes to be observed is a preternatural dryness of the skin. When the mucous membrane of the stomach, of the large or small intestines, the liver, or the kidney, become disturbed, there most frequently is an accompanying dryness of the skin; and the probability is that, when the skin is preternaturally dry, and the insensible perspiration is impeded, more work is thrown on the internal mucous membranes, especially that of the urinary organs. The function of the kidney is very closely allied to that of the skin; for, when either is decreased, the other is generally proportionally increased. I am quite confident that Diabetes occurs in this way;—that the first change is in the skin; that the internal mucous membranes then become affected, and their functions disturbed; and that ultimately the diabetic state occurs. In many cases of what has been called Dyspepsia, if you bring the skin into a good condition as to moisture, &c., the patient will get into a perfectly good state of health. A horse hardly ever has good health unless he is properly groomed; and cows in Switzerland, though they are tethered, do remarkably well by being groomed. If we paid half the attention to grooming our own skins which we devote to that of our horses, I believe we should do ourselves a great deal of good, for any impediment to the function of the skin has very great influence on the body.

The next circumstance to be observed in reference to the External System is—

4. The Texture of the skin.

1st. The skin may be, and very often is, remarkably soft and remarkably delicate; it has *softness and tenuity* combined. This is especially obvious in infancy and through the period of childhood; but it becomes less so at the period of manhood, for in the adult age it becomes gradually stronger. In the middle age too it becomes somewhat more dry, and remarkably so in advanced age. We have no very definite account of the particular affections of the skin which occur at different ages; and yet this is a subject with which medical men should be perfectly well acquainted. Where the skin is distinguished by softness and tenuity, you mostly find that there is in such individuals a predisposition to inflammation of the mucous membrane of the air passages, the mucous membrane of the intestinal canal, or the mucous membrane of the urinary organs; because the internal mucous membranes are nothing more than a modification of the structure of the skin, which being delicate, the mucous membranes are likewise delicate. Such individuals are also remarkably prone to tubercular diseases;—those, I mean, who have soft silken hands and also an almost transparency of complexion, are remarkably prone to a tubercular state of the cellular connecting membrane of the lungs, of the pleura, of the peritoneum, and to affections of the glandular system. Sometimes this softness with tenuity is hereditary, and prevails very remarkably in particular families.

2nd. A contrary state of skin, which is to be noticed, is *thickness and harshness* of the skin. The softness with tenuity of the skin, to which I have alluded, may be compared to kid's leather, and the thickness and harshness of the skin may be compared to dog's leather. Individuals whose skin is thick and harsh, as well as those who have a softness and tenuity of skin, are prone to affections of the internal mucous membranes, and of the glandular system. Individuals, too, who have a thick harsh skin, have a lax muscle. It very often happens that, when the skin is thus thick and harsh, its functions become disturbed, probably from the diminution of insensible perspiration, by which additional work, as it were, is thrown on the internal mucous membranes. Wherever the mucous membranes are liable to repeated attacks of irritation, glandular disease is very apt to occur. Exceedingly few examples of disease,

either of the external glandular system, or of the mesenteric glands, occur without some preceding affection of the mucous membranes.

Those individuals who have a soft delicate skin receive considerable benefit from the use of a cold bath, which gives tone to the skin. But it would be highly imprudent to begin with cold water at once; it is better to have it first of the heat of 96° or 98°, and to decrease the temperature gradually: you may diminish it one degree daily, till you have reduced it to 60°, and there stop. If there be any point between 96° or 98° and 60° after which the individual becomes chilly, that temperature ought not to be persevered in. By attending to this simple rule you may always know whether a warm bath or a cold bath agrees with an individual: if, after the use of it, he feels chilly and uncomfortable, it disagrees; but if, on the contrary, he becomes warm and comfortable, then you may be quite certain that it agrees. You may thus ascertain whether a bath is answering a beneficial purpose.

Again, those individuals who have a thick and harsh skin, derive considerable benefit from the use of a tepid bath occasionally, and soaping the skin. If this state of skin be neglected, they are very apt to have irritation of some portion of the mucous membranes. These individuals sometimes derive considerable advantage from cool bathing, but not cold bathing. They seldom bear to have the skin washed with water below the temperature of 50°; but from cool bathing, at a temperature of from 50° to 60°, they often derive great benefit. If the skin be furfuraceous, soaping, and afterwards friction with the flesh-brush, will be of great service.

3rd. Under the head of the Texture of the skin, we may consider *relaxation* of the skin. After an attack of fever, for instance, an individual becomes universally relaxed, and the skin participates in the relaxation. Hence he may have copious perspirations at night, without any other obvious cause than that the skin is relaxed. In such cases a tepid bath, gradually reduced to a cool bath, will be of service, or sponging the surface. You must be careful about the clothing in these cases, so as, on the one hand, not to allow the surface to be chilled, and on the other, not to relax the skin by allowing them to wear fleecy hosiery. You must be careful, too, to regulate the clothing of the bed. If you allow a person to lie between many blankets, the skin becomes more and more relaxed. You must attend to the temperature of the apartments. I mentioned in my last lecture that many ladies injure their health very much by sitting in a too high temperature. If a person be in

health, one of the best temperatures is between 50° and 60°; it seldom ought to be higher than 60° in a sitting room. Exercise in the open air, especially in a cold dry atmosphere, is another point to be attended to in cases where there is a relaxation of the skin. Either a moist cold atmosphere, or a moist warm atmosphere, relaxes the skin exceedingly; but if these individuals live in a warm dry atmosphere, or a cold dry atmosphere, they acquire considerable tone both of muscle and of skin. A change of weather has very great influence on the skin. An individual labours under a slight irritation of the stomach, or of some portion of the intestinal mucous membrane, and the skin is relaxed. The weather continues warm and moist, and let your treatment be what it will you cannot make any impression on the affection. But when the weather becomes dry, a remarkable difference occurs; for if the patient be properly clothed, the relaxation of the skin very soon disappears. Only mark the difference of the appearance of the cheeks of an individual in a cold moist day and in a frosty day; and you will see in the latter how fresh he looks. There is no doubt in the world that persons who breathe a fresh atmosphere, who are constantly surrounded by oceans of air, acquire much more healthy conditions of the internal mucous membranes than others.

4th. While considering the Texture of the skin, we may also notice another condition which sometimes exists; I allude to that of *constriction of the skin*. In typhus fever, in small-pox, in measles, and in scarlet fever, during their progress and especially during their decline, the skin becomes remarkably furfuraceous. After the affection, whether it be typhus, whether it be small-pox, whether it be measles, or whether it be scarlet fever, the skin is remarkably constricted, though the disease has disappeared; and you are surprised, perhaps, to find that the individual still remains languid, and that digestion is imperfectly performed. And this continues as long as the skin remains constricted. In these cases you should put the patient into a tepid bath and get all the scurf off, so as to bring the skin into a healthy condition. You should soak the skin well in the water, and having soaped it, wash off the soap, and afterwards dry it thoroughly, rubbing it with a rough napkin, or using friction by means of a flesh-brush.

When a patient, convalescent either from typhus fever, from small-pox, from measles, or from scarlet fever, becomes affected by chronic inflammation of some portion of the internal mucous membranes, you will find that it often entirely arises from the extra work

which is thrown on the mucous membranes, because the skin is so coated by scales that it cannot possibly perform its functions properly. A remarkable state of constriction of the skin attends inflammation of the mucous membrane of the intestines, especially of the small intestines, sometimes of the large intestines. In the progress of inflammation of the serous coat of the intestines the abdomen becomes rounder. But it almost always happens in inflammation of the mucous membrane of the intestines, especially that of the small intestines, that the abdomen in the progress of the affection becomes flatter and flatter, so that the abdominal integuments are drawn inwards towards the spine; they are drawn inwards so as to appear like so much withered tense parchment. In this case, if the individual having this remarkable constriction be not too much exhausted, a warm bath is often beneficial; but if he be very much exhausted, so that he will not bear a warm bath, then fomentations nicely used will give very great relief to this tense state of the abdomen.

Constriction about the joints also deserves your notice. Inflammation of the synovial membrane of a joint occurs, which you get rid of by the abstraction of blood and other means, but a constriction of the joint remains. The motion is in some degree impaired if not entirely lost; and if this be suffered to remain neglected the limb may be rendered useless. But if the limb be steeped daily (so as to relax the joint) in warm water, if friction be applied round the joint, and if the joint be exercised, if the surgeon or the patient make efforts to move it short of producing pain, the use of the limb and the motion of the joint may often be recovered. Attempts ought to be made, with firmness but not with violence, to save the joint if possible. It is in this way that quacks have often acquired very great credit. Some quacks have been remarkably successful in restoring the motion of joints when surgeons have failed; and regular surgeons now attend to this subject more, and avoid the evil effects which empirics often produce, by getting at the motion of the joint gradually; and in this way they often succeed completely in their object.

The next subject to be attended to in the survey of the External System is that of certain—

5. Superadded Appearances.

These are remarkably various and highly important. They may be classified as follows:—

1st. *Petechiæ.* A petechia is a little bloody point under the skin, irregular in shape. It is generally nothing more than an exuda-

tion of blood from the extremities of the capillary vessels. Now at first sight, if you only take into account the external pathology of the case, you might think the appearance of these petechiæ of no consequence. But it is necessary to take also into consideration the internal pathology. These petechiæ invariably occur in conjunction with inflammation of the mucous membrane of the bronchia. They generally occur, as you will find, in cases attended by fever; and I have hardly ever seen petechiæ in febrile cases, unless the fever has been combined with a bronchial affection. And it is not the bronchial affection from common cold, but that which arises from peculiar occasions—either from malaria or from the human contagions—which produces or is combined with these petechiæ. They hardly ever occur, except in typhus fever, and in some of the worst cases of small-pox, measles, and scarlet fever. Hence it will be obvious that the Diagnosis of petechiæ is of consequence. You should be able to distinguish petechiæ from flea-bites. I have been called in to see patients who have been covered, the practitioners have told me, with petechiæ; but I have often found, upon examination, that they have been nothing more than flea-bites. This error is not much to be wondered at, if they be not accurately observed. When I was a young practitioner, I used to make the same mistake myself. But they may be distinguished if you attend carefully to some circumstances; namely, a petechia consists of a very minute point which is very irregular in its appearance. It varies in colour: sometimes it is very faint; sometimes more distinct; sometimes vividly red; sometimes purplish; sometimes dark red;—and the darker they are the worse. A flea-bite is a small point on the skin, which is perfectly round. It almost resembles a point that has been placed upon the skin by a pencil. It is a dark small circle, which is circumscribed; whereas a petechia is irregular. You find petechiæ, too, in situations where flea-bites are not often found; for example, about the gums, and sometimes upon the internal mucous membranes, and upon the serous membranes. I have seen petechiæ in the bowels.

The colour of petechiæ almost entirely depends upon the degree of the bronchial affection. If the bronchial affection be but slight, they are vividly red; if more serious, they are of a darker hue.

Petechiæ arise almost always, when they do exist, in persons who breathe a close atmosphere. They occur, for example, in persons who reside in cellars; while those persons who live in garrets, where there are plenty of broken panes and where there is a tolerable supply of fresh air, are hardly ever attacked by them.

If a person covered with petechiæ, lying in bed in a close apartment, be carried into a fresh atmosphere, it is surprising how rapidly they vanish. The petechiæ will, for example, often disappear entirely in the course of twenty-four hours.

But there is another form of petechiæ which occurs without fever. They are called *Petechiæ sine Febre.* But they are also dignified with a fine-sounding name, which is very important in the ears of the public—*Purpura Hemorrhagica.* But though these petechiæ appear without fever, yet you never see them without some previous change in the condition, either of the skin or of the internal mucous membranes. Sometimes you find that the mucous membrane of the air passages is affected at the same time—at other times not. They seem to be produced through some disordered functions of the skin and mucous membranes, influencing the blood,—and perhaps influencing the solids, producing relaxation of the capillary vessels. It is very important to trace the connexion of these petechiæ; for if we prescribe for the mere bloody points, we shall do very little, if any, good.

Allied to these petechiæ is what practitioners call *ecchymosis.* I have seen it with petechiæ. Sometimes it is diffused over a whole limb. I recollect I saw an old individual with these petechiæ sine febre—or, if we must have a fine name, purpura hemorrhagica—and there was an exudation of blood into the cellular connecting membrane of the lower extremity. This often looks like gangrene; but you may distinguish it from that condition by the yellow and bruised appearance which it has, and by the absence of the symptoms which precede gangrene. In sea scurvy there seems but a higher degree of the same thing, when the fluids and solids are tainted by living for a long time upon dried salt provisions.

Vibices or *stripes* are of the same nature: they are exudations of blood, in stripes, under the skin in different parts of the body.

Whenever you observe these exudations of blood on the surface, make a point of attending to the stools and urine. If the patient pass blood with the evacuations of fæces or urine—and especially from the bowels—if you treat the case harshly he is almost sure to die. Recollect, then, that whether the petechiæ occur with or without fever, if the patient at the same time pass blood by stool, if you adopt rough measures,—for example, if you use purgatives,—the case is almost certain to be fatal. But if you allow him to breathe fresh air; give him a moderate supply of lemon-juice; and allow him a fresh animal diet, with vegetables if there be no fever; and

a very bland farinaceous diet if there be fever; you will generally find that the patient will do well. In some cases of this kind, bandaging the limbs and swathing the body is of very great use. A friend of mine saw several cases of petechiæ sine febre, occurring in individuals with an affection of the internal mucous membrane, in whom the whole mass of blood appeared to be changed: in the attempt to walk, these individuals sometimes died very suddenly. But when he adopted the plan of bandaging the limbs and swathing the body he found that they could easily walk with very little danger, the limbs being thus supported.

If a transudation of blood occur from the bowels, it becomes a point of very great importance to keep the patient in the recumbent posture. If you allow him to go about, it is very likely that he will have a sudden gush of blood, will faint, fall down, and die.

2nd. The next kind of Superadded Appearance to the surface of the body deserving notice, is *eruptions*. You have a good specimen of this in small-pox. At first a small red point appears; and this, in a short time, is distended by a little transparent serum; and then it is changed into a pustule. This, then, shows its real character—that it is first a point, then a vesicle, and then a pustule. You should observe also that there is a minute depression at the top of the vesicle, between the third and the sixth day.

3rd. The next kind of Superadded Appearance is *rash*. Of this we have an example in measles, consisting of distinct points, especially over the face; almost like the red points of small-pox. But the difference is, that the point in measles never changes—it never becomes a pustule; and that the points run together over other parts of the body.

4th. The next kind of Superadded Appearance is the *efflorescence*. This differs from both the eruption and the rash. You have an example of it in scarlet fever, in which the efflorescence consists of a diffused redness resembling the shell of a boiled lobster; and this enables you to recognize it. You may distinguish efflorescence from rash in the face. In measles the points would be distinct on the face; but in the efflorescence of scarlet fever the redness would be diffused.

If the colour of the efflorescence be much changed it generally is from a bronchial affection; and so in the eruption and rash. In small-pox if the bronchial affection be slight, the redness round the pustule will be vivid; but if severe, the colour will be purple. So you will have a vivid red rash in measles, and a vivid red efflorescence in scarlet fever, if the bronchial affection be slight;

but if it be very severe, they will put on the purple or the copper hue. In Erysipelas a different kind of redness occurs. It is an efflorescence defined round its edge by an abrupt red line, like the red lines which mark the extent of different countries in a map.

5th. *Vesicles.* This appearance is seen in some forms of fever: in some of the worst cases of typhus fever a vesicle is observed, the size of a hazel-nut or less, distended with serum. Sometimes these vesicles occur about the feet and hands; but they seldom arise unless the affection be very severe.

In erysipelas these vesicles sometimes exist when it is not very dangerous; but they very often occur with the worst forms of erysipelas. Therefore you will see the propriety of attending to the accompanying circumstances.

When vesicles occur in gangrene with a purple skin, following inflammation, and attended by a sinking of the general strength, the case is very serious.

6th. Among other Superadded Appearances may be noticed *pimples*. These are little spots which may be seen about the face. Many individuals have red spots or pimples upon their faces; and if you pass your finger over them they feel as if little grains of sand had been deposited in these places. These cases are sometimes very obstinate. They are seated in the mucous follicles, and they are more frequently met with in the face than elsewhere. Sometimes they exist as a primary disease of the skin. In other cases they occur in conjunction with affections of the stomach. It becomes a very important question whether these pimples ought to be removed. You can generally get rid of them by squeezing out their contents between the nails, and diligently dressing the part afterwards with the citrine ointment. But I have known other diseases follow the cure of these pimples; therefore, I repeat, it is very desirable to know whether they should be cured. I was led to these reflections by the following case:—I am now attending an individual who, after the cure of some of these spots on the face, began to have a short hacking cough, and, in fact, is now labouring under an attack of Phthisis Pulmonalis. I have seen many cases in which slight pimples on the skin being removed some very serious internal affection has followed: at any rate, it will be well to establish some counter-irritation; and a very good plan is to use a little of the ointment of tartarized antimony. For instance, if you rub two or three drachms (and three drachms is generally best) of the powdered tartarized antimony with three ounces of the cetaceous ointment, and rub a small portion of this on any part of the skin, it will bring out little pustules.

7th. *Scaly eruptions.* These often have great influence on the state of the internal mucous membranes; which being affected have also great influence on the state of the skin. For example, when the mucous membrane of the stomach is affected, these scaly eruptions of the skin will be aggravated; and, if the functions of the skin, on the contrary, be much disturbed, the affection of the stomach will be aggravated.

8th. Cutaneous affections occur in Syphilis; for instance, *tubercles* of a copper colour, or *papular elevations* of a copper colour. I am not certain whether this is an essential part of syphilis: for I have never seen them except where the general health has been broken up; and very nearly the same character is seen in other eruptions, in persons in whom there can be no suspicions of a syphilitic taint;—I except, perhaps, the copper colour. It may be, perhaps, that the peculiar copper hue is depending on some specific condition of the blood which is derived from the syphilis; for I have no doubt that the blood may remain tainted for many months. This is a point of very serious importance, and one which requires further investigation.

LECTURE IV.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

I.—EXTERNAL SYSTEM (CONCLUDED).

6. *Form.* 7. *Position.* 8. *Expression.*
Uneasy Sensations.—Impeded Functions.

IN the two preceding lectures I have considered the External System, with reference to—

1. Its Temperature;
2. Its Colour;
3. Its Moisture and Dryness;
4. Its Texture;
5. Its Superadded Appearances.

The next circumstance to be attended to in the examination of the External System, is—

6. The Form of the Body.

1st. The body may present a *fulness of form*, and this originate from various causes.

a. It may arise merely from *corpulency*,—from a deposition of fat in the cellular membrane; and then, if the individual adopt a regulated diet and take sufficient exercise, and if his habits be regular, it is very often of no great consequence.

An infant, in health, always becomes fat for the first two or three years of its life; and after that time it becomes more spare. Again, about the age of puberty individuals become more stout, especially females, from an increased deposit of fat.

b. This fulness of form may arise from an *effusion of fluid*—from a transudation of the serous part of the blood into the cellular connecting membrane—in short, from what is called Dropsy. When this is the case, it may be known from the circumstance of its pitting upon pressure; for example—if you press your finger upon the integuments and then raise it, an indentation or pit is left, and disappears gradually. You must remember, that dropsy is generally a symptom of something being wrong in the interior part of the body, and, indeed, it is always an indication of some disorder or disease going on there; and you must examine the nature and extent of that disorder or disease.

c. Fulness of form may arise from *wind;* as sometimes occurs when a rib has been fractured.

When an instrument has passed through the pleura costalis and the pleura pulmonalis, the whole cellular membrane very often becomes distended with wind; and you should recollect that this fulness of form, which is the consequence of air escaping into the cellular connecting membrane from wounds of the thorax, has an emphysematous feel. This point is of great consequence in the diagnosis. When wind exists in the cellular connecting membrane, it is a certain sign that the pleura pulmonalis has been wounded; and, if the case be improperly treated, the patient may lose his life: but if you treat it upon the common principles of avoiding and subduing inflammation the case will generally do well, if the chest be properly bandaged.

2nd. The peculiarity in the surface of the body may consist, not in a preternatural fulness of the body, but in *wasting*. This always goes on more or less in fever; and, if when the fever subsides the wasting cease, it is of very little consequence: but if, not only during the progress of the acute symptoms, but day after day, week after week,—whether with or

without fever,—the emaciation goes on, it is always a very alarming circumstance. If the emaciation remain, I repeat, after the attack of fever has left an individual, it is a certain sign of some insidious form of disease going on; it is one of the most sure indications of some serious affection of some internal and vital organ.

In children, with thin, spare arms and legs, and with a large round belly caused by the flatus which arises from the impaired functions of the stomach, you may be quite certain that something is going on wrong, especially if there be a faded appearance of the skin. Recollect, however, that all children may have fat extremities; but in health they have not all big bellies—and the same in adults.

But, instead of general emaciation, the wasting may be local; for instance, connected with a joint. An inflammation of the elbow joint occurs, and the patient, both from instinct and from the instructions of the surgeon, keeps it at rest while it continues painful; and the consequence is that the limb wastes. In these cases and in other examples of chronic affections of joints, you may very often prevent the wasting of the limb by passive exercise, and by gentle friction.

And in palsy it is very proper to recommend the patient to direct his mind to the limb and to make attempts to move it, by directing the will to it. John Hunter observes the value of making such efforts; by which and by friction you will often prevent the limb wasting any further.

3rd. The alteration of form may consist of *depressions* in certain parts.

Preternatural depressions existing on the head are very important. I could mention many cases to illustrate this observation.

A captain in the navy came to me, complaining of what he thought was indigestion, which, he said, was in him incurable. He had symptoms of what is called "Indigestion," or "Dyspepsia," or "Disorder of the digestive organs:" he had a pulse very slow and labouring. From this state of pulse I recollect it struck me that he was the subject either of some affection of the lungs, or of some affection of the heart, or of some affection of the brain. From the expression of his face, which was very peculiar, and from his fidgetty manner, I considered that the seat of the primary affection was in the head; and I directed all my questions to such points as were likely to illustrate the indications of a disordered function of

the brain. I asked him whether he had ever received any injury on the head, but he denied this again and again. At length, however, he recollected that many months previously he had had a fall from his horse in hunting; and, very soon after that accident, symptoms like those of which he now complained began to make their appearance. I then examined the head, and found a depression of the left parietal bone and of the frontal bone, that is, of a portion of each of these bones. It was obvious that this depression was the cause of all the symptoms of which he complained; and it had completely changed his character, rendering him very unsettled, incessantly going about from place to place, a burden both to others and to himself. I intended to have proposed to him an operation for his relief, but I did not wish to alarm him suddenly. I was surprised to find that he had suddenly sailed for Madeira, where he afterwards died.

You will see, from this case, the propriety of examining the hairy scalp in all cases where you suspect any depression or injury to the head; and perhaps I committed an error in this case, in not taking into account the state of this patient's mind, which was in such a constant state of worry, that he would not remain anywhere for any length of time; perhaps, if he had been subjected to the operation of trephining, he might have recovered.

Depressions often indicate dislocations or fractures.

Fractures of the ribs are of great consequence in a medical point of view. I have been called to cases of inflammation of the pleura or of the lungs where I have found that after a fracture of the ribs the bone has been suffered to rub backward and forward on the contents of the thorax. There is one rule which my friend Mr. Alcock lays down upon this subject, which is very valuable and very simple; namely, that you should examine each rib, from the sternum to the spine, separately, in order to satisfy yourself, if any doubt remain on your mind as to the existence of a fracture of one or more ribs.

Sometimes by a depression you can detect a peculiar state of lung which exists. You examine the chest and find that one side sinks more than the other. On tracing the history of the case you make out that the individual has been the subject of inflammation of the pleura or lungs; for example—inflammation of the left pleura occurs; a copious effusion follows, the serous part of which is absorbed, but a deposit of coagulable lymph remains and is converted into a fibro-cartilaginous substance. The lung being thus

disorganised, is incapable of being expanded; and therefore the ribs on that side fall down to meet it. But I have sometimes seen one side of the chest apparently projecting more than the other—arising from a natural deformity—being connected with a lateral curvature of the spine.

Under the head of depressions I may notice a peculiar hollowness of the eye which is occasionally to be seen. An individual has a very slight pain in the bowels attended by a slight degree of fever, which goes on week after week. In a few weeks you will perhaps be called to him, lying in bed, and with a remarkable hollowness of the eye, which is generally a symptom of ulceration of some part of the ilium. This is not always the case, for it also attends other abdominal affections—towards the close of all which you will often find the eye more or less hollow. It is a hollowness especially between the inferior tarsus and the inferior orbitar ridge, but extending all round the eye. When this occurs with a small pulse, with universal prostration, and with a feeble respiration, it is generally, as far as I have observed, a mortal symptom.

4th. There are certain *elevations* in different parts of the body, which are worthy of notice.

They are sometimes seen on the head.

A gentleman came to consult me, and told me that he had been for some time troubled with a rheumatic affection of the head. He said that it had existed for a long time, and that it was worse at night. By making further inquiries, I found that he had been the subject of chancre, and that he had passed through the regular series of syphilitic symptoms. He had experienced the primary symptoms under the form of a chancre; he next became affected with secondary symptoms attacking the soft parts,—namely, with ulceration in the throat, and copper-coloured blotches on the skin;—and when I saw him he was labouring under ternary symptoms, in the form of affection of the bones;—for upon examination I found that, at the part where he complained of pain in the head, there was a syphilitic node. He was put upon a gentle course of mercury and sarsaparilla, and got quite well.

I saw another gentleman, who had been troubled for two or three years with what he called rheumatic pains, especially at night, in one of the lower extremities, which I found arose from a syphilitic node upon the tibia, and it was removed by the use of a gentle mercurial course and sarsaparilla.

Therefore you must use your own hands and your own eyes; take nothing for granted which I or any one else may say, but

make your own observations. I saw a case lately, where a surgeon treated a case of what he thought to be syphilis, by affecting the patient's mouth by mercury several times; and yet this patient was salivated without any reason in the world. There was no history in the case which could bear him out in the treatment. The individual had been the subject of a chancre, but he had had no secondary symptoms, no affection of the throat or of the skin, and all that he was now troubled with was an affection about the fibrous or synovial membrane of the joints.

I have often had occasion to regret my ignorance of surgery; and, on the contrary, I have met with many surgeons who have been most lamentably ignorant of the first principles of physic. The medical establishments of this country are by no means adequate to the purpose for which they ought to exist. Instead of upholding and defending the rights of individuals, they deprive many individuals of their rights.

The examinations, at the Colleges, of candidates for admission to the practice of Physic and Surgery are not half so practical as they ought to be. The examinations on Anatomy should be on the human body. The examinations on the Principles and Practice of Physic should be at the bed-side of the sick. The examination on Materia Medica should be in the shop. Any other than such practical examinations are perfectly useless. Every student in the profession, if he reflects at all, must perceive this deficiency; and it was so much my own case, that though I was educated at one of the best, at least the most celebrated, schools of physic, yet I found that after all I had to make myself a physician; in short, I had to educate myself and get rid of the errors of schools and colleges, by observing and thinking for myself. Nothing impedes the progress of the science of medicine so much as establishments which have been founded in dark ages; and certainly, if the liberal policy, which at present seems to pervade the administration of this country, be extended to science, the present corporate restrictions will be removed, as commercial restrictions have been. For it is very plain that all the medical corporate bodies in this kingdom are far behind the spirit of the age in which they exist: therefore it is my duty most solemnly to protest against them; for here I must, and I will, speak the truth. I repeat, that I frequently had to lament my ignorance of surgery, and that I have often had occasion to observe in surgeons a lamentable ignorance of the principles of physic. It very often happens, that a man possessing the highest confidence of the public is perfectly ignorant of the plainest principles of pathology.

Since, then, these impediments and restrictions exist, and since the examinations of colleges are by no means so strictly practical as they should be, I recommend you to cultivate all parts of the profession minutely. Take nothing for granted, but examine and observe for yourselves. Placed as you will be in situations where the happiness, the health, the life, of many individuals may depend upon your education, it becomes your duty to make most minute observations of facts; not merely to pass through the forms of the profession, but to possess yourselves practically of as much of the truth as possible.

The importance of an attention to slight elevations, then, is sufficiently obvious.

It may be that elevations occur in the spinal column. Persons often complain of what they suppose to be rheumatic pains of the arms or legs; and sometimes there is a sensation of creeping, as if insects were crawling over the extremities. Under these circumstances you must ascertain whether the symptoms are connected with some affection of the head,—of the stomach, liver and bowels, —or of the spinal cord; for inflammation of the membrane of the spinal cord often exists as the cause of these so-called rheumatic pains.

Elevations of the cervical vertebræ, of the dorsal vertebræ, or of the lumbar vertebræ, are sometimes observed; and, in order to detect them, it is necessary that you should be very minute in the examination of the surface of the body. Again, with respect to the chest, one side of it may protrude more than the other; and this may arise from the lateral curvature of the spine, but sometimes it arises from an effusion of fluid into the chest. In the one case there will be no difficulty of breathing, but when fluid is effused into the chest there is dyspnœa. In one case the natural sound will be heard in the chest, if Laennec's instrument be applied; but if fluid be effused into the chest, the respiratory murmur will hardly be heard at all at that part. In affections about the chest you should examine the fore part of the neck. It is very important to be intimately acquainted with the anatomy of the fore part of the neck. A man, for instance, comes to you with a slight difficulty of breathing: it may arise from an enlargement of the thyroid gland pressing on the trachea; but in another case it may originate from an aneurism of the arteria innominata, and then the pulse is smaller in the right than in the left wrist, with a difficulty of breathing. These parts deserve minute attention. The patient may again have an aneurism of the arch of the aorta,

indicated by excessive jarring about the carotid arteries, or by the existence of a circumscribed pulsating tremor, in a situation where there is naturally no such tremor.

When rheumatic pains are complained of, you should examine all the joints; for sometimes the cause of pain is an affection of the synovial or of the fibrous membrane of a joint. Sometimes pain of a joint is connected with other causes.

A friend of mine was called to see a gentleman who complained of rheumatic pains in one shoulder, and at first he did not examine it. But as the pain continued to increase, at a subsequent visit he examined the shoulder, and found that the patient was labouring under an aneurism of the subclavian artery.

The glands about the neck are sometimes enlarged, and you might think the enlargement of a gland externally was of very little importance; but I shall endeavour to show that it is sometimes of great consequence. Sometimes the glandular affection is local, but sometimes it is accompanied by a withered state of skin, often by an affection of the mucous membranes, and often by a similar affection of the mesenteric glands. If this state of skin be not relieved, the internal organs are very apt to be affected, especially during the first fifteen years of life. In the same way may arise, in many persons, affections of the organs of generation;—and in others affections of the liver,—for all which it is now the fashion to give blue pills to a very mischievous extent. Many patients would live under organic diseases for years, if they were not put under a series of experiments. If you regulate their diet and habits, they will, I repeat, often live for a great length of time very comfortably; and it is in vain to try to remove organic disease by harsh means.

It may be necessary to examine the Pelvis; and, in doing this, it should be recollected that the ovaria are sometimes diseased. In many cases it is important to attend to certain elevations on the surface of the body; and, amongst others, it is very useful, in order to ascertain the state of the urinary bladder.

I have seen some most lamentable examples of mischief arising from the elevation of the distended bladder above the pubes being overlooked. A patient, for example, in a case of fever, lies on his back and moans incessantly night and day. At length it is observed by the practitioner, who, upon examination, finds the abdomen distended and the patient's linen wet. He introduces the catheter, and by drawing off perhaps two quarts of stinking urine gives the patient very great relief. But

sometimes the relief is not very great; for if the bladder have been long distended, inflammation of the bladder is apt to come on after the operation, and the patient passes at first slime and then blood mixed with the urine.

In all cases of fever, therefore, especially if the head be affected, be quite sure that the bladder is emptied every day, by feeling the abdomen above the pubes; and if any doubt remain on your mind, if you find the linen wet and the patient moaning, the sooner the catheter is introduced the better.

The indications which are afforded by elevations in the glandular system are very important. You might suppose that the existence of a few knots in the glands of the groin was of no consequence; but they are often very important if they be attended with fever.

What has been called a carbuncle may be very important. Four years ago I had no idea that the Pestis of Asia is the same as the Typhus Fever of this country. But I have seen in this affection carbuncle, and the glands in the groin, in the axilla, and in the neck, inflamed; and they have been so distinct as entirely to identify the pestis of Asia with typhus fever.

And yet quarantine laws are in force; and they continue under the supposition that the pestis does not exist in this country; but they are very useless, for the disease already prevails here.

But I have never met with these effects without some obvious reason. I saw three individuals who were brought into the Fever Hospital one day with them; and the cause was very distinct; they lived in parts where the drains were all putrid and open. The same thing is the case where I am now lecturing. Carbuncles and glandular affections are by no means uncommon now in this country under low fever.

Another circumstance which is often very important is—

7. The Position of the Body.

In all bad cases the patient lies on his back. This is an observation as old as Hippocrates. When you see a person lying on his back, with the legs drawn up and a rapid breathing, you may be almost certain that inflammation of the belly is going on. When a patient, in a case of fever, lies on his side in an easy posture, it is a very favourable sign generally.

When he can only lie on one side it is very suspicious, and indicates some inflammation either within the chest or in the liver; and therefore you must investigate the other symptoms connected with this circumstance: and you should recollect that

some individuals from habit cannot lie on both sides with indifference.

When the head lies as if it were drawn backward, you will find that it is frequently an indication of inflammation of the brain, in children.

When a patient labours under a slight affection he lies in the bed very lightly, so much so, that he seems as it were to rebound from it. He seems, in short, to have an elasticity of position, which is a favourable sign.

In the most serious affections the patient lies sunk in the bed, as a dead weight.

This difference is so striking, that any man accustomed to making minute observations might tell, at first sight, whether a patient had a slight or a severe attack of illness, by the position in which he lay in the bed. A great deal indeed is to be learned from this point; and I advise you, in your attendance upon the wards of a large hospital, to notice how far this is the case.

8. Lastly, the Expression varies very much. The countenance may have an expression of dulness or of wildness, or of vigour, or of restlessness, or of indifference.

You have a remarkable countenance in typhus fever, and also in consumption. No man could see the face of a subject of confirmed consumption, and fail to recognize it again, if he were an attentive observer. If you analyze it, you will find that the conjunctiva is of a dead white cast; that the pupil is somewhat more dilated than natural; that the eye is somewhat brighter than natural, and has a soft pensive expression; that the cheek is somewhat hollow; that the nose is somewhat sharper than natural; that the temples are hollow; that those parts of the face which are usually white, are whiter than natural; that the lips are thinner than natural; and that there are circumscribed patches of red on the cheek.

This point is also important in another view; for, by the expression of the countenance, you may be often led to detect persons who feign diseases. I have met, in the course of my practice, many cases where diseases have been feigned, both in the middle, upper, and lower ranks: and when you detect any imposition of this kind, I recommend you to speak to the individual first. Tax him with it. If you go over to the friends and tell them your suspicions, they very often will not believe you at first, and perhaps send for another medical man; but tax the patient to his face with it, and he will generally be grateful to you

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for it afterward; and the person's character and prospects in life may depend upon the circumstance. To give an instance (and I could mention many, for I have been called to several ladies who have been drunk; and really the case is a very delicate one), on one occasion I was called to see a most excellent young lady, who, having been chilled one day, was advised by a friend to take a glass of wine, after having fasted for a long time: she drank several glasses; and, when she went home, she became suddenly very ill. Her parents became alarmed, and sent for me; and I knew by the peculiar expression of countenance, by the state of the mouth with the saliva running down, and by a degree of tremor, what was the matter. I made up my mind at once, that she was a very nice young woman, but that still she was as "drunk as David's sow." I told her friends, that as it was only a little nervous affection, they need not be alarmed. I prescribed her a little medicine, desired that she might be put to bed; and gave an opinion that she would very soon be quite well again.

When I called the next day, I found, as I had predicted, that she had perfectly recovered. She blushed, looked excessively confused, and said, "You found me in a strange situation yesterday, and I fear it will lessen me in your estimation; but I assure you that it was perfectly accidental." And I believe that it really was quite an accident. She was very grateful to me for not publishing the cause of her nervous affection.

And as ladies are fond of poetry, I said to her—

"The best may slip, and the most cautious fall."

She made a curtsey, I bowed, and thus we parted.

UNEASY SENSATIONS are very important, as indications of disorder or disease; and they are very various.

1. There may be *Tenderness* over the skin, which is very important. It is sometimes the effect of a disorder of the spinal cord, which produces an universal tenderness of skin. When the belly is universally tender, do not at once decide that it depends on abdominal inflammation, but be quite certain that this tenderness does not also exist in the integuments of other parts; for, in that case, it generally arises from some affection of the spinal cord: and, beside, if it be not abdominal inflammation the other symptoms of such inflammation will be absent. Generally speaking, pain, with tenderness on pressure, if constant, are signs of inflammation of the viscera of the abdomen. Constant pain is a sign of inflammation, with two exceptions;—1st. In some hysterical women the

pain is constant, and continues day after day (if we may credit their testimony), and yet there will be no inflammation. And 2nd. In Colica Pictonum the pain is constant; but it comes by fits; it is more aggravated at some than at other times; and there is no fever, neither the skin being very hot, nor the pulse very quick.

2. *Weight* is another uneasy sensation.

3. *Tightness*, too, is very important as in inflammation of the abdomen.

4. A *creeping* sensation, like that of insects, also sometimes occurs. I recollect a gentleman consulted me, and told me he had a sensation of centipedes crawling over the lower extremities; and it was clearly connected with a very serious affection of the brain. It was accompanied with loss of memory and giddiness.

5. *Coldness and Heat* are uneasy sensations sometimes: cold, for example, denotes some serious affection of the brain; and sometimes it is a precursor of some febrile affection.

IMPEDED FUNCTIONS are very important. When the perspiration is not healthy, the head is frequently affected from a morbid condition of the skin. So also when the temperature of the skin is reduced, the heart's action will often be sunk, and *vice versâ*.

In like manner affections of the head, affections of the chest, affections of the stomach, of the bowels, of the kidneys, &c., arise from impediments to, or disorder of, the functions of the skin.

LECTURE V.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

II. NERVOUS AND MUSCULAR SYSTEMS.

In this lecture I shall consider the indications of a sound and of a morbid condition of the

II. NERVOUS AND MUSCULAR SYSTEMS.

The *Nervous System* admits of certain distinctions. It may be divided into—

1. The Brain—comprehending the Cerebrum and the Cerebellum.

2. The Spinal Cord; and—

3. The particular Nerves, either issuing from, or connected with, the Brain and Spinal Cord.

First, I shall begin with the consideration of the indications of a sound and of a morbid condition of the Brain.

I have often observed to you before, and I may again repeat it here, that you should always, in the investigation of disorder or disease, take into account the contrast between the healthy and the morbid signs; for in the contrast of these you will best see the distinction between the sound and the morbid conditions of an organ.

You must constantly refer to the Physiology of an organ for a knowledge of its healthy conditions; and contrast these with what we call its pathology, indicating its morbid conditions.

The indications of a sound condition of the Brain are remarkably various.

1. If the Brain (and the nervous system generally, but especially the brain) be in a healthy state, there is no Uneasiness, either within the head or outside of the head, or in any other part of the body (supposing, I mean, that the other parts of the body are sound).

But the contrary is the case if there be anything wrong in the head; for example, there is then some uneasiness either in the head or outside of the head, or in some other part of the body.

1st. One kind of uneasy sensation is *Pain;* which may be occasional or constant.

a. It may be occasional. In families in which affections of the head prevail hereditarily, occasional pains of the head are very common. Pain in the head, for instance, occurs occasionally, continues for a few hours, or even for a few days, and then goes off entirely. These pains always render it very suspicious that there is some very serious affection of the head. I am now attending a lady, occasionally, who had pains of this kind for six months. Upon investigation, I found that her family, from time immemorial, had been subject to head affections; and the probability is, that she will, sooner or later, be the subject of some serious or fatal affection of the head.

I know another lady who, when she was seventeen years of age, was attacked by occasional pain in the temples and eyes, attended by a dimness of sight, which continued for about half an hour and

then went off. This state she continued to be occasionally affected with till recently; and then, in one attack of the kind, she became quite blind. She is now nearly fifty years of age, and, since the last attack, her lower extremities have become completely paralyzed. I have no doubt that some very serious disease exists in this state in the centre of the brain. Sometimes these occasional pains are of a rheumatic nature; and then you will find the patient liable to attacks of pain in other parts. I am now attending a lady who had a swelling in a bursa at the wrist, with pain at the wrist. This ceased a few days since; and pain in the head, I believe in the dura mater, occurred. I believe that rheumatic pains occur sometimes in the fibrous membrane of the brain,—the dura mater.

But sometimes the pain is external to the bones of the head; and instead of being inside the head is in the occipito-frontalis muscle. You must be very cautious in investigating these cases.

In one instance of this kind which I saw rheumatic pains were attacking alternately the shoulder and elbow, and the dura mater, and then the shoulder and elbow again. It attacked alternately the fibrous structures of these parts, till at last the pain became fixed in the head, and was attended by fever. The case soon terminated fatally; and, on examination of the head, all the membranes of the brain were found to have been inflamed; but the inflammation commenced in the dura mater, which had been the seat of the rheumatic pains.

One kind of occasional pain in the head is what is called Sick Headache. For example,—the stomach, liver, and bowels, become disordered, and a pain in the head occurs; and ceases when those organs are put into a good condition. But sometimes the disorder commences in the brain; and the disorder of the stomach, liver, and bowels, is secondary: and all individuals who are liable to sick headache of this kind are prone to serious affections of the brain ultimately. The value of the knowledge of the fact is this—that you may preserve the individual from the future attack of disease in the brain, by directing him to avoid all those occasions which are liable to produce disorder.

Sometimes the pain in the head arises from a cutaneous affection. The vapour bath will rectify the harsh state of the skin where the pain in the head arises from that condition.

b. The pain may be constant. If the pain be constant, and be attended by fever, it is a strong indication either of acute or of sub-acute inflammation of the brain. If the pain be constant, but

unattended by fever, it is generally an indication of chronic inflammation of the brain, or of the dura mater.

Constant pain is mostly an indication of some serious mischief; and chronic inflammation of the brain may exist and go on for a very long time without any fever.

The only exception I know of to this remark is in Hysteria. I have known several hysterical women who have complained of constant pain in different parts—in the head, in the chest, in the abdomen, or in some external part; and this pain has gone on for day after day, week after week, and even in some instances for years (if we may rely on their testimony), and yet no inflammation has followed.

I knew an hysterical lady who had a constant pain in the head for years, which withstood all the means which had been employed for relieving it. She was a very intelligent female, and it happened that as she was travelling on the Continent with her family, she reached Rome, and the impressions which were made on her mind during her stay there were so strong, that she entirely lost the pain of her head; the entire cessation of it proving that it was not depending upon any organic change.

At the same time, however, you must not assume that this is the fact in every instance; but you must investigate the circumstances of the case minutely.

I am attending two or three cases of this kind now; and it is a very remarkable circumstance, that the pain is often complained of in the course of the colon on the left side; sometimes it is in the head, sometimes in the chest, sometimes in the spleen, &c. If the pain in the head be occasioned by any serious disorder or disease, it is generally increased by shaking the head, or by motion of the body.

The pain may be not in the head, but in some other parts. The brain or spinal cord may be affected, and there may be no pain in the head, but pain in the arms, pain in the legs, or pain in some other remote parts.

Therefore, if you hear any person complaining of rheumatic or gouty pains in the legs, it will be right to investigate the condition of the brain and spinal cord.

2nd. There may be no pain either in the head or in any distant part; but there may be some other uneasy sensation: there may be a sensation of *Tightness*, there may be a sensation of *Fulness*, there may be a sensation of *Weight*, or there may be a sensation of *Pressure*. Again, all these uneasy sensations may be absent, and

the patient may merely be *giddy*. And it is important to ascertain whether the uneasy sensation be constant or occasional.

a. Giddiness arises sympathetically from disorder of the stomach in many cases. If an individual be very much exhausted, either by mental or by bodily exercise, and then eat a hearty meal; when he attempts to walk, his head becomes affected, he staggers like a drunken man, and he is so giddy that every thing seems to go round. This state is best removed by rest, and by giving the individual a few tea-spoonsful of brandy. It is sometimes attended by all the signs of exhaustion.

b. But the worst kind of *Giddiness* is constant, and it cannot be traced to disorder of the stomach. It has a far more constant character, and seems to arise from some disorder or disease in the head. It is generally connected with some other uneasy sensation, as pain, tightness, weight, &c. I recollect I saw a case in which an individual having been exhausted, after a meal became so giddy, that he was afraid to venture to walk into the street. This state was removed by a regulated diet, and by rest.

I may also mention two cases which I saw of a different nature.

A gentleman called upon me, and told me that he was very subject to giddiness. I found, upon conversing with him, that he recollected nothing distinctly; and his friend, who accompanied him, told me that his memory was much impaired. He had also a sensation of creeping, like that of centipedes, over his lower extremities. From these circumstances I was induced to believe that there was some serious mischief in his head.

A gentleman called on me about a fortnight ago in the morning, and I observed that he had contractions of his fingers; that he stammered in his speech, which was not natural to him; that he complained of extreme giddiness in his head; and that he had a dejected expression of countenance. A friend, who accompanied him, told me that he was supposed to be hypochondriacal. As he was a drinker, I supposed that perhaps he had softening in some portion of the brain; and I told his friend that I should not be surprised to hear he died suddenly. Yesterday a gentleman called to say that he had been found dead in his bed.

Where giddiness, or any other uneasy sensation in the head occurs, you must investigate the cause of it, and that is generally to be detected by the combination of the symptoms.

Recollect, that almost all serious affections are of a permanent or of a progressive character; but that functional disorders are not constant, but occasional: they come and go.

3rd. There may be distant uneasy feelings, not amounting to pain.

a. One of the most common of these is a sensation of *creeping*, like that of insects.

b. Or it may be *cramp:* cramps of the lower extremities often attend affections of the spine.

c. There may be *spasms* of the muscles. What is called wry-neck is extremely common when the brain is affected from spasm of the muscles on one side of the neck.

Whenever you suspect that any injury of the head has been received, always make a point of examining the hairy scalp, if possible, in order to ascertain whether any elevation or depression exists in any part of it. But in some cases this examination of the hairy scalp cannot be made; for some old maiden lady, with a flaxen-coloured wig, may call out, and prevent any such investigation.

2. If the Brain be in a healthy state the External Senses (the Sight, the Hearing, the Smell, the Taste, and the Touch) are natural.

But when the Brain is affected you will find some change in these functions; for example, you will in many cases have a change in—

1st. The *Sight.* Intolerance of light constantly attends acute or sub-acute, and very frequently chronic inflammation of the brain; and in chronic phrenitis it is a remarkable circumstance, that the patient will tell you he cannot look steadily at an object for any length of time.

Again, there may be no intolerance of light, but there may be flashes of light, or black spots floating before the eyes, or spangles; or there may be weakness of sight, or dimness of sight; and these may occur in some instances when the individual is very much exhausted, but in other cases where the person is in a high state of excitement. Sometimes they are accompanied by a cool skin, by a feeble pulse, by a pallid face; in other instances they are connected with a hot skin, with a strong pulse, and with all the other indications of a high state of excitement; therefore you will see the necessity of taking into account the combination of circumstances.

In many cases in the progress of affections of the brain the patient becomes completely blind. I have seen three cases of this kind within the last twelve months.

One of these patients had an acute attack of inflammation of the brain, with total loss of vision, and this patient died.

In the other two cases the disease was chronic, and stole on insidiously, being at length combined with complete loss of sight.

Secondly, when the Brain is affected you may have a change in—

2nd. The *Hearing*, which may be more acute, or more dull, than natural.

There may be noises in the ears, which may be compared to the roaring of the sea, to the ringing of bells, to the hum of bees, or to the fall of waters; and all these must be taken into account.

At the same time, when changes take place in the sight or in the hearing, you must investigate the local condition of the eye or of the ear, to see if there be any thing local to account for the disturbance of the functions of these organs; and if there be no such local condition, then the disturbance is referrible to the brain.

When the Brain is affected another change may take place in the External Senses, namely, in—

3rd. The *Touch*, which, in these cases, generally becomes more acute than natural, or more dull than natural. Nothing is more common, for example, than for patients labouring under affections of the brain to complain of numbness of the fingers and toes.

Sometimes there is a numbness and tingling in some other part of the body.

Sometimes the whole surface of the body becomes so tender, that it will not bear to be touched; and this occurs when the brain and spinal cord are affected. This universal tenderness is apt to be mistaken for inflammation of the peritoneum; but it is very easily distinguished, for in peritoneal inflammation you have the other existing signs of inflammation, which are all absent when this tenderness arises from a morbid condition of the brain and spinal cord; besides which, in the latter case the tenderness is universal; it is not confined to the abdomen, but extends even to the extremities.

I recollect a pupil of mine had a case of this kind under his care, and was very much alarmed, for he supposed it to be a case of peritoneal inflammation; but when I saw the patient, I found that all the other signs of abdominal inflammation were absent, at least to my eye. In the next place, when the Brain is affected, you have very often a change in—

4th. The *Taste;* or in—

5th. The *Smell.*

These senses will become more acute than natural, or more dull than natural, or in some other way perverted. Generally, under

affections of the brain, the Taste and the Smell are affected at the same time.

3. When the Brain is in a healthy condition the Expression of the countenance is natural. When the brain is affected the expression of the countenance is very often changed; and you must gather information on this point by inquiry of the friends. But if you happen to have known the individual previously, the change will be very evident to yourself; otherwise, I repeat, you must ask the patient's friends if they observe any remarkable change in the countenance.

Mothers who watch over their children anxiously often observe very slight changes in the countenance. When a mother tells you that a change has taken place in the expression of her child's countenance, it is always a very alarming circumstance, for there is almost always something wrong in the head.

The expression of the countenance under any disturbance of the brain may be very various. It may be an expression of *Wildness;* it may be an expression of *Weariness;* it may be an expression of *Indifference;* it may be an expression of *Sleepiness;* it may be an expression of an extreme degree of *Animation;* it may be an expression of *Dejection;* it may be a *Vacant Stare;* it may be *Squinting;* in short, it may be extremely various, as you will see it in cases of mania. In walking round the wards of an asylum for such individuals, I have never seen one maniacal person with a natural expression of countenance. I could often analyze the altered expression of countenance; and though it is scarcely alike in any of these cases, yet there is something so peculiar in it, that a practised eye could at once mark that these were maniacal persons by the peculiar expression of countenance. But of this I again shall have occasion to speak. My object now is to give you certain facts to guide you in the commencement of your studies, and I shall afterwards enter more minutely into detail,—for we must come to particulars after all.

4. When the Brain is in a sound condition the Moral Habits and the Intellectual Faculties are natural. But this is not the case when the brain is the seat of any morbid condition; for then there is some change in the intellectual faculties, or in the moral habits.

This change may be very various: it may be a greater *activity*, or a greater *slowness* or *dulness* of mind than natural; it may be a greater *attention* to surrounding objects than natural; it may be *defect of memory;* it may be *lassitude* or *deficiency* of mental

energy. It sometimes happens that the individual is more ill-tempered than natural, or in other instances that he is better tempered than natural. There is often some remarkable change in the dress of the individual, or in his gait, or in his manners, or in his habits, or some *inconsistency* in his present compared with his past conduct.

These circumstances are very important, as they very often lead to an inference that some change is taking place in the Brain.

For instance—a patient first becomes nervous; and then some change in his mind occurs,—some defect of memory, or fretfulness, or loquacity, or indifference, or dejection,—with some change of habits.

It is of great consequence to attend to these indications early, for a mere disorder of the brain may be stopped, which would otherwise end in an attack of apoplexy, of palsy, or of madness.

I am quite confident that madness is always arising from a physical cause. I have never seen the Brain of any maniacal patient examined after death in which there has not been some morbid change; and if I may use very strong language, I do not believe those individuals and authors who say that there has been no change in the structure of the brain to be found upon examination after death in maniacal cases. Slicing off the brain in large lumps, as they do, how dare they presume to say that there is no disease or alteration of structure?

5. When the Brain is in a healthy condition there is no remarkable change either in the Time of Sleep, or in the Manner of Sleep.

But when the brain becomes affected there very often is some change, either in the time or in the manner of sleep.

The individual perhaps sleeps in the day, which he was not accustomed to do when well; or he is sleepless at night, and sleeps during the day; or he has dreams,—sometimes pleasant, but generally frightful, dreams; or he sleeps more profoundly than usual in the night, and is more fidgety than natural in the day; or he lies more still than natural; or he starts occasionally; or the position of his body during sleep is different to what it is in health; or he moans; or mutters; or he breathes differently to what he did in health; or he falls asleep at an unusual time.

6. When the Brain is sound there is no remarkable change in the voluntary or involuntary Muscles.

But there is some remarkable change in the voluntary or involuntary muscles when the brain is affected.

Let a patient have an attack of inflammation of the brain, and generally the consequence is a complete languor of the muscular system, with a languid expression of countenance.

A case of this kind occurred at the Dispensary lately. A man was brought in there leaning as a dead weight upon those who brought him, with a complete prostration of strength; and it was evident his brain was inflamed.

Sometimes when the brain is affected the individual has temporary fits of tremendous muscular power; but generally there is deficiency of muscular power.

In acute, sub-acute, or chronic affections of the membranes of the Brain, the eyelid is often changed in its appearance.

When the affection is acute or sub-acute there is often a dropping of one or both upper eyelids. When any serious affection is going on in the head, there is sometimes a dropping of one eyelid, a partial palsy from pressure.

But you must recollect that some persons are so constituted that the eyelid drops naturally more on one side than on the other; and where this occurs you may be quite sure that the individual is predisposed, either hereditarily or acquiredly, to affections of the head. The same observations apply to other peculiar muscular actions—to wry-mouth, for example, when an individual smiles.

The affection of the muscles is sometimes weakness of the fingers, of the hands, of the toes, or of the feet, which, if it cannot be accounted for otherwise, must be referred to some disorder or disease in the brain.

So, when numbness of the fingers, of the cheek, of the feet, &c., occurs without any obvious cause which will account for it, you will generally find it connected either with an incipient or confirmed affection of the brain.

In affections of the brain stiffness of the muscles is very common in the neck; and when the spinal cord is affected, especially in the loins. Commonly, too, there are painful cramps in the lower extremities.

Involuntary startings and twitchings in the face are always indications of some predisposition to affections within the head.

I attended a gentleman who for twenty years had been subject to involuntary twitchings of the face, and then he had an attack of palsy, from which, however, he recovered; but the twitching of the face and the predisposition to affections of the head remain.

There may be complete loss of power in the extremities, or in

one side, or there may be partial loss of power,—for instance, staggering.

A gentleman called upon me this morning, and I observed, as he walked into my room, he set remarkably short steps, and in attempting to go backward to a chair he staggered, and required to be supported. Upon inquiry I found that he had other indications of some very serious disease in the head.

A remarkable change is Stammering. A child or an adult, for example, finds that he cannot pronounce a certain letter, or a certain word, which he had previously been able to pronounce very easily.

Another thing which is of consequence is, that you should attend to the sphincter muscles. Sometimes they are slightly relaxed. This is very often the case in the bladder; so that the urine is not retained so long as usual. But sometimes it is retained longer than usual. Sometimes these states are connected with a morbid condition of the brain or spinal cord.

But in all these cases you must investigate the local causes, which may produce a change in the actions of the muscles—as about the joints.

7. When the Brain is in a healthy condition there is no remarkable change in the Respiration. When the brain is acutely or sub-acutely inflamed, there is invariably some change in the respiration; for in these cases it always happens that the patient takes an occasional deep drawn sigh.

If you stand over the bed of a patient labouring under this affection, every now and then you will perceive a deep drawn sigh. The breathing in such cases is generally quicker or slower than natural.

When the breathing is quicker, or slower, or more oppressed than natural, the affection of the brain is generally very serious. If the affection of the brain be not serious, the breathing will not be affected.

8. When the Brain is in a healthy state there is no remarkable change in the state of the Pulse; or in the stroke of the heart, which is the pulse. In the beginning of acute or sub-acute inflammation of the brain, the pulse is generally quicker than natural. When effusion is about to take place, the pulse generally becomes slower, though not slower than natural; and in the advanced stage the pulse rises again. In chronic affections of the brain, the pulse becomes altered in its frequency; for instance, in a person whose pulse usually beat previously seventy times in a

minute, it falls to sixty. This is very common in chronic affections of the brain.

You must therefore investigate the combination of symptoms, and endeavour to ascertain what was the natural state of the pulse.

9. When the Brain is in a sound condition there is no remarkable change in the Functions of the Stomach. When the brain is affected, in the onset or in the progress generally the stomach does become affected. Nothing is more common than to find an infant the subject of vomiting, which is the first evidence often of inflammation of the brain. An individual receives a fall from a horse, or from a ladder, and feels at first little inconvenience from it. He goes about for a week, with slight indications of disorder in the brain,—uneasiness, &c., and then he has an attack of vomiting as one of the first evidences of inflammation of the brain. Many cases of vomiting are connected with the state of the brain.

In most cases of affection of the brain, whether acute, sub-acute, or chronic, the stomach is disturbed in their progress. In an acute, sub-acute, or chronic affection of the brain, the tongue generally becomes rougher than natural; but sometimes it is very little more furred than natural.

When the head and the stomach are simultananeously affected, you must try to ascertain which was first affected; for affections of the head will influence the stomach, and those of the stomach will influence the head.

10. When the Brain is in a healthy state there is no remarkable change in the Functions of the Bowels. But the bowels are almost universally torpid when the brain is seriously affected with disorder or disease.

There are four causes which may occasion torpor of the bowels:

1st. Affections of the Brain;

2nd. Affections of the Spinal Cord;

3rd. A deficient secretion of Bile;

4th. A torpid condition of the Colon.

When torpor of the bowels, therefore, occurs, you must investigate the condition upon which it depends; and, by attending to the combination of symptoms, you will be at no loss to come at this.

The bowels are far more apt to be torpid if the dorsal portion of the spinal cord be affected; but less so when the cervical or lumbar portions are affected.

Secondly, with regard to the indications of a sound or a morbid condition of the Spinal Cord.

1. When the Spinal Cord and its membranes are healthy there

is no Pain or Tenderness on pressure over the spinous processes of the vertebræ; nor any pain on bending or twisting the body forward, backward, or to either side. But when the spinal cord or its membranes are inflamed there is pain either on pressure over the spinous processes or in motion of the vertebræ.

2. When the Spinal Cord and its membranes are sound there is no Tingling either in the upper or lower extremities, nor any peculiar Numbness there. But when these parts are affected there generally is some pain, numbness, or tingling,—in the upper extremities if the cervical portion be affected,—in the lower extremities if the lumbar portion be affected,—while if the dorsal portion be affected, the stomach, liver, and bowels, are more influenced.

3. When the Spinal Cord and membranes are healthy there is no peculiar affection of the fingers and toes. The French call the toes the fingers of the feet; and there is no doubt that we should have considerable motion in our toes, perhaps as much as in the fingers, if they were not cramped so much by tight shoes, and were more frequently used. We have a proof of this in those persons who have been born without arms, and who use their toes with very great facility and ingenuity. If the spinal cord be affected, there is some defective touch in the fingers or in the toes; the individual, for example, cannot take up a pin. If the cervical portion be affected, there is diminished sensibility of touch, or numbness of the fingers; if the lumbar portion be affected, there is a diminution of sensibility in the toes as to the sense of touch. With this, sometimes some other part has a preternaturally acute sense of touch.

4. When the Brain and Spinal Cord are affected together, sometimes there is Extreme Tenderness of the surface or integuments of the body: and the same when the Spinal Cord is affected alone. It generally pervades all parts of the surface; but is sometimes most obvious in some particular part.

5. When the bony column of the Spine is not affected there is no Lateral or outward Curvature of the spine; but when it is affected, sometimes a lateral curvature occurs, sometimes the curvature outward forming what is called a hump-back.

I have been consulted in several families where lateral curvatures have occurred in several members, at about the age of puberty, especially in the daughters. In these cases you should support the strength, by allowing a good deal of animal food, and encouraging the individual to take plenty of exercise in the open air.

A great many girls become deformed from being too long at schools, sitting on stools or forms, with their backs unsupported, in a close atmosphere, sitting up late at night, and living on unwholesome diet. By attending to these circumstances, very many cases of lateral curvature might be prevented.

The other affection is much more serious, namely, the curvature of the spine outwards. It arises from inflammation of the spongy bodies of the vertebræ; which is denoted by pain and by a pallid countenance, before the deformity occurs.

Thirdly, with regard to Particular Nerves, you must make out their natural functions; and those have been very much illustrated lately by the French physiologists.

When a nerve is affected you must endeavour to ascertain whether any tumour be pressing upon it in any part of its course. Most frequently the pressure is at the origin of a nerve. But if you ascertain the origins, the connexions, and the healthy functions of the nerves, you will be at no loss for the seat of any particular affection of a nerve.

LECTURE VI.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

III. RESPIRATORY SYSTEM.

IN this lecture I shall consider the conditions of a sound and morbid condition of—

III. THE RESPIRATORY SYSTEM.

I arrange the Respiratory System under three heads:—

The first comprehending the anterior and the posterior Nostrils, together with the Sinuses, the Hard and Soft Palate;

The second comprehending the Pharynx, the Epiglottis, the Larynx, the Trachea, and the Bronchia.

The third comprehending the Lungs, the Pleura, and the auxiliary muscles of respiration.

And I recommend those gentlemen who are not conversant with the anatomy of these parts, to refer to Fyfe's or some other work on anatomy.

This is a very artificial system, which I have thus divided, for the purpose of illustration. Now, what are the indications of a healthy condition of these parts?

1. There is no unnatural sound either in the breathing or in the speaking; and the contrast of this shows a morbid condition.

When the respiratory organs are disordered there very often is some unnatural sound in the breathing or in the speaking; and the change in the respiration and the voice is remarkably various. Sometimes it may be called a nasal twang. If a patient labour under inflammation of the posterior part of the nostrils and of the palate, he will have a kind of nasal twang, as occurs in syphilis. So also in inflammation of the tonsils there will be a nasal twang, with a thickness of sound.

It is very difficult to describe the various sounds in words, perhaps as difficult as to describe different motions in words. Some critics have imagined that Homer, Virgil, and some of the English poets, have described sounds; and perhaps they have succeeded about as well as a distinguished poet has in describing the motion of a snail, where he says—

"Sleek, slippery snail, slow sliding o'er the slime."

The change in the sound may be a stuffing. If there be inflammation of the anterior and posterior part of the nostrils, there is a sort of stuffing noise.

If the affection be in the larynx, there is either a hoarseness or a whispering noise.

If the epiglottis be affected together with the larynx, there is a very distinct, peculiar flapping noise, arising from a spasmodic state of the epiglottis.

When the mucous membrane of the bronchia is affected, either alone or with the lungs or pleura, there is a wheezing, rattling, or purring noise, or a sound like that of the wind rustling among leaves.

When sinuses exist in the lungs, and communicate with the bronchia, as in tubercular phthisis, there is a very peculiar noise, which I can distinguish accurately, so as to be positive when that state exists; but I can hardly describe it in words. It is a noise

as if a small piston were forced up and down in a mucilaginous fluid, from which air bubbles arose with a crackling noise.

I have never but in one instance seen a patient recover who had this peculiar sound; for it generally occurs in the advanced stages of consumption.

When the pleura or lungs are affected, there is a peculiar noise, like that which is to be heard by standing near workmen who are sawing. You will hear a sawyer, at each motion of the saw, make a peculiar noise in expiration, which the noise in these cases very closely resembles.

This account of the changes of sound in breathing and speaking, under the different affections of the Respiratory System, is very imperfect, but if you attend to the different noises which are made, and connect them with the morbid condition of the part as displayed by examination during life, or after death, you will find that it will often lead you to very important inferences.

2. When the Respiratory System is in a healthy condition there is no impediment to the transmission of air either to or from the lungs.

But very often, nay generally, when the respiratory system is disordered there is some impediment to the passage of air either into, or out of, the lungs.

If a polypus exist in the nostrils, there is a peculiar dull sort of nasal noise indicating some obstruction to the passage of air; and if you direct the patient, alternately, to close one nostril and blow through the other, you will generally detect any local obstruction, as that of polypus, which may account for the peculiar noise and for the impediment to the passage of air.

When there is an increased secretion of fluid in the anterior or posterior nostrils, there is a stuffing sort of impediment to the transmission of air; as in catarrh.

When an individual is very much exhausted and the nostrils are preternaturally dry, there is a peculiar, dry, wooden sort of noise. When I hear this noise I am always very much alarmed, for it generally is attended by serious affections of the lungs.

If there be a swelling about the tonsils, there is still a peculiar noise produced through the nostrils by the impediment to the transmission of air.

The same takes place when there is relaxation of the uvula with relaxation of the soft palate; there is a thick, obstructed sort of noise. This may generally be considered as a secondary affection, depending upon a disordered condition of the stomach, liver,

bowels, and skin; and you will be able to detect the relaxation by inspecting the parts.

If there be any thickening of the epiglottis there is an obstructed sound.

Tumours of the neck often produce an obstructed sound, distinctly arising from pressure on the larynx; for instance, enlargement of the thyroid gland.

A gentleman called on me lately who was breathing very quick, and upon examination I found the thyroid gland very much enlarged. I have seen many such examples.

Whenever you suspect any pressure of this kind on the larynx or trachea always examine the neck, for some persons are so foolish that they will not tell you of any deformity which exists, from enlargement of the thyroid gland or otherwise. In a woman, whose neck is exposed, you cannot avoid seeing the enlargment, where it exists. If there be no swelling, it is chronic inflammation or thickening within the larynx; or it may be an aneurism of the arteria innominata, which very often presses on this part. The same condition may arise from an aneurism of the arch of the aorta, producing a change by its pressure. Sometimes the obstruction is merely temporary: this is very apt to be the case in infants under the process of dentition. In these cases, without any fever, a spasmodic difficulty of breathing occurs—and the child sometimes dies suddenly in this way.

I have seen several examples where a child has been suddenly attacked with difficulty of breathing, and has died from a spasmodic affection which closes the rima glottidis. This is generally associated with disorder—of the stomach, liver, and bowels; or in the head. I have seen the same thing in hysterical women. A spasmodic difficulty of breathing has occurred, and has sometimes threatened the individual with an attack of apoplexy.

3. When the Respiratory System is in a healthy condition there is nothing unnatural in the manner of breathing, especially with reference to the larynx, trachea, bronchia, lungs, and pleura.

One important fact with reference to breathing is, the relation which the number of respirations bears to the number of pulsations of the heart, in a given period. The average number of respirations in a healthy adult is about eighteen in a minute, and the average number of pulsations is about seventy-two in the same period; the relation being, therefore, in the proportion of one to four. But in almost all acute affections of the larynx, trachea, bronchia, lungs, or pleura, this natural relation does not exist, for

the relation in the morbid condition is more than in the proportion of one to four, and the number of respirations is increased to thirty-six, forty, and in bad cases even to fifty or sixty. When this relation therefore is lost, you may suspect the existence of mischief in some part of the Respiratory System.

Another thing to be noticed is, the depth of the inspiration, and the force of the expiration.

In many cases of disordered respiration, where its frequency is increased there is no affection of the chest, and the inspirations are shorter, and the expirations quicker than natural.

This is remarkably the case in inflammation of the brain, but it is more remarkable in some cases of abdominal inflammation.

It is not a difficult respiration, but a short and quick respiration. In acute inflammation of the brain, and of the serous membrane of the abdomen, the change in the respiration is very different from that which occurs in inflammation of the bronchia, of the pleura, or of the lungs: for when the respiratory organs just mentioned are inflamed there is a difficulty of breathing; — you see the chest heaving up and down with evident difficulty, the auxiliary muscles of respiration are called into action more than usual, and the alæ nasi are seen moving rapidly.

Hippocrates, not being guided by the pulse, judged very much of disease by the respiration. And if you go round the wards of an hospital you may distinguish in some patients that they are labouring under affections of the chest, by the state of the breathing.

In serious cases the difficulty is greater than in the slight cases; and you will often observe that the alæ nasi move very rapidly; that the muscles of the neck move very much; that the diaphragm and abdominal muscles are acting more than natural, to carry on the laborious respiration.

Another point of importance is, whether the difficulty of breathing be occasional or constant; if constant, then the cause is fixed; if occasional, a spasmodic affection of the bronchia may be the cause.

You must take into account also the influence which the heart has on respiration.

The respiration is almost invariably disturbed on motion, especially on going up hill, if there be any disease in the bag of the heart; and a very remarkable circumstance is, that if the individual rest for a short time the respiration becomes relieved again.

But in disease of the lungs the breathing is still laborious, whether the individual be at rest or in motion.

A mechanical cause may occasion a difficulty of breathing.

Wind in the intestines may produce a difficulty of breathing; for instance, flatulence, produced by drinking fresh malt liquor. I have been called up at night many times to patients who were labouring under dyspnœa from this cause.

If there be pressure about the origin of the eighth pair of nerves (or pneumo-gastric nerves,) the respiration always becomes slower; and therefore, when the respiration is less frequent than usual, you should recollect that the affection may be about the head.

4. When the Respiratory System is in a healthy condition, especially the fauces, the larynx, the epiglottis, the trachea, the lungs, and the pleura, there is no cough.

What is called coughing consists either of one forcible expiration, or of many forcible expirations rapidly following each other. In affections of the larynx sometimes there is no cough, but only an attempt to throw off a little mucus; but most frequently when the larynx, or bronchia, or lungs, are affected, there is a cough.

You must recollect that a cough is but a mere symptom, depending upon very different conditions; and the kind of cough is very various.

1st. There may be what may be called a faucial cough, connected with the posterior part of the fauces, &c., a peculiar cough, limited to the throat, with enlargement of the tonsils.

It is so peculiar, and the sound seems so limited as it were to the fauces, that a nice ear can at once distinguish it.

Chronic inflammation of the larynx generally excites a dry cough, or a cough with a little very tenacious expectoration in the morning, with a sensation of uneasiness about the pharynx.

When chronic inflammation of the pharynx or of the tonsils occurs, the affection generally commences in the skin. It very often spreads, in its progress, down to the larynx.

2nd. There is another kind of cough, which might be called the epiglottal cough.

When the epiglottis is tumefied by being the seat of inflammation, the patient often has not the power of coughing out at all; but he makes an effort, and the cough seems to end in a sort of strangulation in the upper part of the larynx.

3rd. There is another kind of cough, which might be called a laryngeal cough—a hoarseness,—or a clanging, reverberating sort of cough, which is very peculiar.

In what is commonly called croup, in every case of which the larynx is more or less affected with inflammation, there is a clanging, brazen, or barking sound, as if the air were forced through a reed, or through a brazen tube.

In nervous women, and women of great sensibility, there is a cough, so loud and noisy, that you may generally hear it reverberate through the whole house. This kind of cough is generally a dry cough; a lady, for example, is exceedingly sensitive, and starts when the door is suddenly opened as if she were electrified. I am now attending a case of this kind in a lady; and every time I visit her she begins to cough.

Now all these affections are aggravated by notice.

This is a cough which might at first alarm you; but it is very often connected with foul stomach; and then an emetic will sometimes relieve it very rapidly—almost as if by magic.

What is called whooping cough consists of very rapidly succeeding expirations; and one deep drawn inspiration, accompanied by a peculiar sound called a whoop.

4th. There is another kind of cough, which might be called a bronchial cough, and which is extremely distinct. If you put your ear to the patient's mouth, you will hear a loose, soft, mucous, gurgling, diffused sort of noise, which is perfectly distinct from the faucial cough, from the laryngeal, or from the epiglottal cough.

5th. There is another kind of cough, which might be called the pneumonic cough.

The bronchial lining, for example, is drier than natural; the substance of the lungs becomes gorged with blood; and there is a very peculiar cough. It has a shrill, harsh, and metallic sound; and seems limited to a particular part of the lungs; so that it appears as if you might mark out with a pen and ink its precise source or boundaries.

6th. When the substance of the lungs has suppurated there is another kind of cough, which might be called the phthisical or suppuration cough. It is deep, hollow, and reverberating. Mark a patient—if you wish to hear this cough—in confirmed consumption, and you will distinguish the sound very distinctly; and from it you may infer the actual state of suppuration.

7th. If the pleura be inflamed, there is a hard dry cough, which might be termed the pleuritic cough; without any other particular circumstance, further than its hardness and dryness, to distinguish it.

You will find it of very great use to attend to these varieties of

cough, which may be very accurately distinguished by attentive observation. Recollect that all correct opinions are founded on minute distinctions; and that the habit, therefore, of making minute investigations and minute distinctions is of the greatest consequence. And the difference between a good and a bad pathologist is, that the one will form minute inquiries and observations, and be able to draw correct inferences from certain circumstances, which a common or careless observer would entirely overlook.

5. When the Respiratory System is in a healthy condition there is no unnatural sound on percussion of the chest, or on the application of the cylinder or stethoscope,—I mean when the chest is in a healthy state.

If you strike the upper part of the chest of an individual in health, with the tips of the fingers level with each other, it will emit a distinct sound very like to that produced by striking an empty cask.

If the upper part of the lungs be hepatized, the sound will be comparatively dull, like that produced by striking the thigh, or a cask filled with water.

Suppose a person were to fall on the left side, and, in consequence of a fracture, blood was to be effused into the substance of the lungs; the chest would have a dull sound on that side upon percussion, from which you might infer that blood was extravasated there; while on the other side of the chest you would have a full clear sound. This actually occurred in a case which I saw some time ago; and the patient was dying when I saw him.

Percussion, then, is of great value in the diagnosis of affections of the chest, especially in conjunction with the use of the cylinder. If you wish to apply the cylinder with precision, you should begin by first ascertaining the healthy sounds accurately.

If you hold one end of the cylinder lightly to the chest, and apply your ear to the other end, if there be perfect silence in the apartment, you will hear—supposing the lungs to be healthy—a protracted sort of murmur produced by the air penetrating all the bronchial passages. You should hear this particularly in children, for in them it is more distinct. Laennec calls it the pneumonic murmur, or pulmonary respiration.

Contrast this with the sounds emitted in disease. If the disease be in the mucous membrane of the bronchia, you will hear, on the application of the cylinder, a sort of mucous guggle. If there be inflammation of the substance of the lungs, you will have what Laennec calls a crepitous murmur; but I

should call it a shrill metallic sound: or there is a bleating noise, which Laennec calls hegophony—a noise like the bleating of a goat transmitted through a fluid. When abscess exists in the lungs, you have a different sound, which can readily be distinguished—a sound which Laennec calls pectoriloquism.

If you place the instrument over the larynx in health, and tell the person to count, the sound will seem to come along the tube into your ear; and this is exactly the sound in an abscess of the lung.

Tell the patient to count one, two, three, &c., or to laugh, or to speak; and if you place the cylinder over the larynx, you will hear this sound very distinctly.

One thing which I recommend you to observe is not to expose the chest in using this instrument. I have no doubt that great mischief has been done by the abuse of the cylinder in exposing the chest to the air—a circumstance which the French seem entirely to overlook. Very serious affections may arise from such exposure; and I advise you to take care and have the apartment of a comfortable temperature, and to have the chest covered with flannel, as a flannel waistcoat, which should be nicely and evenly applied; for the sound is not materially obstructed if the chest be smoothly covered.

6. When the Respiratory System is in a healthy condition, there is no unnatural colour of the lining membrane of the air-passages, of the lips, or of the cheeks.

You will see the tonsils, when they are inflamed, swollen and red; you will see the same, when the pharynx is inflamed, that it is red: and when the epiglottis is inflamed, you may see that it is rendered red, if you examine it properly by placing the patient opposite the strong light of the sun, or by throwing the light of a candle, by means of the reflection of a mirror, upon the part, which is a very good plan, and will enable you to see the whole of the epiglottis. Inflammation of the air passages may arise either from a common occasion, as cold; or from an especial occasion, as malaria, the human contagions, putrid effluvia, &c.

Now one of the first warnings of a serious case of small-pox, or of measles, or of scarlet-fever, is an inflammation of the air-passages; and very often you will find that it is connected with secondary symptoms of syphilis: and you can detect the variations of colour in all these cases. The inflammation of small-pox and that of scarlet-fever differs from that of measles; and the syphilitic inflammation differs from common inflammation in having a copper

hue. In referring to the nostrils, the same colour extends to the nostrils from the syphilitic ulceration of the throat.

I saw a gentleman some time since who had a peculiar nasal twang, and a copper colour of the lining membrane of the nose. Upon inspection I found that there was a copper hue upon the soft palate; and with this copper colour there was a red spot behind, which was an ulcer which had penetrated the soft palate and left an opening there.

Whenever affections of the larynx, trachea, bronchia, lungs, or pleura, are so urgent as to interrupt that vital change in the blood which ought to take place in its passage through the lungs, and in fact to prevent the venous blood from acquiring the peculiar arterial hue, then the lip becomes of a dusky hue, or plum-coloured, or like a grape, or of a violet hue, or of a leaden hue.

The cheeks also have their colour changed, and become plum-coloured, if they have been vividly red naturally; or if they have been pale in health, they have a hue of paleness and livor mixed together, from the same cause which alters the colour of the lips.

At the same time you should take into account that the colour of the arterial blood is connected with its velocity; for when the blood circulates slowly through an artery it loses very soon its arterial character, and acquires the characters more or less of venous blood. You may see this in the face of many individuals on a cold day.

You may always detect that malformation of the heart which is popularly termed the blue disease. The individual has a preternaturally blue skin; and when either the mind or the stomach become disturbed, there is difficulty of breathing. This affection is generally congenital; and these individuals mostly die before they are three years of age, though sometimes they grow up to adult age. The affection always depends upon some communication between the right and left auricles. It was formerly thought to arise from the foramen ovale being left open after birth; but this does not appear by any means to be always the cause. However, by this communication, the venous and arterial blood are mixed together, and yet all the functions go on well. But when the bronchial lining is smeared with a sticky varnish, there is invariably languor with lassitude. So that there seems to be some difference between the state of the blood which is produced by the especial bronchial affection, and that which is produced by the mere mingling of the venous and arterial blood. This smearing of the bronchial lining with a morbid and increased secretion is pro-

ducing a slow species of drowning. A large quantity of mucus or of serum is poured into the bronchial passages; and as it prevents the natural change in the blood suffocation is the consequence.

And sometimes this effect is almost as sudden as in drowning.

An individual, for example, becomes chilled, he becomes pale, and livid, with a skin universally cold, and a feeble pulse; and he suddenly dies, without any apparently sufficient cause. But upon examination after death it will be found that a large quantity of serum has been suddenly poured into the bronchial passages, and has produced suffocation.

The respiration may be suspended for a short time, and again be restored. You are not, however, to believe those cock-and-bull stories which are on record about persons having been under water for a long time, and being then resuscitated.

The Royal Humane Society have, in their Report, quoted an instance from Shakspeare of a person who recovered after he had been nine hours under water. This, however, is quite incorrect; for notwithstanding the cases the Royal Humane Society have published—perhaps justifiably for the sake of humanity—yet no person ever recovered who had been nine minutes under water. The pearl divers never remain under water more than a minute and a half; and therefore I repeat, that there has been some deception in these cases; and the respiration has been supposed to have ceased when it was remarkably feeble. I do not believe that the respiration having been stopped even for only five minutes the patient will ever recover.

As to the treatment:—in these cases, the three great objects are, to restore the respiration, the animal heat, and the action of the heart.

7. When the Respiratory System is in a healthy condition, there is no unnatural secretion from any part connected with this system; but there is some morbid secretion very often when this system is disturbed.

Let a polypus, for example, exist in the nostril; and one of the symptoms often is a trickling of fluid from that nostril, with an occasional sneezing. In common catarrh, as it is called, there is always a secretion,—at first of a watery fluid, but the secretion afterwards becomes opaque.

The same occurs in measles; there is an increased secretion from the nostrils.

The same very often occurs in scarlet fever; and sometimes the secretion is so acrid as to excoriate the parts on which it flows.

In all cases of inflammation of the mucous membrane of the anterior and posterior nostrils there is danger of its extending through the eustachian tube; the consequence of which may be suppuration and the escape of matter through the external ear; and the disease may even extend itself through the petrous portion of the temporal bone to the membranes of the brain or to the brain itself. In cases of secondary symptoms of syphilis an offensive discharge often takes place from the posterior nostrils.

In what is called cynanche, in its different forms, there is an increased secretion of mucus.

There is an increased flow of the natural secretion from the parts when the tonsils and adjacent mucous membranes are inflamed.

In inflammation of the pharynx the patient expectorates small patches of sticky mucus in the morning.

In inflammation of the larynx there is slight expectoration, which when it is spit up runs into one uniform fluid. When the inflammation is chronic the expectoration is generally copious. Occasionally there is an expectoration of coagulable lymph in what is called croup; and sometimes the coagulable lymph is moulded to the form of the bronchia.

I had a patient who was labouring under that form of inflammation which is commonly called croup, and who expectorated a piece of coagulable lymph, forming a mould of the air passage. This is what Laennec has called the bronchial polypus: it occurs occasionally.

When the bronchial lining is affected there is a copious secretion of mucus, which in slight cases is transparent, in more serious cases opaque, and running together when spit into a vessel.

In inflammation of the pleura there is generally at first no expectoration; but when the patient does expectorate it is a transparent glairy mucus, mixed with a little froth, and scanty in quantity. This may be called the pleuritic secretion.

In inflammation of the lungs you have what may be called a pneumonic secretion. It is a very tenacious secretion, like glue, in small patches, and of a yellowish or greenish hue.

Another kind of expectoration may be called the phthisical secretion. This is generally spit up in small patches, which adhere to the vessel into which they are expectorated. Each patch is about the size of a small cockle, and appears to be composed of mucus, pus, and a little curd-like matter.

The different kind of expectoration, then, will point out to an

accurate observer whether the lungs, bronchia, or pleura, &c., are inflamed.

Sometimes blood is secreted or effused; and this may arise from various causes. The most common is an overloaded state of the vessels of the bronchia. Sometimes it is from disease of the heart and large vessels; sometimes it arises from tubercles, which interrupt the circulation; sometimes from the pressure of an enlarged liver on the lungs; sometimes it arises from universal plethora, as in pregnant women.

8. When the Respiratory System is in a healthy condition there is no uneasy sensation in the parts connected with it. But the contrary is the case if the respiratory system be disturbed.

The most common description of uneasiness is pain. This may occur in the anterior or posterior nostrils; or in the cheek, in the antrum; or in the forehead connected with the sinuses, which is very common in catarrh.

You may have pain in the larynx; or you may have pain in the lungs.

In inflammation of the lungs it is generally a dull pain; but whether it be acute or dull, it is invariably increased by a deep inspiration or by coughing.

It may be in the pericardium; and this is generally an aching sort of pain.

It may be in the pleura; and then it is generally a stitch.

Sometimes the uneasy sensation consists of a catch in the breath; for instance, a patient in taking a deep inspiration suddenly stops with a catch. This constantly attends severe attacks of inflammation of the pleura. When the patient has been lying comfortably on one side, he breathes with great difficulty and begins to cough if he turns to the other side, in some cases; and this indicates disorder or disease on that side.

Sometimes the feeling is one of general uneasiness or tenderness over the chest, from an obscure inflammation of the pleura.

There may be a sensation of tightness or fulness when the substance of the lungs is inflamed.

There may be a sensation of fluctuation in the chest from an effusion into the pleura.

There may be pain produced on deglutition; connected with inflammation, seated either in the tonsils, in the pharynx, or in the mucous membrane of the air passages lower down.

Occasionally it is an undefined uneasiness, especially in old per-

sons. An old individual tells you that he has an indescribable sort of uneasiness, especially on eating and drinking; and at the same time it happens very often that while he is eating and drinking he suddenly begins to cough. This arises from the epiglottis not performing its functions well.

A gentleman was called to see a child that had died very suddenly; and upon opening the air-passages he found a portion of cheese, very small, which the nurse had put into its mouth, and which had stuck in the rima glottidis, so as to produce suffocation. This was a child at the breast, and shows the impropriety of giving solid food to infants, in whom the epiglottis often does not perform its functions sufficiently well to prevent food passing into the larynx.

It shows, too, that old persons should be careful not to indulge in talking during their meals, for the epiglottis is very apt in them not to act properly. When a patient is extremely exhausted by any disease the epiglottis often does not perform its functions properly; and this is a circumstance very important to be remembered. I am sure that I have seen twenty patients, convalescent, who have died from giving them drink improperly. You will see a nurse raise the patient up, and then hastily throw a large quantity of fluid into the mouth. The patient suddenly struggles violently, makes an attempt to cough, becomes livid in the face, falls back, and dies. Therefore, in all cases of great exhaustion, especially if the lips be dry, wet the lips first, and then wet the tongue with a few drops merely; and then, having moistened the mouth well, give the patient warning, and let him take the fluid gradually.

This often makes all the difference between life and death.

Another uneasy sensation is that of sneezing; and this you would think, perhaps, to be of no consequence.

Sometimes it occurs from a polypus of the nose; sometimes it arises from an affection of the head.

Sometimes it is a very serious symptom if frequent sneezing occur without any local cause.

In children sneezing sometimes arises from foreign bodies in the nose; for instance, a child is playing with some beads, and introduces one into the nose; and this is easily removed by the cautious use of a probe.

In fact, a medical man should make use of all his senses if he wish to be successful. Miss Edgeworth, in her work called

"Patronage," mentions a case of a physician who established his reputation by finding out that inflammation of the eyes depended on a foreign body in the nostril. And this is a very beautiful illustration of the subject. I believe that the principle which was laid down by Sir Isaac Newton is correct with respect to what constitutes genius.

Genius in a medical man is nothing more than the habit of patient observation.

It is really surprising to observe how trifling a circumstance may make the fortune of a medical man, especially in a large town, when great and popular men often make mistakes and overlook circumstances from hurry. When a physician becomes very popular, the sphere of his usefulness may be increased, but the extent of his usefulness is diminished. I know no life so much to be pitied as that of a medical man when he becomes popular, and is hurried from one patient to another, with the conviction that he attends to no case as he ought: there is no life I would so anxiously shun. I would rather exclaim with Pope, "Tie up the knocker, say I am sick, I am dead." A medical man in this state is lost to the whole public, and lost to himself; and he had far better do what he can properly, and do it deliberately. Almost all the errors which I have committed, and almost all the errors which I have seen committed by other practitioners, have arisen from hurry: therefore, I advise you always to be patient and particular in making your observations.

Lastly, in all cases of this kind take a survey of the chest, to ascertain if there be any depression or any jutting out of the ribs, whether there be any tumour of the thyroid gland, or any aneurism of the arteria innominata, or of the arch of the aorta, or any fracture of the ribs.

LECTURE VII.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

IV. SANGUIFEROUS SYSTEM.

In this lecture I shall consider the indications of a sound and of a morbid condition of what I call—

IV. THE SANGUIFEROUS SYSTEM.

The Sanguiferous System might be divided into three parts:—The Heart;—the Veins and Arteries;—and the Blood.

I shall, in investigating this subject, begin with the Heart.

When it is in a healthy condition—

1. The frequency of the heart's action is natural.

This involves the consideration of the pulse; and you must consider what the natural frequency of the heart's action, as displayed by the pulse, is. This varies at different ages in the same individual.

In infancy, during the first year it ranges from 120 to 130.

Again in childhood it is quicker than at manhood.

And again from the age of twenty-one to fifty it is quicker than in extreme old age.

You must recollect too that the pulse is slower in the adult male than in the adult female. In the adult male the average frequency is about 70, in the adult female about 76 pulsations in a minute. Some individuals have naturally a pulse as slow as 60, while others have a pulse naturally as high as 90.

My pulse is generally about 60, and after I have been tranquil for some hours it generally falls to 50.

I have known several females the average frequency of whose pulse has been 90 in health. Anything permanently quicker than this may be accounted a preternaturally quick pulse. When you find the pulse of an adult individual from 80 to 100, or say from

90 to 120, or beyond that, with a skin hotter than natural, it constitutes what is popularly and professionally called Fever.

You must, then, consider whether the quick pulse be attended by a hot skin, by a skin of the natural warmth, or by a cold skin.

If the pulse be quick, with a natural warmth of the skin, it is a strong presumption that there is something wrong in the structure of the heart itself:—I mean if it go on day after day, week after week, and month after month, as it sometimes does.

When the quick pulse occurs with a hot skin, then what is called fever is established in its most perfect or exciting form.

Again, if the pulse be quick, with a cold skin, you may be sure that something is wrong. In the commencement of fever it frequently happens that the surface is universally cold, and that the pulse is preternaturally quick, but small; and then it is a most important object to restore the animal heat. If when an individual is in this state you immerse him in a warm bath, you will often take off this quickness and smallness of the pulse, by equalizing the circulation, and restoring the animal heat on the surface.

Celsus makes an important observation with regard to the pulse, and one which every medical man should recollect, especially in visiting females. If a medical man, for example, at his first visit to a female, feel the pulse, he will often find that it will be 100, 120, 130, or even 160, with no other bad symptom. In these cases you should invariably follow the rule laid down by Celsus.

The moment a medical man enters the room to visit a female she pants and heaves at the chest, aud the pulse becomes very quick. But after a time the respiration becomes tranquil, and the pulse becomes natural.

Celsus says you should always feel the pulse twice,—when you enter the room, and again before you leave it.

If you judge from the first impression alone you will very often be deceived.

And then certainly a long face has the effect of quickening the pulse; a solemn aspect often frightens women dreadfully—the heart pants and the pulse becomes quicker.

The pulse may be quickened from organic disease affecting the heart, from tubercles in the lungs, or from extreme morbid sensibility of the nervous system.

All persons who have extreme sensibility of the nervous system have a very rapid pulse. Women frequently complain of a pulse all over—at every part of the body. This depends upon the

nervous system operating on the minute capillary vessels so as to produce an universal sensation of pulsation.

Copious abstraction of blood will quicken the pulse even of a person in health; and if you bleed a person in health to-day, to-morrow, the next day, and go on thus, you will produce fever, and on the fourth day the blood will be covered with a thick buffy crust, or, as it is called, the inflammatory coat.

Again, general debility quickens the circulation very much; and this may often be perceived in weak convalescents.

A convalescent patient lies in bed, and desires, day after day, that he may be allowed to get up. At one visit the medical practitioner finds the pulse, in the recumbent posture, as slow as 60, and allows the individual to get up, and at the next visit he finds him perhaps sitting up by the fire, with a pulse of 120, or even as high as 160.

When the pulse becomes thus quickened in the erect posture never allow a weak convalescent to sit up long; if you do, the heart partaking of the general weakness, and thus having the frequency of its action increased, the patient is sure to have a relapse of fever.

The rule with regard to convalescents is this:—if when a convalescent is sitting up, you find him with a slow pulse, he is safe; but if you find him with a pulse weak and quick, you must lay him flat, and never allow him to sit up more than a quarter of an hour or half an hour for the first, second, third, or fourth time, so as to accustom him to it gradually.

The pulse may be preternaturally *slow*.

When you have known the natural frequency of the pulse of an individual to have been in health 70, and being called to visit him find the pulse as low as 50 or 60, and especially if it be labouring and irregular, you may suspect that there is some mischief either in the brain, the lungs, or the heart, and should investigate the case accordingly.

You should ascertain first, whether the patient has been taking any medicine which may account for the slowness or irregularity of the pulse. I have been called several times to patients in whom the pulse has been reduced very much by the daily exhibition of digitalis, and has become very small. The same thing may occur from the continued use of antimonials.

Sometimes it is from the exhibition of opium, the opium having gorged the brain with blood which has produced this change in the heart's action.

When the heart is in a natural condition—

2. The force of its action is also natural.

You should endeavour to ascertain what the natural force of the heart is in health.

In infancy the pulse is very soft (as displaying the heart's action) if compared with the pulse of an adult. In manhood, again, it is firm; while in old age it often has a peculiar hardness, which depends most upon a change in the arteries themselves, and not upon the stroke of the heart.

The arteries very often are ossified, and this is a very common cause of a hard pulse in old persons.

Very frequently the force of the heart's action is preternaturally *increased.*

If the pulse be quick and more forcible than natural it is a strong presumption of the existence of inflammation, especially of the serous and fibrous membranes; and then the pulse sometimes feels like whip-cord. If it be larger and rounder it often feels like pack-cord. And if it be smaller and weaker it often feels like the silk which is wound round twine in the cords with which carriage silk blinds are pulled up and down, having still a hard feel. This sort of pulse, especially a bounding pulse, often precedes hemorrhage.

When the mucous membranes are inflamed the pulse is comparatively soft. It often has more tone (if I may use that expression) than natural. If you compare it with the pulse of a patient labouring under inflammation of the serous membranes,—of the pleura, of the pericardium, of the peritoneum,—it is relatively soft when the inflammation is seated in the mucous membrane of the intestines or of the urinary organs.

When the heart is enlarged, and at the same time immensely thickened, the pulse is considerably more forcible than natural. If a patient have a cool skin, with a pulse rather quicker than natural, and remarkable for its hardness and strength, you may suspect that the individual is labouring under enlargement of the heart, with augmented thickness, especially of the left ventricle. And in these cases this hardness and strength of the pulse often cannot be subdued by anything less than actual syncope.

I witnessed a case in which two physicians bled a patient till upwards of 160 ounces of blood had been drawn, for a supposed affection of the lungs. The patient then became dropsical, but still the hard round pulse remained till he died; and upon examination of the body not a trace of disorder or disease was found

about the lungs, but the heart was exceedingly thickened. If this patient had been treated mildly, the probability is that he might have lived on comfortably for years.

You will find in these cases that the heart's stroke over its region has a more extensive impression than natural, and that there is difficulty of breathing, especially upon motion.

Again, the force of the heart's action may be *diminished* below the natural standard.

If you want to understand what I mean by a diminished force of the heart's action, you should feel the pulse of any individual just before he lapses into, or just as he is recovering from, a state of syncope; and you will perceive that the stroke of the heart is remarkably soft and fluent, and that the artery appears to feel almost as if it were made of silk.

The tone of the fibres of the heart, of the veins, and of the arteries, undergoes, no doubt, a very remarkable change. For, on the one hand, certain changes occur which give them a very relaxed feel; while, on the other hand, in other cases they have a hard contracted feel—a sort of jarring pulse. I repeat then that I have no doubt that the tone of the heart and blood-vessels may be, and is, increased or diminished in some instances. When the heart's action is apparently diminished in force as regards the pulse, always ascertain whether the stroke of the pulse corresponds in force to the stroke of the heart in its proper region. For in some cases there is a feeble pulse at the wrist, while at the region of the heart you feel that it has an exceedingly powerful stroke. But in order to feel the stroke of the heart well you must lay the individual on his back, but you must bend the trunk a little forward, so as to throw the apex of the heart forward. With the body in this position, if you place your hand over the heart you will sometimes feel that its force is very strong, while at the same time the pulse at the wrist is very feeble.

When the stroke of the heart is excessively great it is an indication that you may abstract blood very freely.

It was from this circumstance that Laennec supposed that the arteries had another action independent of that of the heart: this, however, seems to be a fallacy; for in almost all these cases you will find the heart's action irregular; and the blood not leaving the ventricles as usual, the consequence is a stroke, indicating diminished force, at the wrist.

The force of the heart's action may be diminished from various causes.

It may, for example, be diminished in acute diseases.

It is very often diminished from venous congestion. Venous blood accumulates preternaturally in the internal parts, especially about the right side of the heart, and about the vena cava superior and the vena cava inferior; and in these cases there is not only a surplus of blood on the venous side, but there is at the same time necessarily, demonstrably, a deficiency of blood on the arterial side; and this want of blood in the arterial side is the cause of the diminished force of the artery, because, if you restore the equilibrium between the arterial and venous systems the diminished force of the heart's action will disappear. When the force of the heart's action is diminished and the skin is universally cold it constitutes congestive fever; and the point of inquiry then is, whether the blood is equally distributed through the veins, or whether it is distributed so partially through the veins as to interrupt the functions of some particular organ.

If the blood be equally distributed through the whole venous system without an excess in the vessels of any part in particular, then the patient makes no complaint, because no part is so gorged as to have its functions disturbed.

But if the blood be once accumulated in any particular organ, so that the equable distribution of blood through the venous system is destroyed, then the functions of that organ become interrupted or impeded from venous congestion.

Towards the close of fever the force of the heart's action often becomes diminished; and then you must take into account the other symptoms. If inflammation of the brain occur, the pulse in its progress is generally harder and quicker than natural, till the affection reaches its acmé. After this period the heat falls on the surface, and the heart's action is less forcible than natural; and, in other words, there is a cool skin with a feeble pulse. When you find a patient in this condition, with no other bad symptom, it is to be considered a favourable circumstance. But if, notwithstanding that the heat has fallen, and the pulse has become feeble, the local disturbance increases, it is always an unfavourable indication.

Towards the close of almost all inflammations, it happens that the skin becomes cool, the pulse feeble, and the local disturbance increases; or otherwise it is merely the collapse after excitement which exists, without any great local disturbance.

Sedentary persons are very liable to have a diminished force of the action of the heart, especially sedentary mechanics.

The force of the heart's action may be increased by mental excitement, or diminished by mental depressions.

A diminution of the force of the heart's action sometimes attends organic affection of the heart.

I saw a patient about a fortnight since with a remarkably soft pulse. He had no obvious preternatural degree of palpitation in the left side of the chest, in the region of the heart; from which, and from his respiration becoming remarkably affected on motion, I inferred that he had a diseased heart, and that in all probability his heart was softened. This patient went on in this way for some days, and one day he suddenly died. The body was examined, and his heart was found enlarged and so soft, that it was readily ruptured with a slight touch, even although the body was examined but a short time after death. There was a deposit of lymph effused into the substance of the heart, and a deposit of cartilage about the valves of the left ventricles and about the curvature of the aorta, clearly the product of chronic inflammation.

The circumstances then which I have mentioned are strong presumptive evidences of thinness of the heart, which is joined generally with softness. These cases are connected with chronic inflammation.

When the heart is in a natural state—

3. The regularity of the heart's action is uninterrupted.

But in some of its disordered and diseased states the contrary to this obtains. There are four conditions of irregularity of the heart's action as displayed in the pulse.

The first kind of irregular pulse may be called—

1st. Oppressed.

This is a kind of pulse which is very difficult to describe in words, although it is so peculiar I can readily recognise it. It gives one the idea as if the heart were struggling to throw off some superincumbent weight, or as if a weight were pressing upon a spring which was reacting to endeavour to throw it off. This state of pulse frequently precedes apoplexy. It frequently depends upon congestion of the heart, the lungs, the brain, or the liver. It almost invariably happens that this oppression or obstruction is removed by bleeding, and it seems to indicate, as it were, the necessity for it.

The pulse may also be—

2nd. Intermittent.

When it is perfectly regular, you have sixty or seventy strokes in a minute. But when it intermits, you may count the pulsa-

tions, say, one, two, three, four, and then you lose the fifth; there is an intermission of the pulse between perhaps the fourth and the sixth beats. In other cases the intermission is at the tenth, twelfth, or twentieth beat, so that in fact there is a loss of a stroke ever and anon.

This intermission of the pulse attends various conditions.

I recollect that when I was a young physician this would have alarmed me exceedingly, for I thought it must depend upon organic disease. But now, if I were to observe an intermittent pulse, I should set about investigating the circumstances accompanying it.

It is extremely common to meet with it in weak convalescents, on sitting up, from the heart partaking of the general debility; and in these cases it is of no consequence provided you do not allow the individual to sit up too long. In these instances you should be careful, as it were, to secure the strength by avoiding all demands upon it; by which means, and by a little wine, with a nutritious diet, this state of the pulse will be removed together with the debility.

Another frequent cause is disorder of the stomach, liver, or colon: indeed, this is the most common cause.

When it occurs with a furred tongue, unnatural stools, or with overloaded large intestines, be careful not to pronounce an opinion that it depends upon organic disease; for the intermission of the pulse will cease by removing the disorder of the stomach, of the liver, or of the bowels. If the tongue be loaded you need hardly ever fear that this symptom depends upon organic disease.

I know many persons, especially ladies, whose pulse becomes thus disturbed from a foul stomach, from an overloaded colon, or from a disordered state of the liver.

Many medical practitioners have a pulse thus disturbed without any organic disease. A medical man, for example, finds that his pulse intermits, and he becomes very much alarmed at it; whereas, if he had observed it in any other individual under the same circumstances, he probably would not have been in the slightest degree frightened at it.

But sometimes an intermittent pulse does attend organic affections of the heart, and then you will have other symptoms which indicate such organic change. If you come to observe minutely, you will find that in this case there are very distinct symptoms of organic affections which are entirely absent when the intermission depends upon any other cause. The late Dr. Baillie thought that adhesions

in the bag of the pericardium often were a cause of an intermission in the pulse. Though I entertain great respect for the opinions of Dr. Baillie, yet I believe that in this opinion he was mistaken: at least, I have seen several instances of such adhesions in individuals in whose pulse during life I never had observed any intermission; and I believe that if it be a cause of an intermittent pulse, it is an extremely rare one.

The heart's action may be—

3rd. Inordinate.

It may be quick for three strokes at one time, and then there may be three slow strokes; or there may be first two or three strong pulsations, and then two or three remarkably weak pulsations, succeeded by two or three strong pulsations; and so on.

This kind of pulse very frequently attends the same states which give rise to an intermittent pulse.

It occurs, for example, in weak convalescents after fever.

It arises sometimes from disorder of the stomach, of the liver, or of the bowels.

Sometimes it attends organic disease of the heart; but then you will have other symptoms existing, and marking the presence of such organic affection.

Let me again recommend you never to draw an inference from any one symptom of a case, but to take into account all the concomitant symptoms and circumstances; and this observation is especially applicable with regard to the state of the pulse.

The heart's action is sometimes—

4th. Suspended.

Sometimes it is suspended by mental emotion. A lady, for instance, hears some distressing news: her husband is in the army, —he falls in battle; the moment she hears the sound she faints; the heart's action fails, and in this state she continues for some time.

It may arise also from the loss of blood.

A fillet is tied round an extremity, and a vein being opened, a large quantity of blood is suddenly abstracted, and the individual faints, in consequence of the loss of the accustomed stimulus to the vital organs, especially the heart and the brain.

Sometimes fainting arises from an internal hemorrhage; and whenever you see a patient become faint and pale without any apparent circumstance to account for it, you should be very careful to ascertain the cause.

It may arise from internal hemorrhage, especially from the intestines.

Sometimes it arises from organic affections of the heart, and particularly from softening of the heart.

You must ascertain then, if possible, whether it be connected with some serious disease, or only with some slight disorder.

It is often connected with hysteria. The hysterical state is strictly nervous. At one visit, for instance, you will find a patient struggling in convulsions; at another she lies as still as a piece of statuary; at another she is in a state of silent melancholy; in another she lapses into syncope. In short, the symptoms are constantly varying.

When the heart is in a healthy state—

4. The sounds emitted by the heart are natural too.

But when the structure of the heart is changed, the sounds emitted by the heart are not natural. The stethoscope or cylinder is applicable in the diagnosis of diseases of the lungs, and also in that of diseases of the heart. If you wish to apply it to the heart, you must make use of that part of the cylinder which enables you to concentrate the sound.

If you wish to recognise the sounds of either auricle, or either ventricle, you must hear them in a perfectly healthy subject, in order to be acquainted with the healthy sounds in the child and in the adult.

Then comes the inquiry whether, by this method, you can distinguish the diseases of the heart; and this may certainly be done, provided the ear be properly educated.

I have no doubt that you may thus tell precisely the diseases of the heart, naming, in each case, both the kind and the situation of the disease. I have acquired some tact in the use of the instrument, but not so much as one friend of mine, who has a musical ear, possesses. I have, however, no doubt, that after my ear has been further educated, I shall be enabled to give an unequivocal and precise opinion in cases of disease of the heart.

A gentleman told me that he had seen Laennec use the instrument a great many times, and that Laennec was only wrong once or twice out of a hundred opinions, which opinions were recorded in a book before death, and confirmed by *post mortem* examination; and this is, in fact, the proper way of proceeding.

The French attend very much to, and connect very accurately, the symptoms and pathology of diseases; and, generally speaking, their diagnosis is no comparison better than ours, except with

regard to those individuals in our own country who take up the thing properly, and connect the symptoms with the appearances on dissection, as the French do.

The French have acquired very great precision in the diagnosis; but they seem as if their only object was to find out the disease, without any reference to its relief or cure; for their treatment of diseases is most miserable.

Sometimes the sound of the heart is changed (the stroke of the heart being also changed), in strength, in extent, and even in kind.

If the substance of the heart be very much increased the extent of the sound is much greater than natural; it is much stronger than natural, and it emits a different sound. If the substance of the heart be thinner and softer than natural, the sound is more clear, more soft, and more fluent, than natural.

If the valves of the heart be ossified there is a very peculiar sound, which Laennec compares to the sound produced by the compression of a pair of bellows. I have often heard this sound produced by the whizzing of a toy which boys have, and which is called a whiz-gig. Sometimes there is a cooing noise, like that of a turtle dove, very distinct.

A gentleman occasionally calls on me whose heart emits a sound very much like that of the cooing of a dove. I have no doubt that he labours under enlargement of the heart with ossification of the valves. The sound is so distinct, that if I lay my hand over the region of the heart I can hear this cooing noise, which is conveyed along my arm to my ear. It is just like what you would imagine the cooing of the turtle dove would be if confined within the chest. Now, if this were a poor man, who had a mind to make his fortune, he might easily make all the old women believe that he really had a live turtle dove within him.

In certain organic affections of the heart sometimes there is a very peculiar feel—an emphysematous feel—in the carotid and subclavian arteries; it is also felt in the wrist. The artery feels exactly as if air were collected in the cellular connecting membrane of its coats. Laennec supposes that air really is so collected. When it occurs, it generally attends organic affection of the heart, but not always.

When the heart is in a natural state—

5. The respiration is not defective or difficult on motion. You must take into account the influence which motion has upon all cases as to the respiration. If an individual walk or run, the

respiration is always more or less affected. The muscles, in their action, press upon the veins; and the return of the blood to the right side of the heart is thus impeded. The heart consequently contracts more frequently than natural; and, by a law of the animal economy, which always tends to preserve a certain relation between the action of the heart and the respiration, the breathing is necessarily increased in frequency.

In almost all diseases in the bag of the heart the respiration is affected upon motion.

In ossification of the coronary artery there is a defective force in the heart's action, with difficulty of breathing on motion.

In affections within the bag of the heart, there is difficulty of breathing when going up-hill, or up-stairs; and upon resting a short time this is wholly removed. This forms, when it occurs, a strong presumptive indication of some disease in the bag of the pericardium.

Having made these observations in reference to the Heart, I shall now pass on to the Veins and Arteries.

When the veins and arteries are in a natural condition, with regard to their contents, the due relation between these two systems with regard to the quantity of blood exists; and—

1. The natural equilibrium between them is not disturbed. In health there is a beautiful balance between the right and left sides of the heart. The right side of the heart refers to the venous system, with its vessels; and the left to the arterial system—if we except the pulmonary artery, which has a sort of intermediate character.

If there be an excess of blood on the venous side there is generally an universal coldness of the surface; and then if there be no disturbance of the functions of any one organ, you may be quite sure that the blood is equally distributed throughout the venous system. But if the functions of the brain, of the heart, of the lungs, or of the liver, be disturbed, you may be certain that there is a surplus of blood in the veins of that organ; and there is by consequence a deficiency on the arterial side. This is the case in the first stage of all fevers arising from depressing agents. And those are the most serious cases where the surplus of blood is so great on the venous side as to interrupt the functions of an important or vital organ.

Another state which exists might be called Simple Excitement; and this may be either local or general.

This state which I term simple excitement differs from inflammation.

For instance—blushing is an example of Local simple excitement; which is a state distinct from inflammation; the capillary vessels being merely increased in size temporarily, so as to admit the red particles.

Another state I call General simple excitement; when the blood circulates more rapidly than natural through all parts of the body, without any sign of interruption to the functions of any one organ. This state we can easily produce, either by running, or by mental emotion, &c.

Another condition of the circulation is what is called Inflammation, in which, as I shall afterwards endeavour to prove, there is some interruption to the circulation of the blood in a particular organ.

In inflammation both the large veins and arteries leading to and from the part, and the capillary vessels, are overloaded with blood, partly from a change in one of their physiological laws.

The vessels have, after death, the property of elasticity; and during life they have also another property, namely, that of contractility, by which they accommodate themselves to the quantity of their contents. By this power they contract when the caloric of the blood is dimininished, and by consequence the volume of the blood is diminished; and they contract also when blood is abstracted from a vessel by the lancet or naturally.

And if these two properties, of elasticity and contractility, did not exist the circulation of the blood could not be carried on; for the stroke of the heart would be so great as constantly to endanger the bursting of the vessels.

Occasionally inflammation does occur in the vasa vasorum, or vessels by which the arteries and veins are fed.

I have never seen the coats of an artery or vein inflamed without some other organ being inflamed; and this state most frequently occurs in low or typhus fever. It exists most commonly in the veins.

You must not confound with this inflammation a dye of the vessels which is occasionally observed. It is not true, as generally stated by physiologists, that arteries do not contain any blood after death; for the large arteries adjacent to the heart mostly contain some blood. And as the blood does not always leave the arteries after death, it sometimes produces a red stain or dye in the vessel, which you might suppose to be a proof of the previous existence of

inflammation. But if you examine the parts accurately—for example, with a microscope—in inflammation you will see that the lining membrane is raised, with an effusion of serum under it; and, with a microscope, the vasa vasorum will be seen ramifying over the internal membrane of the vessel.

When the veins and arteries are in a healthy condition there is—

2. No unnatural hardness or dilatation.

Hardness and dilatation sometimes occur when they are not in a natural condition.

Hardness sometimes arises from a spasmodic action of the heart; and dilatation sometimes arises from a surplus of blood.

Therefore this state of hardness and dilatation may often be produced without any organic disease; but there often is some organic mischief or other.

Depositions often take place in the coats of the aorta—especially at the arch, and also just where it leaves the left ventricle. The arch of the aorta and the arteria innominata are especially liable to become enlarged.

In old persons osseous deposits in the arteries are almost always found.

The veins very frequently become varicose, especially in individuals who work hard, and who stand long upon their legs; and you find dilatations of them, and depositions in them, as in the arteries.

These generally arise from inflammation, or from increased force of the action of the heart, produced by hard labour; or from a plethoric condition of the vascular system generally.

Sometimes varicose veins seem to be the result of mercury; especially a varicose state of the vena portæ.

A friend of mine has often found the vena portæ varicose, with a grey granulated state of the liver, after the abuse of mercury.

The next division of the Sanguiferous System consists of the Blood.

When the blood is in health there is—

1. No unnatural quantity of blood, general or local.

Now nothing is more common in civilized life than a general plethora. And the same thing occurs also in savage life. Savages are remarkably liable to organic diseases of the heart from gorging themselves with food, by which they induce a general plethora.

A general excess of blood in the vascular system sometimes takes place in children who have large appetites; they become full and florid in countenance, and have a very expanded pulse.

But the state of general plethora is far more common after forty years of age; for then most individuals become less active than before; there is less waste, consequently, by secretion; the bowels become slow; while at the same time they indulge themselves very freely both in diet and drinks.

These individuals are liable to apoplexy or to hemorrhage. They almost always have a full face, and a pulse so expanded and labouring, that it seems to speak for itself as to the necessity of abstracting blood. But you should distinguish this from a false fulness of blood. Sometimes the heart acts on the blood with a sort of jerk, giving a deceptive feeling of fulness of blood. If you press on the pulse of an individual who is the subject of general plethora, and continue to make the pressure on the artery gradually, you can stop it. But when this false fulness exists it resists your finger at first; but immediately afterwards you can compress the artery without any resistance.

Local plethora is also a very common circumstance in civilized life.

There is naturally a beautiful balance in the quantity of blood in one and another organ. But it frequently happens that this balance is disturbed; but that still a deficiency of blood which exists in one organ is compensated by an excess in another organ.

It frequently happens that there is a deficiency of blood in the vessels of the skin; and the consequence is, an increased action of the kidneys, which perform as it were the functions of a pump, and carry off a quantity of fluid which the skin is unable to throw off; otherwise it would very often happen that the vessels, being overdistended, would burst.

It is very well known that more urine is secreted by the kidneys in the winter than in the summer, when more fluid passes off by the skin.

Whenever the secretion of the skin is diminished or interrupted there is very often some disorder of another part connected with it.

In the attack of dysentery which I had, my skin, which is naturally very soft, became dry and harsh, and the urine became remarkably scanty. Here were two secretions very much diminished; and the consequence was, an increased secretion from the whole surface of the mucous membrane of the colon. As the disease abated, the functions of the skin and kidneys became natural.

In the same way, in almost all serious affections, you will find that this nice balance between the quantity of blood in different organs

which naturally subsists is destroyed;—most frequently between the skin and internal mucous membranes; sometimes between the brain, lungs, heart, and liver.

When the blood is in health there is—

2. Nothing unnatural in the quality of the blood.

But in many cases of disorder there very often is a remarkable change in the quality of the blood,

In bronchitis, whether it arise from a common occasion, or whether it arise from any special agent, from marsh miasmata, from epidemic constitutions, from the human contagions, or from the introduction of putrid matter; in these cases, if the bronchial lining be smeared with a sticky varnish, there is a muddled state of the mind; and the muscles also are affected, from a change in the blood,—a change which is demonstrable in the vessels, as it is seen circulating in them over the cheek. From the change of the blood, too, there occur exudations of blood, or a sweating of blood, from the great fluency of blood produced by a change in its constitution, by which the relation between it and its vessels is lost. In these cases I have spent two or three hours in vain endeavours to find out some rupture of a vessel; and I am confident, that in many of these examples there is no rupture, but that the blood transudes, as Celsus described it, *per ora venarum*.

But you must recollect also that the influence of the velocity of the blood's circulation affects its constitution. When the blood flows quicker than natural there is a buffy coat.

The buffy coat is not an essential part of inflammation, but may exist without any inflammation at all.

The diet also changes the quality of the blood.

Take two individuals, for example, and examine the difference in the quality of the blood. Take one of the well fed servants of London, with a ruddy cheek and a full bounding pulse, and if you abstract from this individual a quantity of blood, you will find that it shows a redundancy of red particles, and is what old nurses call remarkably rich blood.

Then take one of the pallid individuals who reside in the cellars of London, and live on vegetables and tea, and having drawn blood from his arm, contrast it with that of the sleek servant before described, and here you will find a deficiency of red particles of blood.

In scurvy you have another proof of the remarkable change which diet has upon the blood.

It seems to me that many medical men prescribe from principles deduced from analogical reasoning, and that great errors are com-

mitted thus: for instance, they reason analogically with respect to diet, and tell us that we should accord our views to the habits of animals: and really this is very absurd—if we were to follow up this principle, the inference to which it would lead would be highly ridiculous. From reasoning of this kind, if a patient were to consult me about a disorder, I might say to him, "What a fool you must be to come to me to cure you with your unnatural habits: why don't you go upon all fours, and eat grass and thistles, as horses and asses do?"

The solids are affected by the food very remarkably; and a mixture of vegetable and animal food seems best, for after confinement to either animal or vegetable food for some time the quality of the blood becomes changed.

In scurvy, for instance, from the long continued use of dried salt provisions the whole mass of blood is affected, and becomes so fluent as to transude through the vessels, in consequence of the relation which naturally subsists between the vessels and the particles of blood being lost.

When the blood is in a healthy condition—

3. There is nothing unnatural in the secretions of the blood. But in disorder and disease there very often is something unnatural in the secretions.

Take small-pox, measles, and scarlet fever, and you will find that there is something given off by the body which, when taken into the stomach or into the lungs of another individual, will affect him with a like disorder.

This is a strictly humoral change.

There are also other poisons which affect the blood. There is no doubt that the blood is affected by marsh miasmata; but whether the blood then is enabled to give off any thing which will in another produce the same affection we want further facts and experiments to enable us to decide.

Particular secretions of the blood are sometimes effected. The secretion of bile is often changed; and so is secretion of urine. In scarlatina the secretion from the nose is sometimes so acrid as to excoriate the upper lip, and the secretion from the intestines is sometimes so acrid as to excoriate the parts about the perineum.

You frequently have depositions taking place in the secretions. Sometimes pus is secreted, sometimes serum, sometimes tubercles, and sometimes even a stone.

We have abandoned the humoral pathology very absurdly;

for it is of very great importance to attend to the condition of the fluids. I have thrown out these few hints respecting the subject in order to direct your attention to it. There are more secrets by far in the humoral pathology than in our philosophy.

LECTURE VIII.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

V. CONCOCTIVE AND ABSORBENT SYSTEM.

IN this lecture I shall make some remarks upon the indications of a sound and of a morbid condition of what I call—

V. THE CONCOCTIVE AND ABSORBENT SYSTEM.

This might be divided into three parts for the sake of convenience.

1. Œsophagus, Stomach, Small and Large Intestines.
2. Lacteals, Mesenteric Glands, Thoracic Duct, and Lymphatics.
3. Liver, Pancreas, and Spleen.

These are the several parts which are mainly concerned in the Concoctive System; but there are also other parts which are intimately connected with the process of concoction, especially the nerves.

You know that if the eighth pair of nerves be divided the process of digestion is completely at a stand.

The Abdominal Viscera seem fitted, and are intended, for the formation of chyle.

The Respiratory System is fitted, and intended, for the assimilation of the chyle, and the perfecting of the blood.

The Sanguiferous System is mainly fitted for the perfecting of nutrition, by the circulation of the blood through all parts of the body, so that all its secretions may be properly performed.

These three systems,—the Concoctive, for chylification; Respiratory, for assimilation; and the Circulatory, for nutrition,—are intimately connected together; and the probability is, that there is some nervous fluid secreted from the blood in the same way as other fluids are secreted from the blood. For the facts, that muscular motion depends upon the nerves, and that digestion depends upon the nerves, show that there is some such thing as a nervous fluid; and call it what you may, it may be fairly supposed to be the result of arterial blood coming in contact with nervous matter; for we see, that in all cases where the proper decarbonization or oxygenization of the blood is prevented the muscular powers fail.

To pass on, however, to the morbid and healthy indications of the Concoctive System.

When the Concoctive System is in a perfect state there is—

1. No impediment to the passage of the food or fæces.

But in some cases there is an obstruction to the passage either of the food or of the fæces; and then the cause may be very various.

I knew a gentleman once who was liable to attacks of spasm in the upper part of the œsophagus, which used to continue for hours, so that he could neither swallow the smallest crumb of solid food nor a drop of fluid. This spasmodic stricture of the upper part of the œsophagus was generally to be relieved by a hot bath, which was used so as to produce a complete relaxation.

In certain affections these spasmodic attacks of stricture at the upper part of the œsophagus are secondary; for instance, in hydrophobia.

The same thing also occurs in tetanus, so that the patient is unable to swallow any fluid without an attack of convulsions.

I have known the same thing occur in chorea; and I have also observed the same thing temporarily in hysteria.

Stricture sometimes, though rarely, occurs at the upper part of the œsophagus, as the product of inflammation; and it is worthy of remark that this inflammation is almost always symptomatic of some disorder of the stomach, liver, or bowels.

I distinctly recollect at this time two cases which I have seen, in one of which the stricture yielded to the antiphlogistic treatment which was adopted. I believe that you generally will find that strictures are the gradual products of inflammation, if you except the spasmodic stricture which I have alluded to.

But the most common sort of permanent stricture of the œsophagus is near the cardiac orifice of the stomach. But stricture

sometimes takes place about the pylorus, and it may take place in any part of the course of the intestines.

Sometimes it is apparently from gall-stones.

I attended a lady who apparently died of an attack of enteritis; before her death she passed a kind of white looking stool, plainly showing a deficiency of bile; and shortly before her death, too, she vomited a quantity of stercoraceous matter, evidently mixed with bile; and this clearly showed that some mechanical obstruction existed. Upon examining the body after death there was found to be a gall-stone stuck in a portion of the ilium, which was inflamed above, but not below, the gall-stone. This had obstructed the whole caliber of the intestines, which was firmly closed around it.

Sometimes tumours form in the intestines and create some impediment to the passage of fæces.

I saw a lady who had for a long time laboured under attacks of colic, and then had an attack of acute inflammation, of which she died. Upon examining the body a tumour was found in the intestines, which had occasioned these spasmodic attacks, and which had ultimately completely blocked up the canal.

Sometimes the mechanical impediment is what is called a hernia.

A portion of the intestine makes its escape from the cavity of the abdomen, and it undergoes a stricture, so that the fæces are prevented passing through the canal.

Whenever you are called to any patient labouring under symptoms of inflammation of the belly, always be certain to examine the groin, to ascertain whether there be a hernia.

I have met with at least a dozen cases of strangulated hernia, which have been treated merely as cases of simple inflammation. Therefore, in all cases where you have evidences of inflammation of the belly, examine the groin in order to ascertain whether there be a femoral or an inguinal hernia; for I repeat that I have known at least a dozen instances in which, from a neglect of this caution, the patient's life has been lost under the existence of hernia in a strictured state.

This is more especially the case in females. If you ask a delicate female whether she has any tumour in the groin, she will answer in the negative; she will tell a falsehood upon the subject from a feeling of delicacy. Therefore never take the word of a female upon this subject, but make an examination.

Sometimes the mechanical impediment is in the rectum.

The rectum is subject to temporary stricture from spasm, and this is by no means uncommon.

A spasmodic affection of the sphincter ani, and of the lower part of the rectum, is exceedingly common from an overloaded state of the colon; and it is very liable to be mistaken for a permanent stricture. Before pronouncing an opinion that a permanent stricture of the rectum exists, always ascertain that there is not an overloaded state of the colon: and if there be remove it, and you will often remove the stricture, if it be merely temporary. Sometimes the stricture of the rectum is permanent, but I believe this is by no means so frequent as surgeons seem to imagine; at least I have not seen it so frequently as they describe it to exist.

But it sometimes does occur; and then most frequently it is within reach of the finger, if one have a tolerably long finger. It hardly ever takes place six inches above the sphincter ani.

Piles are sometimes a cause of impediment, and these are various. Sometimes they arise from varicose veins; sometimes they consist of a series of vessels communicating together; and sometimes they consist of extraneous growths from the mucous membrane of the rectum.

Again, the impediment may arise from intus-susception. This, I believe, sometimes takes place from inflammation, and one portion of intestine is folded within another. Intus-susception, however, occasionally takes place in the agonies of death.

Sometimes the impediment arises from an enlarged prostate gland; and when this is the case there occasionally is a feeling after each evacuation as if something still remained to be passed. This feeling is a very suspicious circumstance in old persons.

Sometimes the impediment arises from an enlarged uterus.

Now since the cause of the impediment is so exceedingly various, you will perceive that the safety of the patient will frequently depend upon the practitioner's knowledge of the precise condition upon which the obstruction depends. I merely throw out these observations on some of the causes of impediment to show you how minute a medical man ought to be in his investigation of every case.

When the Concoctive System is in a healthy state there is—

2. Nothing unnatural in the number or nature of the evacuations.

1st. The number of fæcal evacuations, you know, varies at different periods of life.

A healthy infant ought to have two evacuations each day; and

they are much more loose than those of an adult, and of a lighter colour.

In very old individuals the bowels are generally torpid; many aged persons having only one evacuation in two days, and seldom more than one in each day, and that more sticky and scanty than at adult age.

You must take into account the natural colour of the stools. You should always consider the healthy state, and contrast it with the state that exists, in order to know whether there be any morbid change.

Therefore I repeat you must first ascertain the natural colour of the evacuations. Some have described it as the colour of rhubarb wetted with water, others have compared it to turmeric, and some to virgin gold; but the best way is to look at it if you wish to know its natural colour.

You must remember that if an evacuation be kept for some time it becomes very dark indeed from exposure to the air in an open vessel; and unless he took this circumstance into account a medical man might be very apt to be deceived as to the healthy condition of the evacuations.

The consistence of the evacuations is of importance in many cases.

There is a certain healthy consistence, and any deviation from that consistence is a sure indication of something wrong. There is a natural smell in a healthy evacuation which is peculiar.

All these, then, are very important: and even—

2nd. The size of the evacuations is very important.

Sometimes you may detect stricture or piles from an unnatural size of the evacuations. In a permanent stricture of the rectum, the evacuations are almost invariably twisted like a cork-screw; but recollect that the same also occurs occasionally from a temporary stricture.

3rd. The colour of the stools is important.

When there is a deficiency of bile, the evacuations sometimes are of the colour of lime, of pipe-clay, or of slate.

When there is an excess of bile, the stools are deeply tinged of a yellow colour, and are generally looser than natural.

The bile may be depraved, and then the colour varies; sometimes it is as dark as tar; and then it may be distinguished from blood by holding it to the light, or by mixing it with water.

Or the evacuations may be like melted resin. This very often is the case in typhus fever.

Or sometimes they are green in colour from the same cause.

You must take into account the influence of diet, and the influence of certain medicines, upon the colour of the evacuations.

If an adult live upon a milk diet there will be an apparent deficiency of bile in the evacuations; and if you were not aware of this circumstance you might presume that the liver was disordered, and put the individual very unnecessarily under a course of mercury. So, too, if you inferred from the green appearance of the evacuations that the liver was disordered so as to require the use of mercury, you might be mistaken; for this green colour of the stools might be produced by mercury. A glairy green appearance of the stools is very frequently indeed produced by mercury.

Again, a curdled appearance of the stools is a very common effect of the exhibition of mercury. Another kind of stool which is very common from mercury is one which very much resembles mock-turtle soup.

Now you might think that this is of no consequence, but it really is of immense importance, especially in London. For instance, a dose of mercury is given, and the stools are examined, and to some men the conclusion is irresistible, that because the stools are of a morbid appearance mercury must be requisite to correct them. A medical man, therefore, exhibits mercury for a supposed disorder of the chylopoietic viscera, especially the liver; and thus the unnatural state of the stools, which was first produced by mercury, is afterwards maintained by mercury. I recollect I once saw a lady who had been for several months undergoing courses of mercury: the blue pill was continued to correct the stools, till she was reduced to a skeleton, and was rendered so nervous that an angry look made her shed tears, and if the door were suddenly opened she started, and was excessively agitated. The blue pill was left off, and the natural appearance of the stools soon returned. I recollect I saw a case in which four grains of calomel were given every six hours, and produced stools very much resembling mock-turtle soup; I told the medical man that the exhibition of the mercury was the cause of the unnatural stools. The mercury was left off, and the stools again became natural.

If you neglect to pay attention to this circumstance you may entirely destroy the health of an individual. Thus the exhibition of mercury day after day, with a cool skin, is one of the most destructive practices with which I am acquainted. There is now a work, written *ad captandum*, in which it is laid down as a rule,

that mercury is to be continued as long as the stools are unnatural. If you were to follow this advice, and give mercury day after day, and week after week, you would very often commit a serious error, and ruin the health of your patient.

If you have any doubt of the cause of the unnatural appearance of the evacuations in any case, omit the mercury, and omit all medicines for a few days, and see whether it depends upon the exhibition of mercury.

If any man in health have his mind constantly and entirely engaged, you will find that the stools will undergo a great change. No man can have observed the influence of mental emotions upon the functions of the body, without having noticed the changes which the state of the mind produces in the secretions and excretions—as the fæces.

The incautious and indiscriminate use of mercury is a great and a growing evil, in this town especially, where there is as much fashion in physic as in fitting out the shops in Bond-street.

There are also other medicines which produce a change in the appearance of the stools.

Iron changes the colour of the evacuations to black.

A friend of mine cured an hypochondriac patient by turning his stools black with iron. This patient had been from one doctor to another, but still he said he was no better. My friend said to him, "These doctors have all entirely mistaken your case. I can very soon cure you. Your complaint arises from some black matter in your bowels which wants to be purged away." He gave the patient some sulphate of iron, and made his stools as black as ink: and then he gave him a purgative, and told him to look at his stools, and see whether the black matter had come away. The patient was so delighted with his black stools, that as soon as he saw them he ran to the medical man, and said, "Doctor, I have passed it—I have passed it—as black as my hat! and now I am cured!"

Sulphur changes the stools very remarkably—it darkens them.

Senna darkens the evacuations.

Spinach renders the evacuations green, and if you did not happen to know the influence of different kinds of food upon the stools, you might form an erroneous opinion from the examination of the stools after an individual has been eating spinach.

Some wines influence the colour of the stools. Claret gives a very peculiar laky tinge to the fæces. If you wish to know precisely the colour which it produces in the stools take a few glasses or a bottle. You will find claret a very nice wine.

4th. The consistence of the evacuations is of very great importance.

If the stools be thinner than natural it is a certain indication of some irritation of the mucous membrane of the intestinal canal.

When the evacuations are spontaneously loose the irritation is most frequently seated about the upper part of the colon.

When you give a mild purgative, and there is much liquid matter in the evacuations, and especially if they be oleaginous, it is a sure indication of some irritation of the mucous membrane of the small intestines.

When the evacuations are loose, slimy, and bloody, it is a certain indication of inflammation about that part of the large intestines which is called the sigmoid flexure of the colon.

You should examine when the stools are loose, to see if there be blood, or if there be pus with them; for in this way you may often detect hemorrhage or suppuration in the intestinal canal.

You should examine the stools for another reason. Sometimes you will find that when persons hurry their meals, the evacuations are composed of comminuted or pulverised food, which, passing from the stomach without having been there digested, has fermented and putrefied in the intestines, or passed nearly in its original state. You may often thus find out the cause of the complaint of a patient; and, by a proper diet, by proper mastication, and by rest after meals, he may perfectly recover his health.

Again, you may by examining the evacuations detect the existence of gall-stones in them. Suppose a patient has a sudden attack of pain in the direction of one of the hepatic ducts—the pain suddenly ceases, and after that the stools suddenly become yellow. In such a case if you examine the stools day after day for a week, with the shank of a spoon, you will detect the gall-stone. Sometimes sand is passed by stool. I saw a patient who passed very large quantities of sand this way. Sometimes calculi are passed by stool; and this is especially the case from feeding upon oats. It has been observed that in Scotland, where a great quantity of oaten bread is eaten, calculi are very frequently passed, having a point of oat for a nucleus.

There may be worms in the intestines. There are four kinds of worms which infest the human body, namely, round-worms, ascarides, the trichuris, and the tape-worm.

5th. The smell of the evacuations is important also to attend to. There is a remarkable change in the smell in many cases of disorder and disease.

A natural evacuation is as bright and as yellow as a wall-flower, but of rather a different smell.

The alteration in the smell is very peculiar in some cases: for instance, you might tell immediately on entering the room that an individual was labouring under dysentery by the smell,—it is so remarkable.

You might smell that a patient is labouring under small-pox, in the dark.

And you might tell that another patient was labouring under typhus fever by the smell in the dark.

In some cases you might tell, in the dark, that a patient was dying by the very peculiar smell. There is then often an acid and lemon odour, as in typhus fever, or an intense earthy odour: this sometimes occurs for twenty-fours before death; and as far as I have observed it is invariably a fatal symptom.

Therefore I repeat that it is of great consequence to attend to the smell of the evacuations and to the other odours.

When the Concoctive System is in a healthy condition there is—

3. Nothing unnatural in regard to the appetite.

1st. A failure in the appetite is generally an indication of something wrong in the stomach, or in some other part of the concoctive system.

There is a very common error prevalent with respect to failure of the appetite in children. A child, for example, cannot eat its usual breakfast, and then it is tempted with some confectionary.

Now, when a child's appetite for common food fails nothing is so well as to follow the indications of nature: if the stomach loathe food, then let it rest without food. It is a very bad plan to tempt the appetite with nice things under these circumstances, either in children or in adults.

2nd. With respect to the appetite there are certain longings that are peculiar, as those of pregnancy; and that desire for cinders, sand, and other indigestible substances, which occurs in chlorosis. There are longings also in convalescents. One of the first indications of convalescence is the returning appetite for common diet.

It is the vulgar opinion that all these longings may be indulged; for the vulgar, and indeed most persons, reason from analogy, and hence they conclude that what may be proper in one case may be given to any other individual.

I have known a great many deaths occur from this error in indulging all the longings of convalescents.

3rd. The appetite may be capricious; sometimes good, and at

other times deficient. When it is thus capricious, or alternately good and bad, it is a distinct indication of something wrong either in the stomach or in the parts connected with it.

In organic diseases the appetite often is very capricious; so that, if you lay down strict rules as to diet, you will find the patient's appetite so capricious that he will seldom follow any one plan for more than twenty-four hours. This is especially the case in what is called scirrhus of the pylorus, in which the patient will be almost always changing his plan of diet. When you find this capricious appetite with a pale skin and an emaciated form, it is a strong presumption that there is some organic disease.

4th. Sometimes the appetite is voracious, as in diabetes, in which the patient will eat and drink four times as much as in health.

5th. Another circumstance which requires notice is thirst.

One of the first indications of fever is thirst.

When the tongue is perfectly dry in fever, and without thirst, you will generally find that it is attending some serious affection of the brain; and it is a very bad sign. When the tongue is moist with thirst it is also a very bad sign.

In diabetes there is excessive thirst.

If you have any doubt about the cause of thirst, you must investigate the case perfectly and take into account the combination of the signs.

When the Concoctive System is in a healthy state there is—

4. Nothing unnatural in the appearance of the tongue.

There are many parts of pathology which admit of illustration by means of drawings and casts, which ought to be executed by first-rate artists, or they would be worth nothing. I have a series of casts and drawings for this purpose. The appearance of the tongue under various circumstances might be very well illustrated by good drawings.

In many examples of disorder the tongue is white: when it is white and rough, like velvet, it is very often an indication of some disease of the head. I know several sensitive individuals who, if any thing occurred to render them very anxious shortly before bed-time, would have this white and rough appearance of the tongue in the morning.

The same appearance of the tongue also attends irritation of the stomach.

A yellowish tongue is generally an indication of something wrong in the liver. It occurs in typhus fever, when the liver is much disordered.

The tongue being of a vividly red colour at the tip, and thence a little way round the edges, or having a fiery red streak down the centre, or having the whole surface preternaturally red, especially if the papillæ be raised, is one of the most distinct and certain signs of inflammation in the mucous membrane either of the stomach or of the small intestines.

There are occasionally little spots on the tongue, which are very important, or little aphthæ or small blisters. These are almost always an indication of some irritation in the small intestines and in the stomach, as in children. A knowledge of this circumstance will save a great deal of trouble in the use of local applications, for the proper treatment will consist in removing the cause of the aphthæ.

So likewise you see in the last stage of consumption the skin is faded, the internal mucous membrane becomes affected, and aphthæ take place.

If the tongue of an individual be paler than natural it is a certain indication of his being out of health. The paleness of the whole surface is visible in the tongue likewise, and the blood drawn from such individuals shows a deficiency of red particles.

If the tongue be purple it indicates distinctly that there is some very serious affection either of the lungs or of the heart.

The tongue may also be too moist, or it may be too dry.

The tongue may be too moist from the exhibition of mercury. It is sometimes too moist from acidity of the stomach. Most persons have what is called water-brash when they are young, and then the tongue becomes moist.

A preternaturally moist tongue may attend a fatal case of abdominal inflammation. For example: you might see an individual after vomiting, in the winding-up of a fatal inflammation of the serous membrane of the belly, and then perhaps you might be deceived by the moist appearance of the tongue.

The tongue may be preternaturally dry.

Almost all cases where the tongue is so dry that it leaves no stain of moisture upon the finger are combined with an inflammation of the mucous membrane of the bronchia, which is generally associated also with an inflammation of the mucous membrane of the intestines. The tongue, in typhus fever, is at the onset red at the tip; but in the progress it becomes brown, and is dry and glazed.

When the Concoctive System is in a healthy condition there is—

5. No uneasy sensation in any of the abdominal regions.

The uneasy sensations may be very various, and the consideration of them may lead to very important inferences in many cases.

1st. There may be acid or acrid eructations; and they may occur only upon jolting motion: for instance, they may be evident only when riding in a carriage, or on horseback.

Sometimes this acid smell is in the breath.

In diabetes nothing is more common than an acid odour of the breath.

In cases of overloaded colon the individual frequently has a fæcal odour in the breath. In drunkards there is a peculiar odour in the breath: I do not know how to describe it in words, but it is an odour very familiar to me.

If an individual come to you who has this odour in his breath, who vomits in the morning, having a little fulness of countenance, with a bloated form, be quite sure he is a confirmed drunkard, though he will seldom allow that he drinks.

A person called on me one morning with these indications, and I am quite confident that he was a confirmed drunkard. I cross-questioned him on the subject, but he would not acknowledge that he was in the habit of drinking.

Many individuals will conceal from a medical man the circumstance of their drinking to excess, and these persons have a very curious way of clearing themselves of being drunkards. If one man gets drunk only six times a week, he compares himself with some other individual who gets drunk seven times a week, and then thinks himself as sober as a judge.

In these cases you can generally get at the friends of the individual, and learn of them what his habits are; for if he be not a confirmed drunkard you may save him from destruction. For recollect if he be not a confirmed drunkard, he is reformable; but if he be a confirmed drunkard you generally cannot succeed in reforming him.

A young man was in the habit of drinking to excess, and all the attempts which his father had made to reform him had been in vain. One day the father found his son half fuddled, and said to him, "My dear fellow, I am sorry to see you addicted to such a habit as that of drunkenness. Depend upon it, that wine is the worst enemy a man has." The son, who was one of the greatest rascallions on the face of the earth, filled a bumper, and looking his father full in the face, answered—

"'Tis said that we should love our foes;
So, —— it, father, here it goes!"

And this is the way almost all confirmed drunkards will act. You can hardly ever make any impression upon them; at least, I have never succeeded in reforming a confirmed drunkard.

2nd. The uneasy sensation may be heat in the stomach.

If the preternatural sense of heat be constant in the stomach it is a strong indication of some inflammation of the mucous membrane of the stomach.

3rd. The uneasy sensation may be nausea, retching, or vomiting; and then the causes may be various. It may proceed from the head; it may arise from inflammation of the stomach, or from inflammation of the intestines; or it may arise from an affection of the liver.

There is one kind of nausea which is connected with drunkenness very often. A confirmed drunkard often has retching, vomiting, or nausea, in a morning; therefore I suspect, if I find a lady is sick in the morning, either that she is pregnant, or that she drinks, and I investigate the case accordingly. It is surprising how this is remedied in confirmed drunkards by a dram.

The same thing sometimes occurs in convalescents. I attended a gentleman who was not a drunkard, but who had been accustomed to take a little porter. When he was convalescent, he was troubled with a most oppressive sense of nausea, which he said he knew arose from starvation. I allowed him to take a little porter, and he was soon perfectly well.

4th. Hiccup sometimes arises from mere over distension of the stomach, though the same sensation may attend inflammation of the liver, and sometimes other very serious affections of the liver.

5th. Itching is another uneasy sensation.

Itching of the skin attends the absorption of bile. Itching at the nose or at the extremity of the rectum is often connected with irritation of the mucous membrane of the intestinal canal.

6th. Pricking is another uneasy sensation, and is an indication of the presence of worms; especially of the round worm, of the ascarides, and of the trichuris. Pricking of the stomach attends other affections, especially organic diseases of the head, and is very often combined with a sensation of pulsation in the epigastrium.

7th. Pulsation at the epigastrium occasionally attends some affections of the nervous system, of no consequence; and then the sensation of pulsation is limited, but without any evidence of tumour, and it is only occasional; it comes and goes.

Sometimes the pulsation is connected with an overloaded colon.

Sometimes it attends diseases of the spleen, and sometimes also diseases of the kidneys.

Pulsation may be in the abdominal aorta, some part of which may be connected with an aneurism.

8th. Pain is an uneasy sensation of great importance.

This pain may be constant, or it may be only occasional.

If pain be constant, it is an attendant upon inflammation, with only two exceptions, as far as I know. It is constant, more or less, in colica pictonum, but then it is increased by fits; and pain is sometimes also constant for many days in hysterical females, without any inflammation.

The seat of the pain is important, because a knowledge of the seat leads to the consideration of the structure and functions of the organ which is affected.

When the pain is occasional it may arise from various causes, as from occasional spasms.

9th. Tightness is another uneasy sensation of great importance.

A sensation of tightness accompanies disorder of the liver.

A sensation of tightness also sometimes exists with a state of chronic inflammation of the peritoneum.

10th. Tenderness is another uneasy sensation which requires to be noticed.

Tenderness most frequently is an attendant upon inflammation, but not always, for it accompanies some affections of the spinal cord. And you must recollect, that very few individuals can bear heavy pressure over the epigastrium, even in health.

I have known a physician push his fingers roughly down into the region of the epigastrium, and suppose, because the individual flinched, that he had some disease either of the duodenum or of the liver.

This is not at all a fair way of forming an opinion, but quite the contrary. The pressure should be made gradually and progressively, and should only be forcible at last.

When the Concoctive System is in a healthy condition there is—

6. No unnatural fulness or flatness of the abdomen.

A generation of flatus in the intestines is a subject of great importance in many instances.

In young married women it sometimes happens—that they become excessively distended in the abdomen, with a combined affection of the stomach, liver, bowels, and skin. These persons, from the menstrual discharge having ceased, and anxious to be "as those who love their lords would wish to be," actually suppose that they

are pregnant; and perhaps the medical man is engaged, having added his sanction to the opinion, and the baby's clothes are made. Things, however, go on thus beyond the usual time, and perhaps the medical man is called in, and finds that it all arises from the generation of air in the intestines. He prescribes a draught, and the little one having vanished like a vapour, and mingled with the viewless winds, leaves the disconsolate mother as flat as a pancake.

You can easily distinguish the distension which arises from wind from that which arises from pregnancy. In pregnancy the abdomen is more firm than the distension from the generation of air in the intestines, in which case the abdomen yields readily to pressure. When it arises from mere distension of the stomach and bowels, you will generally find that the individual has been in the habit of eating a vegetable diet largely, and of taking large quantities of slops.

In the progress of inflammation of the serous membrane of the abdomen the belly becomes extremely round.

On the contrary, in the progress of inflammation of the mucous membrane of the abdomen the belly in general becomes more and more flat.

Sometimes the wind is in the cavity of the belly, but generally it is within the intestines.

When it is in the cavity of the body it invariably arises from ulceration having proceeded through the mucous membrane of the intestines, and then through the serous membrane, so as to admit the air from the intestines into the cavity of the abdomen.

In dropsy it generally occurs that a large quantity of flatus is generated in the intestines; and you must therefore be upon your guard, in performing the operation of tapping, not to wound the intestines.

Effusion of serum into the belly from inflammation is very distinguishable. There is then a sensation of fluctuation or undulation when you place your fingers on one side of the abdomen, and tap on the other side with your other hand.

An unnatural fulness of the abdomen may arise from tumours in the different regions.

The tumour may be internal; it may be a tubercle on the peritoneal covering of the abdomen, felt like a pea under the abdominal coverings.

It may be an enlarged liver, or an enlarged kidney; or it may be an aneurism of the abdominal aorta; or it may be an enlarged

ovary, or an enlarged uterus; or it may be from enlarged mesenteric glands.

It mostly happens that affections of the internal and external glands and lacteals are secondary to some disorder of the skin and intestines.

Having made these observations, I may just notice, by way of conclusion, that the influence of the Concoctive System is very great over all parts of the body.

There is a sort of associate sympathy between the stomach, the bowels, and the skin; so that, if any one of these organs becomes affected, it is apt to excite inflammation in some other of the organs.

For example,—twenty individuals have either the stomach, or some other part of the Concoctive System disturbed, by which they will become liable to inflammation. And the inflammation set up in these individuals may be seated in twenty different parts.

In some, the sympathy takes place through the medium of the heart, sometimes from the quantity of blood generally, and sometimes from the kind of blood which is formed.

LECTURE IX.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

VI. URINARY SYSTEM.—VII. SEXUAL SYSTEM.

IN this lecture I shall consider the indications of a healthy and of a morbid condition of—

VI. THE URINARY SYSTEM,

and also of,

VII. THE SEXUAL SYSTEM.

These two systems together comprehend—

1. The Kidneys, Ureters, Bladder, and Urethra.
2. The Testes, Uterus, and appendages of both these parts.

I shall begin first with—

VI. THE URINARY SYSTEM.

When the Urinary System is in a perfectly healthy condition, there is—

1. No deficiency or excess of the quantity of urine secreted. But it sometimes happens, under a contrary condition of these parts, that there is a greater or less quantity of the urine than natural secreted.

In some cases there is an entire suppression of urine, and then death generally takes place very suddenly, and mostly from great oppression about the brain.

In most febrile affections there is a deficiency of urine, that is, in almost all those affections in which the pulse is quick, and the skin is hot and dry.

In many dropsical affections there is a deficient secretion of urine.

In some affections, on the contrary, there is an excess of urine.

This is the case in hysteria, and in almost all nervous affections. Hysteria is strictly a nervous affection: it has a most extensive range of character, and is mostly attended by a great excess in the secretion of urine. Another still more curious affection is what is called diabetes; an affection in which you will often find that the individual passes a most enormous quantity of urine, as much as four, six, eight, ten, or even more, quarts, in twenty-four hours.

The quantity of urine, therefore, is of great consequence, because, by further inquiry, it may lead you to infer the conditions upon which the alteration in quantity depends.

When the Urinary System is in a perfectly healthy condition, there is—

2. No impediment to the discharge of the urine secreted.

But it sometimes happens that there is some obstruction to the discharge of the urine.

I once attended a patient who was suddenly seized with pain in the direction of each ureter; and no urine passed from either kidney into the bladder. The inference from these circumstances was, that a calculus was sticking in each ureter, which proved afterwards to have been the fact. This patient had before been subject to calculous affections. While he was in this state he was threatened by an attack of apoplexy, from which he was saved by the copious abstraction of blood: and, under the profound and universal relaxation produced by the bleeding, the calculi passed into the bladder, and were ultimately discharged by the urethra.

Sometimes the cause of the impediment is a stone in the bladder.

Sometimes the cause is stricture in the urethra.

Sometimes it arises from a spasmodic affection of the neck of the bladder, which may almost be considered as a sphincter.

Occasionally the impediment arises from some organic affection.

I have seen instances where tumours have existed in the pelvis, and have produced very considerable obstruction.

I saw an instance where a mass of hydatids was attached to the fundus uteri; and, in consequence of the pressure of this structure on each ureter, the ureters became enormously increased in size, till they were larger than the finger; and the structure of each kidney was beautifully developed.

Occasionally the cause of the impediment to the discharge of urine is a want of muscular power in the bladder to enable it to expel its contents. This sometimes occurs after delivery. A female has a hard labour, and the pressure of the child's head produces a temporary paralysis of the bladder; so that the urine requires to be drawn off daily.

There frequently is a retention of urine in fevers, where the brain alone, or the brain and spinal marrow are affected; therefore, whenever the brain and spinal cord are affected, be quite certain that the patient passes a sufficient quantity of water daily; for if the bladder be in some degree paralytic, retention of urine is the consequence. And this retention becomes of great importance, for it tends very much to aggravate the affection of the brain.

You must be very careful in these cases not to be mistaken with respect to the retention, on account of the dribbling. If you ask an old nurse if the patient passes his water freely, she will often answer in these cases, "Oh, quite freely, he is constantly making water." Whenever you hear a nurse make use of this expression always be upon your guard, always then examine the region of the pubes; and if you find the abdomen distended, and the patient's linen wet, be quite certain that the bladder is over-distended, and introduce a catheter. This dribbling from the bladder very often attends affections of the brain.

You see something of the same kind in drunkenness. When the brain becomes surcharged with blood, from the excessive abuse of diffusible stimuli, dribbling from the bladder is very apt to occur.

When the Urinary System is in a perfectly healthy condition there is—

3. Nothing unnatural in the appearance of the urine.

In many cases of acute disease there is something unnatural in the appearance of the urine. In some cases the urine is at the same time scanty and high-coloured; and when this occurs with a hot skin and a quick pulse, it is usually an indication of the presence of inflammation of some serous or fibrous structure. On the contrary, when the mucous membranes are inflamed, the urine generally is not scanty and high coloured, but is very frequently copious and colourless. Recollect, however, that there are some exceptions to this, and especially with respect to inflammation of the mucous membrane of the large intestines. Again, if you have a hot skin, with high-coloured and scanty urine, and a quick pulse, you will very often find that albumen exists in the urine; which may be detected either by boiling the urine or by adding nitric acid to it. The same occurs sometimes from chronic affections, as in dropsies, especially those which arise from inflammation. Dr. Blackall has pointed out this circumstance, and has drawn from it an inference by far too sweeping; for it by no means occurs universally in dropsy from inflammation that albumen exists in the urine.

In other cases bile may be found in the urine; and this is a very important circumstance. The urine then has the colour of saffron-water, in those examples where the quantity of bile is but slight. If, however, there be a very large portion of bile in the urine, then it has very much the colour of porter. The fact of the existence of bile in the urine leads to the inference that there is some obstruction to the natural flow of the bile, which being absorbed into the blood, and mixed with it, thus passes off with the secretions of the blood.

Sometimes, by examining the urine, you can detect the tendency to the formation of stone early; and by proper means may correct that tendency. You may detect, for example, a whitish deposit of phosphate of lime, or a red deposit of lithic acid; and by filtering the urine you may sometimes discover calculi, which remain small, and may be like blocks of stone upon the paper after the fluid has been filtered off. Therefore, whenever a patient complains of pain in passing his water, without any obvious cause, always filter the urine, to find out if there be any of the small calculi deposited.

The appearance of the urine is sometimes likewise changed. And if it be copious, with a smell and taste like those of honey, it is a strong presumption of the existence of diabetes.

If it be from diabetes, the urine, when evaporated, will leave a

residuum very much like treacle, both in appearance and in taste. And sometimes it happens that there is alternately a very large quantity of saccharine matter and of urea. Sometimes also there is a preponderance of acid; and in other instances a preponderance of alkali. But the test of diabetes is the daily evaporation of the urine.

Sometimes the patient finds out himself that he labours under diabetes, by the taste and smell of the urine. Finding that the urine smells like honey, he is led to taste it; and finding that it is sweet he becomes alarmed and sends for a medical man.

In all cases of affections of the urinary system, evaporate the urine and examine it for yourself, never trusting to the patient's representation. When there is a superfluity of acid, or alkali, it may lead to important inferences with regard to the diet and drinks.

There may be mucus in the urine, which is a certain indication of inflammation in the ureters, or in the bladder. If there be blood and mucus together in the urine it is an indication of inflammation of the mucous membrane of the bladder.

Sometimes fungous points are discharged by the urethra, indicating a fungoid disease in the bladder.

The discharge of pus in the urine will indicate suppuration either in the kidney or in the bladder.

Sometimes suppuration occurs in the kidney without any pain at all in strumous subjects; and the only indication of it is a large quantity of pus passing daily off by the urethra with the urine.

I have known one kidney entirely destroyed in this way, and yet the individual has lived for years afterwards, one kidney performing the functions of both.

When the Urinary System is in a perfectly healthy condition there is—

4. No uneasy sensation in the region either of the bladder or kidneys.

A smarting pain, attended by heat, is one of the most certain indications of inflammation of the mucous membrane of the bladder. When the kidneys are inflamed the pain is generally more obscure.

Strangury is another uneasy sensation about the neck of the bladder; and it may arise from the absorption of acrid substances, as cantharides or turpentine, producing a degree of inflammation; or it may arise from some irritation of the bowels, as from scybala in the colon; or it may be from inflammation attacking the mucous membrane of the bladder, or even of the peritoneal covering of the bladder.

There may be an uneasy sensation of fulness about the urinary organs. If it be about the bladder, it may arise from over distension of the viscus, requiring the use of the catheter.

If the sensation of fulness be about the kidneys, it sometimes is described as a strange uneasy feeling on each side, as if a large oyster were stuck in each kidney. This frequently attends organic affections of the kidneys.

When the Urinary System is in a perfectly healthy condition there is—

5. Nothing unnatural as to the time of retaining or passing the urine.

When the urine is retained a longer time than usual, or when it is passed at shorter intervals of time than natural, it is a strong presumptive proof that there is something wrong.

Frequently, when the urine is retained, there is an affection of the brain or of the spinal cord. An anxious mind will produce an irritable state of the whole nervous system, as where an individual passes night after night without sleep. This will affect the bladder, and it may pass on to organic affections. So also by hard work the same state may be produced; and if the occasion be not diminished, it may pass into a state of actual inflammation.

But one of the most frequent occasions of this state of inflammation is stone, or the introduction or absorption of acrid substances. Slight irritation of the bladder is of importance, because a more or less acrid fluid is constantly passing into it. It is a point of great importance in these cases to manage the patient's mind—a point which requires great attention; for if the patient be constantly directing his attention to the irritation, the structure of the parts may be disorganized, from the influence of mental emotions upon the body. If, for example, a patient have an inflamed eye, and if he talk about it, and think about it, the quantity of tears and the redness of the eye are almost immediately increased; and so in irritation of the bladder, the patient is obliged to make water far more frequently if his mind be directed to his complaint, than if it be directed to other objects.

When the Urinary System is in a healthy condition there is—

6. No tumour in the region of the bladder or kidneys.

When you feel a distension in the region of the bladder, it is generally an indication that the patient has retention of urine. In some cases of fever, for example, the bladder rises up immensely; and then you generally find the patient lying on his back, moaning, and in great general distress. When this occurs always

examine the abdomen above the pubes, to ascertain whether there is retention of urine; for after the urine has been for some time retained, its thinner parts become absorbed, and its more acrid parts being retained, by this, combined with the retention, inflammation of the mucous membrane of the bladder may be induced.

Sometimes the tumour may arise from organic disease. You frequently find this to be the case in organic affections of the kidneys.

Perhaps there is no subject so difficult to give an opinion upon as abdominal tumours. I have heard an opinion given correctly in some cases; but I have heard other opinions given which have not been verified. Sometimes a tumour apparently pulsates in the region of the kidney; and I have known the pulsation so strong that an aneurism was suspected, without however being found to exist upon dissection.

Having made these observations upon the Urinary System, I shall proceed to the consideration of the healthy and morbid condition of

VII. THE SEXUAL SYSTEM.

When the Sexual System is in a perfectly healthy condition there is—

1. No preternatural discharge of any description.

But there may be, and often is, some unhealthy discharge; for example, in gonorrhœa, gleet, leucorrhœa, and certain organic diseases of the uterus, attended by discharges. And by minute examination you will be able to detect the difference in these discharges.

The discharge of gonorrhea differs from that of gleet; and in leucorrhœa the discharge is different from that which occurs in organic diseases; and thus the subject is very important to attend to with regard to the inferences.

If the lochial discharge be very scanty the patient is very apt to be fevered, if she be over-fed.

When the lochial discharge is extremely offensive it often indicates a bad fever, and is rather an unfavourable circumstance.

Yet you must recollect that many females have a remarkably offensive lochial discharge in health. I do not know how it is, but the fact is well known to nurses, that in some females in health the lochial discharge is so offensive that it would be very unpleasant to enter the room unless some aromatic perfume were made use of. Some practitioners have attached great importance to the stoppage of the lochial discharge as a cause of fever; but though it sometimes may be a cause, it is most frequently the effect of fever.

Sometimes, under fever, this discharge is diminished or suppressed; and then, as a consequence of fever, it is of very little importance.

But a distinguished individual makes an inference from this circumstance, and founds his diagnosis on this, which he considers as a very important point: if the lochial discharge be absent he calls it the puerperal fever; but if the lochial discharge remain he says it is not puerperal fever. But all distinctions of this kind are very vague.

When the Sexual System is in a perfectly healthy condition there is—

2. No deficiency or excess in the natural discharges.

Sometimes it happens that the hymen is imperforate, and gives rise to a great deal of suffering, or even to fatal consequences.

When any female has not menstruated at the proper period, and when she complains of fulness in the lower part of the abdomen, and of pain in the back, a medical man should be on his guard, lest the accumulation of the menstrual fluid retained by an imperforate hymen should lead to a fatal result. He should therefore endeavour to ascertain the fact; for, I repeat, if the hymen be imperforate, and the menstrual discharge go on thus accumulating month after month, death may be the consequence of the irritation produced in this way.

I saw a young lady who was considerably fevered in this state; but by an operation a large quantity of menstrual fluid was discharged, with complete relief to all the symptoms. The fluid discharged did not coagulate, which is the peculiar characteristic of the menstrual discharge, and distinguishes it from the blood. When there is retention or suppression of the menstrual discharge, it is almost invariably the effect of some other disease. Almost all these patients have some disturbance which stands in the relation of a cause to the retention or suppression.

Sometimes there are mechanical causes which retard the discharge.

I saw a female who had suffered an attack of inflammation of the vagina, which had closed the vagina nearly completely, so as to leave only a very minute aperture, through which the menstrual discharge passed as it were *guttatim*, with very considerable pain. This circumstance led to a separation between this woman and her husband; though perhaps it might have been relieved by a bougie.

When there is menorrhagia, or an excessive discharge of the menstrual fluid, it is always a sign of some disorder in the patient's health.

Females who suffer great mental anxiety are very liable to menorrhagia. Some females have menorrhagia who drink slyly. I have met with several examples where the cause of it has been perfect intoxication, or something carried very nearly to it.

A very important point connected with menorrhagia is miscarriage. If a woman have miscarried once, and become pregnant a second time, as soon as she becomes pregnant she should have a separate bed; or otherwise the probability is that she will miscarry again: and if the habit of miscarrying be established twice or three times, it generally goes on; and thus the hopes of a family may be blasted.

There is, however, sometimes, great difficulty in accomplishing this desirable temporary separation.

There is one point connected with the natural discharges which is of great consequence—it is that of nocturnal emissions in young men. Some boys or young men have one or two nocturnal emissions for weeks and months; and the result is the most extreme emaciation, sometimes winding up in idiocy. Almost the sole cause of these emissions in boys is the solitary vice of onanism, which, in some of the large schools of this country, is carried to a most horrible excess. I have met with many individuals whose health has been ruined and whose minds have been weakened by the prevalence of that solitary vice in schools; and, whenever I am sent for to a boy or young man having nocturnal emissions, I manage, if possible, to be left alone with him; and, in putting the question, I have always been able to discover, by his countenance as well as by his admission, that this vice is practised, which, if not omitted, will probably ruin his health and mind. There are certainly some very gross moral errors committed in our large schools; and this is one which I believe is carried on to a far greater extent than the public are at all aware of.

When the Sexual System is in a perfectly healthy condition there is—

3. No uneasy sensation in the testes, uterus, or their appendages.

Pain in the testes arises from a great variety of causes, which I shall merely mention here, and put you upon your guard. Acute pain in the testes sometimes attends inflammation of the kidneys, with retraction of the testicles,—or one if one kidney be affected,—and very little pain in the back. Sometimes the pain in the kidney is acute, as when a stone forms there rapidly; but if the stone form slowly, it may increase, till the whole structure of the kidney is absorbed, with hardly any pain.

There is a preparation in Mr. Grainger's museum of an instance of this kind which occurred in a patient of mine.

Sometimes the cause of pain in the testes is stricture of the urethra.

Sometimes the cause of the pain is gonorrhœa. You know too, that pain is one of the symptoms which attends the formation of chancre.

Uneasy sensations very often attend affections of the uterus. A sensation of bearing down attends prolapsus uteri. Burning pain, with some tumour, attends inflammation of the uterus. When the uterus is enlarged, and painful on pressure, it is a certain indication of acute, sub-acute, or chronic inflammation of that viscus.

Pain in the ovaria is very important. I believe that insidious inflammation is often the origin of what is called ovarian dropsy; which might perhaps be corrected at first, but which, if it be allowed to go on, is incurable, and admits only of a palliation.

The pain is very often external. Delicate female children are very liable to have ill-conditioned inflammation affecting the external parts. The same also occurs in women. And this may produce sloughing and a fatal result. In these cases the skin is invariably disordered; and you have proofs of disorder of the mucous membrane of the intestinal canal, and of the functions of the liver being impaired. And if you remove this general disturbance, you will be able to control the ill-conditioned inflammation of the external parts; whereas, if you were to treat the local affection only, you would generally fail to subdue it, and it might prove fatal in its consequences.

When the Sexual System is in a perfectly healthy condition there is—

4. No swelling about the testes, uterus, or their appendages.

Swelling about these parts may arise from various causes. Swelling of the testicle may arise from a sudden attack of acute or chronic inflammation of the gland.

The cause of the swelling may be a common hydrocele, or effusion from inflammation.

The cause of the tumour may be, and very often is, connected with hernia.

The tumour also may be connected with organic affections, and therefore you must be cautious in your investigations. The uterus may be enlarged, sometimes, from hydatids within it. I have known it enlarged from this cause. Sometimes it is enlarged from inflammation; as after delivery, when it does not contract so much as usual, but in the fever which occurs in the puerperal state often remains preternaturally enlarged and tender for some days.

When the Sexual System is in a perfectly healthy condition there is—

5. No deficiency or excess of venereal power.

With respect to this you must take into account the age, since the sexual power begins only at a certain age, and is diminished in advanced age; though it continues till a very advanced age in some persons.

Sometimes there is a deficiency of venereal power.

In almost all serious febrile affections the venereal power is lost.

An exception to the loss of venereal power in febrile affections occurs in hectic fever. The venereal power often exists, for example, through the whole progress of consumption.

I have known individuals who have been able to propagate till a very late period of hectic fever; and then the children have been almost always tubercular, and have seldom reached the age of fifteen, as far as I have observed.

I have now three or four examples in my eye of children who were born tuberculated in the last periods of hectic fever in the parent.

The venereal power returns very remarkably in convalescence.

Again, it sometimes happens that you will find there is a deficiency of venereal power; and the reality or the supposition of this frequently leads men to the most miserable state of melancholy.

The loss of venereal power may be either real or imaginary.

It very often happens that it is imaginary, and then it attends insanity sometimes. And therefore if you find an individual whose habits have been temperate complaining of loss of venereal power, it is a strong indication of something being wrong about the head.

In one case of this kind I distinctly made out this circumstance.

These cases may very often be remedied; and as they are sometimes connected with excessive sensibility, it becomes very important to relieve them if possible.

In these cases it is of great importance to manage the mind, and get the individual's perfect confidence, which you generally may obtain; for otherwise the next thing may be a bullet through his head. Tell the patient that all will come right in time. A patient went to John Hunter, and told him that he had lost all venereal power. Hunter told him to make no further attempt till he gave him leave; but before a week was over he called upon Hunter, and said that he had been obliged to break through his rule.

Sometimes the deficiency is not apparent but real; for example,

from the progress of chancre. A chancre may go on to slough till the whole penis is destroyed, if the chancre be neglected; and this certainly is a most lamentable state.

When there is an unusual excess of venereal power it is important to investigate its cause.

I have known some instances in which an excessive venereal desire and power, in persons advanced in age, has indicated some chronic affection of the brain.

If it occur after forty years of age that an individual has excessive venereal power and desire, it is a strong indication of some affection of the head.

The same thing occurs in women in what is called furor uterinus, which sometimes is the first circumstance announcing an attack of insanity. A lady of some consequence being insane was placed in an asylum, and being considered perfectly recovered was restored to society. One day, on entering the drawing-room she conducted herself very indelicately, and this was the first announcement of another attack of insanity.

The same state may arise from certain solitary practices, and I know no individuals whose state is so deplorable as theirs who give themselves up as slaves to unbridled passions.

LECTURE X.

PREDISPOSITION.

IN the preceding lectures I endeavoured to give you a general, and in some measure particular, account or description of the method of investigating the physiology and the pathology of the different structures of the body; and if you recollect the indications of a healthy condition of the various organs, and contrast them with the symptoms of a morbid state of the same organs, you will be enabled to investigate and to recognise affections at the bed-side of the sick with more success than you might perhaps imagine. The value of an arrangement of this kind arises from its giving a facility of acquirement of any species of information. With

respect to the present course of lectures, I shall not follow the plan which I have hitherto adopted. If my lectures had not been in a most imperfect state, I should never after their publication have lectured again: the publication of them would have so much destroyed my interest in them that I could not, as a matter of feeling, have continued them.

I have hitherto divided all affections into two classes; the first comprehending acute and sub-acute, and the second chronic, affections. And as I consider that this arrangement is not only useful but simple, I shall continue to adopt it.

Acute and sub-acute affections arise from common or peculiar occasions operating on an individual who has some hereditary or acquired predisposition, and producing certain impressions or effects on the body, which may be designated by the generic term of common fever or specific fever, according to the nature of the remote occasion. But generic terms are of very little use unless we distinctly analyze them, and state precisely the particular, as well as the ultimate, facts which they involve.

All febrile affections may be comprehended under one of the three following heads: Congestive fever; Simple fever; and Inflammatory fever.

Before considering Common fever I shall adopt a plan almost entirely different to that which I have hitherto pursued. I shall give one lecture on Predisposition; in which I shall explain its various modifications and its influence in the production of acute and sub-acute forms of disorder and disease. I shall then give one lecture upon Remote Occasions, exhibiting the origin of febrile affections from depressants, stimulants, irritants, and interruptants. I shall next speak of the nature and treatment of common congestive fever and common simple fever; and shall then, in noticing common inflammatory fever, trace its symptoms and morbid appearances through the different structures of the body, so as to give you a distinct notion of the diagnosis of inflammation under its various forms. Lastly, I shall consider its treatment, and show how far it is applicable to the different varieties. In this way I shall lop off some repetitions, which will enable me to give a more complete course of lectures on chronic affections than I have ever hitherto done.

The subject of this lecture then will be—

PREDISPOSITION,

or the tendency to disorder or disease in different parts of the body.

The same remote occasions operate differently upon different persons, according to their respective predispositions.

Predisposition is very various, and it is—

I. HEREDITARY.

This hereditary predisposition consists in a condition transmitted from the parent to the child.

1. If human comparative anatomy were cultivated, as Bacon suggested, we might find out why some affections prevail so much in one family, and others in another family. This has never yet been done; but it is a part of anatomy which is well worthy of notice. Ray, and, since his time, Cuvier, have observed that there is a greater similarity in the internal than in the external structure of the body. We have a remarkable example of this in the distribution of the veins. Take the external veins, as those in the hands of two individuals, and you will see a very remarkable difference in their distribution. But if you compare the distribution of the internal veins in different individuals you will find generally a remarkable correspondence between them. But even in the internal structures there are occasionally differences observed, which may account for some predispositions. The large sinuses of the brain, for instance, are remarkably regular in their distribution; but, as all anatomists know, there are occasional varieties in the smaller sinuses. If the internal parts of the body be more uniform than the external parts, we might form an inference, *à priori*, in favour of particular varieties of structure running in particular families.

There is no doubt that hereditary affections prevail in different families for ages: and it is well known that family likenesses will continue for ages, as may be seen in the family pictures of many houses where they are preserved; and this likeness, though it may be lost in one generation, will often rise up again in another. And since this is the case with the external features, and since there is greater uniformity of the internal than of the external parts, we might presume, *à priori*, that the internal family likeness would be more regular than the external resemblance: but this is a point which requires, and which well deserves, further illustration. The members of some families are distinguished remarkably, generation after generation, by some peculiarity in the form,—in the gait,—in the voice,—in the temper,—in the torpor,—or in the sensibility.

2. There are also not only corporeal, but strong mental and moral resemblances in particular families. For instance: if a mo-

ther have once slipped, her daughter is very likely to slip too; and I should not like my son to marry the daughter of a woman who had erred, on this account. A want of chastity is often displayed in this way successively by the mother and daughter; and something of the same kind will often be found successively in the father and the son. In fact, there is many an individual who

"Knows the right, but still the wrong pursues."

These are a set of wrong-heads, on whom education has no influence as to their moral character. I do not mean to deny the influence, the immense influence, of education on the moral condition of individuals, but I have seen the greatest pains taken with certain persons and entirely thrown away. These individuals (to use a common expression) if they attempt to make a spoon will spoil a horn. I do not believe even St. Dunstan, who is said to have led the arch-fiend, could lead a wrong-head by the nose.

I have traced the disposition to get into debt and dissipation in different members of the same families very remarkably. I have found that the same disposition has gone on from father to son; especially in two instances, with which I was unfortunately concerned. This would lead us, morally speaking, to a very minute survey of the characters of individuals. It is absurd, at first sight, to mix boys of different dispositions together without any attention to this subject; for the moral characters of children should be studied at a very early period, in order that what is wrong may be counteracted, and what is right encouraged. We should instil habits of practical virtue at a very early age, for on such habits depend, in a great measure, not only happiness of mind, but health of body.

With regard to particular tendencies, they are remarkably displayed in different organs. A tendency to inflammation in the brain seems remarkable in different families; the same is the case with affections of the chest, and the same with affections of the skin. In large families you will find that some of the members have been prone to affections of certain organs, from generation to generation; but there are, however, certain exceptions to this tendency in the same families.

The predisposition to disorder and disease is—

II. Ætal,

or connected with the age of individuals.

This is most remarkably displayed in infancy on account of the following five considerations:—

1. The delicacy of the skin and mucous membranes.

Blisters, burns, and other local irritants, operate far more powerfully on the skin of infants than on that of adults. In infants operations are more fatal than in adults, and hence many surgeons are averse to performing the operation for hare-lip at a very early period. Slight as is the local irritation produced by vaccination, yet in some cases it will occasion fever. The stomach of infants is more easily offended by certain diets and drinks than that of adults.

The next peculiarity in infants is—

2. The high degree of sensibility and contractility.

By the Sensibility I mean the power or capacity of sensation. By the Contractility I mean the power or capacity of contraction.

Stimulants and irritants make a more powerful impression on the nervous system of infants than on that of adults; and by consequence they act also more powerfully on the muscular system, especially on the heart, the force and frequency of the heart's action being thus increased. If a child sit up later than usual it becomes fretful. The influence of the summer upon the temper of a child, too, is very obvious; for on a hot day a child is very apt to be irritable and peevish.

Another peculiarity in infants is—

3. The large size of the head in proportion to that of the body.

The head is larger in proportion to the body in infancy than at adult age; in consequence of which a larger quantity of blood circulates in a given time through the infant's than through the adult's brain. Perhaps this gives to infants a liability, sometimes, to inflammation of the brain.

You are aware how strongly the dura mater is attached to the skull in infancy, and how large a quantity of blood the pia mater contains. The brain exhibits altogether a more vascular appearance than in adult age. The brain in infants is also softer, and will bear pressure without injury better than in adults. In parturition the brain is often compressed so much that it would kill an adult, and yet the child is not at all injured. Injuries on the head are less severely felt in infants than in adults.

The next peculiarity is—

4. The irritation of dentition.

A slight degree of irritation, though not amounting to inflammation, may disturb the heart's action and the nervous system. Sometimes, on the other hand, the local irritation does amount to inflammation, and fever is in that way established.

Were it not that children can bear a more rapid circulation than adults they would be constantly ill; for in the first year of a child's life the pulse is seldom under 120 in a minute; in the second year scarcely even less than 110; and in the third year seldom less than 100. I have twice attended a boy whose intellect is good, but his head large, and he is predisposed to inflammation of the brain; though he is now four years of age his pulse is never less than 120. An adult would not bear such a rapidity of circulation; in him it would almost invariably produce inflammation.

The next peculiarity in infants is that they have—

5. But little power in maintaining the external heat.

This is very important, because they are thus more liable than adults are to depression, which may produce simple or inflammatory fever indirectly. This circumstance, however, is not peculiar to infants, for it exists also in very old persons.

The principal things to be attended to in the management of children are—

1. The diet.

The diet in infancy should consist of the mother's milk, and at the time of weaning of light and nutritious food.

2. The bowels should be kept open.

If this be attended to, and there be a copious flow of saliva in dentition, the child will go through it well; but if the secretion of saliva be sparing and the bowels confined, the child will not sustain the irritation well. If you find a child has fever, with the gums red, swollen, tense, broad, and hot, a constant inclination to keep the finger in the mouth, and a cessation of the flow of saliva, you should scarify the gums very freely in several places, making the incisions crucial and deep, so that the edge of the lancet divides the membrane and grates upon the tooth; and you may also use a warm bath.

3. Cleanliness.

This should be attended to; and after washing, the skin should be very carefully dried, or it will crack. The clothes should be clean; and in kind, which is a material object, they should be light and warm.

4. Exercise.

When an infant is taken into the open air in the nurse's arms it should be very warmly clothed; but this is not so necessary for children who are older and can run about to keep themselves warm.

5. Sleep.

If those who are predisposed to complaints be allowed to sit up late, they are almost sure to have disease. Those children whose sleep is disturbed are predisposed to inflammation of the brain. Therefore when you see this occurring watch it carefully. I have known several instances in which the sleep was disturbed for many nights before the attack has come on.

6. The state of the mind.

Children should not be put to school too early. Many are destroyed by being sent to what are called preparatory schools, where a great many children are shut up in the same room all day, deprived of that exercise which is necessary to the preservation of health, and where their diet is not attended to.

If we paid as much attention to our children as we do to our horses we should have them more healthy than they are. Man has not been sufficiently considered as an animal.

Infancy may be said to terminate when language begins. When a child can communicate its own feelings, then it may—medically at least—be said to cease to be an infant. A medical man called to an infant finds himself in the situation of a veterinary surgeon called to a horse, and he must then consider the healthy functions and contrast them with the existing symptoms.

The same peculiarities, except dentition, pervade all the periods of childhood to the age of puberty, and from that period to maturity they lessen. One remarkable circumstance occurring from infancy to maturity is that a larger quantity of food is required than at any other period. From infancy to manhood and middle age acute and sub-acute inflammations are far more common than they are in advanced life, and the serous and fibrous membranes are most predisposed to inflammation. If you keep an account you will find that by far the greater number of cases of inflammation with fever occur from the period of infancy to that of middle age.

The strength being once confirmed remains most vigorous from the twenty-first to the fortieth year, and the body has then a greater power of accommodating itself to surrounding circumstances. Large losses of blood are better sustained than at any other period of life: the most common affections are those which are highly inflammatory.

From puberty to manhood there is a predisposition to tubercular diseases stronger than at any other periods. The tubercular disease may occur in the peritoneum or lungs, and is a variety of what has been called Scrofula.

From the fortieth to the sixtieth year there is a tendency to repletion of the vessels,—a general tendency to overplus of blood, especially in those whose habits become sedentary while the appetite continues large and the bowels slow. Up to forty there is generally a considerable degree of activity, but after that time most persons become sedentary: we find the vessels replete to an extraordinary extent, and the system gets out of order,—there is a tendency to an earthy deposit between the coats of the arteries particularly; hence the liability to effusion of blood. You will find that chronic inflammation is far most common in persons of advanced age. About the age of sixty a remarkable change takes place—there is gradually an excess of blood on the venous side of the circulation, the external veins become swollen, and the pulse is slower.

After that comes old age. In persons subject to indigestion, from sixty and upwards is old age, when all the weak parts are apt to be displayed on receiving slight shocks, copious losses of blood are recovered from slowly, and sometimes not at all if they be very often repeated, though moderate losses are often very well sustained. In old age there is little power of retaining caloric, and a diminution of the sensibility and irritability of the body, torpor of mind and body, most remarkable in those who eat and drink very largely; the skin is drier and colder than natural. The skin is related as to its functions to the internal mucous membranes. Hence old men are liable to diseases of the mucous membrane of the air-passages, and of the bladder and urethra; they are also particularly liable to diseases of the prostate gland: these complaints are most common in those persons who have been addicted to spirituous potations. The bowels are generally torpid, the secretions from the intestinal canal are more sticky, the liver is more torpid than natural, the veins become more and more distended, the arteries more and more rigid, and the heart's action becomes slower. There is still a tendency to osseous deposit, and life becomes a mere animal existence: the mind is torpid, and the intellect becomes annihilated. The intellectual powers might, I am persuaded, be preserved and even cultivated to a much later period of life, if man would be attentive to the regulation of the animal appetites. Cicero says that education commences in the cradle and terminates only in the grave: and I am convinced that the mind of man might, like the sun, grow larger at its setting, and shed a beautiful light at the period of its decline. I know a remarkable instance of this in a man, the whole labour of whose

life was to do good to his fellow-creatures,—the celebrated Jeremy Bentham. Lewis Cornaro was another example of the efficacy of controlling the animal appetites in prolonging life and the mental powers.

The skin of old persons should be kept warm; the bowels moderately open; the liver should be occasionally roused by an alterative, and very gentle exercise should be taken. The exercise should be moderate, because the body of an old man resembles an old ship, which, if exposed to a storm, will almost inevitably founder, but which if kept in smooth water will last a very long time.

There are certain peculiarities which constitute predisposition, and which I call

III. Sexual,

as they relate to sex.

1. These are most remarkable in the females, who have, as compared with man—

1st. A much greater delicacy of the Skin and Mucous Membranes.

These in the female approach to the delicacy of structure which exists in infancy.

2nd. A higher degree of Sensibility and Contractility.

Burns, speaking of Nature, says—

> "Her 'prentice hand she tried on man,
> "And then she made the lasses."

and she certainly has manufactured them of finer materials than man.

The next Sexual peculiarity is—

3rd. The Menstrual Discharge.

This takes place at the age of puberty. At this period the girl has a modesty which she did not previously possess, and undergoes a remarkable change both in form and mind. When this does not take place, or when it has taken place and afterwards becomes irregular, the consequence will be a loss of health; but this is more likely to be the case in suppression. Yet this may depend on other disorders, till it becomes itself a cause of disorder or disease; hence it is generally united with affections of the head, bowels, liver, &c. If the menstrual discharge be excessive, or if it be deficient, it alike predisposes the individual to disorder or disease. At this period of life hysterical affections often occur. About the age of puberty the stomach, liver, bowels, and head, are apt to be affected in males as well as in females.

At a certain period of life there is a cessation of the menstrual discharge; there is then peculiar liability to fulness about the blood-vessels, to apoplexy, and many other diseases, which may often be prevented by a spare diet, and attention to the state of the bowels. At this period, also, women are subject to scirrhous affections of the breast and womb. A little knot, which for years has remained stationary in size, will now increase rapidly, and become very troublesome and dangerous. After this period, if there be no disease, the life of a woman is considered by the insurance offices more valuable than that of a man, because the morality of a woman is greater, and her habits and passions are more subdued, than those of a man.

Another Sexual peculiarity is—

4th. Pregnancy.

In utero-gestation there are two systems to be maintained—that of the mother, and that of the fœtus; and hence, in this state, there is a tendency to repletion. In the last month of pregnancy it frequently happens that the woman becomes febrile.

Another is—

5th. Delivery.

Delivery powerfully predisposes to disorder, especially to inflammation, and that in two ways:—

First. When delivery has taken place the contractility and expansibility are increased to the highest point; and—

Second. We find a peculiar state of the abdomen—the uterus and abdominal viscera prone to inflammation, from the effects of distension of the parietes of the abdomen, followed by sudden relaxation.

There are then in the female these five peculiarities, which are worthy of attention. On the whole females are far more liable than men to be affected by depression, and by peculiar occasions. Therefore, typhus fever, scarlet fever, &c., attack them more frequently than men, if my observations be correct.

2. Peculiar organs in the male, influence other organs.

For example, the larynx. At the period of puberty the voice undergoes a remarkable change; and I have known affections of the larynx occur about this time.

Predisposition may be, and often is—

IV. ACQUIRED,

and that from a great variety of circumstances, of which I shall mention some of the most obvious. It may be acquired—

1. From General Debility.

You have a striking example of this in a weak convalescent, with a low temperature on the surface, a feeble pulse, and a prostrate state of the muscular strength—in whom all the functions of life, though perfectly performed, are carried on languidly, and may easily be interrupted, especially by Depressants, such as cold, which may produce congestion; or inflammation, if the depression be followed by excitement. The weakness of the convalescent may be the consequence not merely of the disease, but also of the remedies employed for its alleviation or removal. Patients are then more liable to be acted on by a humid atmosphere; their stomachs are more liable to be offended with some kinds of food than in health. Whenever the general strength is broken up the mischief is apt to fall on the mucous membranes. In the same way, an individual in a state of temporary debility is powerfully predisposed to the influence of depressants,—to be chilled by cold, for instance.

2. From an increased degree of Sensibility and Contractility.

This may arise from a high temperature, from excess or deficiency of blood, from a want of sleep, from a disordered stomach, or from mental anxiety. Take, for example, what occurs in a hot summer. Females who are perfectly good-natured in cold weather then become more irritable; they scold at the servants, tease the husband, and whip the children; and fruits, or indigestible food, will then irritate the mucous membranes of the stomach and intestines far more than at any other time. Indeed, this is so much the case, that some individuals, on the approach of a hot summer, get their cretaceous powders in readiness with as much certainty as a sportsman does his dog and gun, powder and shot, before the shooting season commences.

Acquired Predisposition may arise—

3. From General or Local Plethora, or excess of blood in the Sanguiferous System.

This has also been called the Inflammatory Diathesis.

1st. Celsus says an individual should always be alarmed when his friends begin to congratulate him on his good looks; for that plumpness of form, and ruddiness of the cheeks, very often accompany a state of Universal Plethora, a state which borders on disease. At the same time, you are not to fancy that a person is out of health merely because he looks well.

Many individuals, after forty years of age, become sedentary; and the consequence is, that universal plethora succeeds, and they

suddenly drop down and die. In consequence of an over-indulgence in the gratification of animal appetites, particularly eating and drinking more than is necessary, arises repletion. We have within us a manufactory of blood, which is obtained from the nutritious substances which we eat and drink. All persons who load their stomach with food feel a wish for diffusible stimuli, by which the heart's action is increased; till, in some unexpected moment, some part of the body is suddenly deluged with blood.

If any individual become suddenly plump, you should be very cautious about him, especially if he complain of his head. This universal overplus of blood occurs sometimes in individuals of a firm muscular fibre; and these individuals generally bear bleeding very well.

Sometimes the plethora occurs in individuals of a lax fibre; and they, on the contrary, bear blood-letting very ill.

This universal plethora occurs most commonly after forty years of age; but you will sometimes see it in young children, who have hot hands, with a full pulse, and are liable to convulsions if they eat too much.

2nd. The plethora may not be universal, but a Local Plethora may exist.

You have an example of universal plethora in the servants of London, who are well fed and lodged; and the blood drawn from them is what old nurses call "rich blood," displaying a superabundance of the red particles. Local plethora may be seen in the pale spare poor of London; and the blood drawn from these persons shows a deficiency of the red particles. Almost all these persons have a pale skin, while those persons who labour under universal plethora have a remarkably fresh skin. In these pale spare persons, then, there often is a local plethora, an *error loci*, —an overplus of blood in the mucous membranes of the air passages, of the urinary organs, or of the intestinal canal.

The acquired Predisposition may be—

4. Some external or internal local and latent fault.

Divines tell us that no individual is morally sound. It is not my business to give you the arguments which have been advanced for and against such an opinion; but I can safely say, that I have never found any individual in civilized life who was physically sound—free from some local tendency or other to disorder or disease. It may be induced by the conditions which I have already mentioned, or by the disorders which beset us through life, from infancy to manhood and old age,—as catarrh, small-pox,

measles, scarlet fever, hooping cough, &c. The defect or fault is hidden while every thing goes on right, and is only displayed when the system is disturbed by some great shock.

It is impossible to say in what this local and latent fault may consist. The probability is, that it is connected with some local change in the capillary vessels or nerves of the part, or in both. It operates physically in the same way as Pope says imagination does morally:—

> "Imagination plies her potent art,
> "And pours it all upon the peccant part."

Or, if you please, you may compare it to a rat—not a political rat—but a live rat, with four legs and a long tail; as our American brethren would say, a genuine rat. When a rat wishes to escape from a ship it finds out the weakest part, and there makes its attempts to get out.

The acquired Predisposition may be connected with—

5. Certain Occupations.

These may be mental or material. Thus, thought with anxiety affects the head; deficiency of exercise leads to torpor; excess of exercise affects the heart and lungs. Certain positions affect certain parts. Among other examples might be given that of the grinders at Sheffield, who are peculiarly subject to affections of the chest from stooping; and that these affections do not arise solely from the dust inhaled into the lungs is proved by the circumstance that those who stand upright in the same work escape diseases of the lungs. Intellectual men are particularly subject to affections of the head. I have frequently observed that lawyers break up from affections of the head, so that their life becomes mere animal existence. The same effect is produced in persons whose feelings are strongly excited, as politicians; and in those who indulge to excess in the pleasures of the table. The ancient philosophers were temperate in habit, and lived to a great age; and we ought, also, to steer a middle philosophic course.

Acquired Predispositions are connected with—

6. Certain states of the Air.

Thus, the fumes of lead and mercury may be injurious, and common dust in the same way. Thus also certain odours may contaminate the air, and weaken the body, as in small dirty apartments.

Thus health, though it appears perfect, conceals many physical frailties, various in kind and in degree. Many a ship is unable

to bear up against the fury of a storm: in smooth water she will sail voyage after voyage; but if she be exposed to the unequal pressure of a storm, to the perils of the winds and waves, she either founders at sea, or goes to pieces on the strand. And so it is with the human vessel as, gently borne or strongly buffeted, she passes down the stream of time.

Having made these general remarks upon the Predisposition to acute and sub-acute affections, I shall only have occasion briefly to advert to them in considering the origin of those affections.

When I come to treat of chronic complaints I shall again refer to the connexion of Predisposition with the chronic forms of disorder and disease.

LECTURE XI.

COMMON REMOTE OCCASIONS.

I HAVE explained in the last lecture the manner in which there arises or exists in particular individuals a tendency to disorder or disease; so that when a shock is sustained the weak part suffers. In this lecture I shall explain those circumstances which I designate—

COMMON REMOTE OCCASIONS.

These are what the old writers called the Exciting Causes: they are the agents which produce Disorder or Disease, from the impression which they produce on the system. You will remember that I divided the remote occasions into Common and Peculiar;—the former producing effects which, when they assume the acute or sub-acute character, we generalize under the term Common Fever; the latter producing, with analogous common effects, certain specific effects which do not arise from the operation of the common occasions. In this lecture I shall illustrate the operation of the Common remote occasions in the production of the acute and sub-acute affections, and shall, in subsequent lectures, show

their particular connexion with the various common febrile complaints.

All the ordinary agents of nature may be arranged under four heads:—Depressants; Stimulants; Irritants; and Interruptants.

I. Depressants

are those agents which, being applied to the human body, diminish the animal heat on the surface of the body, diminish the muscular power, diminish the heart's action, and produce that condition which I call Depression.

They are very various, but they admit of certain subdivisions: there are six leading Common Depressants. I might indeed enumerate others, but these are the principal:—Cold; Bodily Shocks; Offending Ingesta; Fear; Exertion carried to Exhaustion; and Copious Evacuations.

Of these the most important is what is called—

1. A Low Temperature, or Cold.

This has great influence on the human body, and may be applied by two means; either through the medium of air or of water. We live in an ocean of air in the same way as fish live in an ocean of water; except that fish float in different parts of their ocean, while man walks on the ground at the bottom of his. The ocean of air differs from that of water in being subject from the effects of the rays of the sun to far greater changes of temperature, which produces considerable influence upon the human body. This influence is relative; for in some hot countries where the thermometer ranges only ten or twelve degrees in the twenty-four hours, and is perhaps never below 70° Fahr., yet the inhabitants from this range of temperature are subject to what in this country is popularly termed cold. The same effect is often produced in this country upon persons who after a sultry day are exposed to a cold evening air.

If a low or variable temperature occurs it very frequently leads to the production of that state which I call common congestive fever. If water be applied in the same way it leads to a similar condition, especially if the whole surface be exposed to it, and if the body be weakened. It is in this way that Alexander, "Macedonia's madman," seems to have nearly lost his life by plunging into a river after a hard day's march. Congestive fever occasionally arises in this way from bathing. Many individuals think they should not go warm into the water, but imagine they should walk about on the beach till they are cool or even feel a little chilly.

This, however, is a very mistaken opinion: when a person bathes he should go into the water with a surface perfectly warm; for upon plunging into the water he suddenly parts with a large quantity of caloric, and if the skin be previously cool the shock is very great; and unless it be followed by what is, perhaps improperly, called reaction, it often ends in an attack of congestive fever.

A glass of cold water taken during a state of exhaustion will produce immediate death in some persons; or if it be not immediately fatal an attack of congestive fever will probably occur.

2. Corporeal Shocks.

The shock of an accident, as of a fall from a horse, without any real injury; or the shock of a surgical operation, may in this way produce congestive fever; indeed, many individuals die in this way after accidents and surgical operations.

John Hunter was one day met by a surgeon, who told him that a patient of his (after an operation) was going on remarkably well, for that he had no fever; meaning that he had not a hot skin nor a quick pulse. "Then," replied Hunter, "if he have no fever he will die." And he did die. Whenever the surface is cold after an operation, and there is not a healthy degree of what is (I believe improperly) called reaction, the case is always very serious.

3. Certain Diets and Drinks.

Some ingesta which disagree very much with the stomach are apt to produce an attack of congestive fever, especially if the quantity be large or if the kind be indigestible. Under this head will come dumplings, shell-fish, pickled pork, and food which distends the stomach by generating much flatus. Those persons, of whom we read as having dropped down after eating, have died from the action of the heart suddenly ceasing, from sympathy with the oppressed stomach. But these offending ingesta seldom produce congestive fever unless the body be previously exhausted or the mind be very anxious.

I saw an old woman in the Fever Hospital who crammed herself with pork, of which she was very fond; it produced a cold stage, which was succeeded by excitement, and the pleura and lungs became inflamed.

4. Certain Mental Emotions, such as Fear or Horror.

These are Depressants, and frequently produce congestive fever. I have known a child thrown into an attack of this kind which speedily terminated fatally, by seeing the head of a chicken which had been severed from its body by a knife. The impression which the sight made upon its nervous system was so strong as to produce the attack. You may frequently read in the newspapers of

persons dying of fright, and they die of what I call congestive fever.

The collapse which succeeds high mental excitement is frequently followed by the same state.

The sudden communication of any bad news will have a similar effect. The late Mr. Pott was called in consultation on a surgical case: it was suspected that the patient had stone in the bladder. Mr. Pott examined him, found a stone, and abruptly said, "I congratulate you on having your complaint perfectly known, for you may be cured by an operation." He observed a remarkable change in the patient's countenance, and having left him, went home. His assistant called in the evening and found the man dead.

A medical man, then, should be cautious, not only in his communication, but also in his looks.

I saw in one day two cases of inflammation of the lungs produced by a thunder-storm.

5. Exercise, or Exertion carried to Exhaustion.

The influence of this occasion is often remarkably displayed in forced marches. A soldier after a long day's march has suddenly dropped down and died. In India this is frequent, and it is attributed to a *coup de soleil;* but this is an indefinite term, for the disease is sometimes congestive fever; and sometimes inflammatory fever, when the patient does not immediately die. A man walks under a hot sun, and at first is powerfully excited, but then comes the collapse, under which he sinks and dies. If an individual by protracted disease be much exhausted this state may be produced. Thus a weak patient labouring under typhus fever rises to the erect posture, becomes exhausted, and dies with great rapidity if not rightly managed.

6. Copious Evacuations.

Hemorrhage from the uterus, copious blood-letting, profuse evacuations from the bowels, and copious discharges of other kinds, are depressing agents.

Depression is the condition directly produced by these agents; but, when excitement follows that state, inflammation often arises, and thus they give rise indirectly to either simple or inflammatory fever. The class of remote occasions which we shall next consider produce stimulation in the first instance, and do not therefore occasion the congestive, but only the simple and inflammatory forms of fever.

II. STIMULANTS

are agents which being universally applied increase the animal heat.

The most remarkable of them is—

1. A High Temperature.

One of the most frequent occasions of fever in the "new comers" in the West Indies is the heat of the climate. Some observations on this subject will be found in Dickenson's work on the Inflammatory Endemic of the West Indies.

The same thing very often produces fever in the East Indies. There is an affection which the natives call "Droop Puckrah," or "the sun has got hold of you," produced by the high temperature, and occurring with pain in the head followed by fever.

But we need not go to the East or West Indies for an instance. A person takes a long walk in London on a sultry day, and increases the heart's action by heat and exercise; and he may have an attack of fever. I saw a young lady who was exposed to an ardent sun on a heath for some time. She became fevered, and had an attack of inflammation of the brain.

2. Exercise, such as walking or running on a hot day.

This often operates as a stimulant. The elder Grimaldi, the celebrated clown, once told me that he had frequently attacks of fever from violent exercise, especially when he performed at two theatres on the same evening; and that these attacks sometimes lasted for several days.

3. High Mental Emotions.

These have a stimulating effect. The preparations among boys for set days, with the spirit with which they emulate each other, frequently produce fever. I have known fever arise thus from individuals taking great interest in the proceedings of public assemblies. I have known it arise, too, from anger, a high fit of which passion will sometimes produce permanent fever. In short, anything which interests the mind so deeply as to excite the heart's action may be considered as a stimulant. I frequently have a stage of fever from the state of my mind. If anything chance to excite me at about seven o'clock in the evening, my pulse becomes quick, my skin becomes hot, my face becomes flushed, and then I find I could speak, or write, or do anything of which I am capable, better than at any other period. This state of excitement goes on till three or four o'clock in the morning, during which time I can get no sleep; and when it goes off, it leaves me in a state of great exhaustion. A friend of mine knows a gentleman who is far advanced in life, who has a sort of intermittent fever of this kind. On one day he is in a state of excitement, on the next in a state of collapse. He is an excellent old man, a good companion, and fond

of good company; and he never invites his friends on the day of collapse, for he knows that then he shall be quite dull; but he invites them on the day of excitement, when he is as merry as possible.

III. Irritants

are those agents which, being locally applied, increase the sensibility and redness of the part to which they are applied. They act most powerfully on those who are at the same time weak and irritable—as weak convalescents, or strong persons when exhausted with fatigue. There are two classes who are particularly liable to the common Simple form of fever from Irritants:—

1. Children labouring under what has been termed Marasmus; and—

2. Adults, who have what is usually called Dyspepsia: which two terms, as I shall hereafter show, are synonymous.

The common fever of Marasmus and Dyspepsia is connected with a torpid state of the large intestines, or of the liver, or the small intestines, or the stomach. This state, which predisposes to the febrile state, is marked by pain in the stomach, irregular state of the bowels, furred tongue, and depressed spirits. In this case irritants will do much mischief.

There are many agents which may be classed under the head of irritants; some of which operate by being taken internally, while others operate on being applied to the surface of the body.

The following may be mentioned as the principal:—

1. Distilled Spirits, Wines, and Strong Malt Liquors.

These, when applied internally to the mucous membrane of the stomach, produce an increase of its sensibility and redness. And when wine was drunk at dinner so brutally as it formerly was when toasts were prevalant, attacks of fever were much more common from this cause than now that we have become more cautious. In all the best society malt liquor is excluded from the table; at set dinners to introduce it would be thought quite vulgar. Upon the whole, this change has certainly been very beneficial; for nothing was so disgraceful as the way in which these things were managed when toasts were common at dinner parties.

2. Indigestible Food.

If the body be weak, indigestible food will produce a state of fever directly, by irritating the stomach. Thus tongue, ham, bacon, &c., will lead directly to inflammation, especially in the summer, if the body be weak.

3. Certain Fruits.

Some fruits act very powerfully. The skins, the seeds, the husks, and the fibres, are all irritants: and again and again you may trace the rise of inflammation along the alimentary canal to the irritation of fruits, especially among children.

4. Sour Drinks produce irritation; for instance, sour wines, or cyder, or what is called hard porter.

5. A Low or a High Temperature, locally applied.

1st. A Low Temperature operates in three different ways:—

a. A low temperature universally applied acts as a *depressant.*

b. A low temperature applied to a small part of the body seems to be an *irritant;* for example—an individual in turning a corner of a street on a cold day, feels a stream of cold air, which instantly affects the mucous membrane of the nostrils by inflammation, as is evidenced by its redness and an increased running from the nose. This is especially the case with cold air in motion.

Captain Parry mentions in his Journal that his men felt comparatively comfortable in a temperature far below the freezing point, when the air was perfectly still; but when it was agitated the impulse was extremely painful. Now how did this arise? The men were each surrounded by an atmosphere of warm air next his body; but when the air was set in motion, this atmosphere was removed, and supplied by another of a much lower temperature. Therefore it seems that—

c. A low temperature acts as a *stimulant* when universally applied.

Our mode of addressing each other shows the great importance we attach to the temperature. When two persons meet it almost invariably happens that one of the first observations is, "A cold day," "a hot day;" "a fine day," "a dull day;" and so on. In London it frequently happens that the air is raw, thick, and cold, and every one feels its depressing influence. When the atmosphere is cold, damp, and raw, the mucous membranes—when it is cold and dry the serous and fibrous membranes—are most predisposed to inflammation. Some individuals—as rheumatic patients—can tell the slightest change in the density or dryness of the atmosphere, from its creating, removing, increasing, or diminishing, the local inflammation.

A low temperature frequently produces its irritating or depressing effects through the medium of water; which, if locally applied, will often irritate; but a cold bath will frequently act as a depressant.

The same thing occurs in the application of a High Temperature.

a. If locally applied it would act as an *irritant;* but—

b. If universally applied it would act as a *stimulant.* Sometimes a stream of hot air will produce inflammation locally. Inflammation will also be produced often by the application of hot water to the skin externally, or to the fauces. In this way children have often been killed by drinking from the spout of a kettle of boiling water. It is very wrong to leave such things in the way of young children; for, impelled by instinct, they are constantly doing, without reflection, things which it is very natural that they should do, but which appear very absurd to an adult.

6. Light.

Light irritates excessively in certain states of the eye and of the brain.

7 Sound.

In certain conditions of the brain noise is an irritant, which again and again produces and keeps up inflammation of the brain.

8. External Applications.

These frequently produce inflammation, by acting as irritants. Blisters, Ammonia, Antimony, &c., operate in this way.

9. Operations and Accidents.

These are irritants, and frequently produce inflammation. It is therefore of the highest importance for a surgeon to be a good physician. A knowledge of the principles of physic is so important, so indispensably necessary, to a surgeon, that I would hold no man properly competent to be an operating surgeon unless he were a good physician; for he not only ought to know the external pathology of the body, but should be acquainted with the healthy and morbid conditions of the internal organs.

I saw, some time ago, a surgeon remove a tumor from an external part of the body of an individual who was powerfully predisposed to bronchial inflammation. The surgeon was not aware of this, and the patient had an attack of bronchitis, and died of it.

I saw another surgeon remove a tumor from an external part of the body of a person in whom the mucous membrane of the intestines was powerfully predisposed to inflammation; and this patient died of the inflammation which was produced in consequence of the irritation of the operation.

I have before mentioned the importance of attending to the prevention of inflammation in internal organs after an operation.

A great many individuals die after accidents and operations, and you will very often find they die of some internal inflammation. This is a subject which I have not been able to trace in systematic works, but it is one to which I strongly recommend you to attend. A surgeon should be a good physician, and that for three reasons:—

1st. As I have already stated, he should know the condition of the internal organs.

2nd. A surgeon unacquainted with physic does not know how far certain conditions ought to influence him against performing an operation.

3rd. No surgeon, unless he be a good physician, can understand the after-treatment when inflammation of an internal organ does occur. It is often a very nice thing to distinguish the existence of inflammation of the air passages, or of the alimentary canal, after an operation. Now, if a surgeon be ignorant of the symptoms, how can he properly treat the case?

I have often had occasion to regret that I neglected the department of surgery—that I did not take a more enlarged view of my profession—that I was so foolish as to split it into parts.

Whenever a patient dies after a surgical operation, provided a state of excitement is produced, he invariably dies of inflammation of some internal part or other of the body; and this internal inflammation you will find upon dissection of the body. Sometimes a blow upon the chest will produce acute or sub-acute, but more frequently chronic, inflammation of the pleura. The fracture of a rib is very often the remote occasion of pleuritis and pneumonia; and when the pleura pulmonalis is ruptured the inflammation is complicated with emphysema. Sometimes the case is still more complicated; an effusion of blood takes place, and if the lungs be not attacked with inflammation, they are greatly oppressed. I have met with many cases of this kind. Baron Larrey, the great French surgeon, mentions several such cases; and in these, patients have been saved by openings into the side.

Inflammation will sometimes be brought on by distant irritation. I saw a case of inflammation of the lungs produced by a blow on the leg, which produced excitement, under which pneumonia arose.

10. Mechanical Substances.

These are irritants, and very often create inflammation. For example, an inverted hair in the eyelid, a grain of sand, or other small foreign body in the eye, will excite inflammation there. I saw a lady who was labouring under very severe ophthalmia, which

had resisted all the ordinary measures adopted to subdue it. On examination there was found a very small hard body impacted in the lucid cornea, which being removed the inflammation subsided. I am attending a lady who has occasionally attacks of pain in making water, and on examining the urine at these times small pieces of calculus are invariably found. One of them I examined by means of a microscope, and it is a small triangular block. These calculi are obtained by filtering the urine through paper, and examining the sediment minutely. This shows how minute a medical man should be in the investigation of the causes of inflammation. Such minuteness not only tends to lay the foundation of a medical man's reputation, but also to confer comfort upon individuals; for knowing the cause we are better able to accomplish our end by precision in the application of remedies. Sometimes a broken rib is the cause of inflammation. If you see an individual labouring under dyspnœa after a fall, you should examine the ribs one by one from the sternum to the spine, to ascertain whether there be a fracture.

11. Acrid Fumes.

Some of these are irritants, and sometimes give rise to inflammation. Smoke, inhaled down the air-passages, or applied to the eye, frequently inflames those parts.

12. Certain Medicines.

Some medicines also are local irritants in particular states of the stomach. Purgatives of Calomel, Scammony, and Colocynth, followed by Senna and Salts, will frequently produce serious inflammation.

IV. Interruptants

are those agents which interrupt the flow of the blood either through a vein or through an artery. They are of various kinds—

1. Ligature or Bandage.
2. Hernia.
3. Spasmodic Stricture.
4. Mechanical Distention.

Of this kind may be considered an overloaded state of the colon, or an over-distended state of the urinary bladder.

5. Earthy Deposit on the Arteries.

For example, ossification of the arteries of the leg.

6. Various Tumors.

These pressing on the arteries and veins interrupt the current of the blood.

LECTURE XII.

COMMON CONGESTIVE FEVER.

PREVENTION.—SYMPTOMS.

In this lecture I shall commence the consideration of common fever, of which there are three varieties. The first of these is—

COMMON CONGESTIVE FEVER.

This form of fever proceeds from one set of common occasions, which we call depressants, and which I particularly described in the last lecture.

But in order to the production of such a condition from the operation of these agents upon the body, a certain concurring state is generally necessary, which state we call predisposition. And what constitutes the predisposition to congestive fever?—It is, in one word, Debility.

1. This debility may be general.

Nothing is more common than an attack of congestive fever in weak convalescents from the application of a low or variable temperature.

2. The debility may, however, be local, while the general system is apparently strong.

There may be some local fault, which is very often found to exist in the bronchial linings of infants, and still more frequently of old persons. Again, an old person in whom any organic affection of the heart exists is very apt to be thrown into a state of common congestive fever by any depressant; for example—evacuations dispose to congestive fever, because they debilitate. In the same way pain also disposes to it, because it ultimately debilitates. Nausea, too, and certain odours for the same reason dispose to it.

Common congestive fever occurs far most frequently in infants and in old persons, because at these periods of life respectively persons have less power than other individuals of resisting the operation of depressants. Next to these congestive fever occurs most frequently to individuals of from twenty to thirty years of age whose surface is pale and who are of a lax fibre.

The late Dr. Currie, of Liverpool, has observed that you might almost measure the strength of an individual by referring to his capability of resisting the influence of a low or variable temperature. And this as a general rule is correct; but there are certain exceptions to it. Some delicate individuals, with a very delicate nervous system and a very active intellect, have a most astonishing power of resisting the influence of a low or variable temperature. This, however, forms perhaps almost the only exception to the observation of Dr. Currie.

As then any individual may become temporarily weak, and, being exposed to a depressant, may have an attack of congestive fever; and as by a concentration of influence a depressant may produce its effects upon even a strong individual; we are led to consider the

PREVENTION OF COMMON CONGESTIVE FEVER.

It is very well known and universally admitted that prevention is far preferable to cure. And this prevention of congestive fever may be accomplished by certain precautions. One mode of preventing an attack is—

1. To preserve the natural temperature of the surface.

This is done most effectually by the use of a shower bath; beginning (if the individual be delicate) with water at the temperature of 96°, and gradually decreasing it one degree a day till it is reduced to 60°, when you may stop. The reduction of the temperature of the water should be gradual; for the human body, if delicate, will seldom bear sudden changes well, but it will bear almost any thing if the transitions be gradually made. An ounce or an ounce and a half of common salt should be added to each gallon of water. A bath thus used gives tone to the vessels, by which they are enabled to retain nearly the same quantity of blood on the surface under very great variations of temperature.

Some individuals may object to the use of the common shower bath; and then affusion may be employed, as it is by the Indians. You may for this purpose make use of a tub, made somewhat like a washing tub. Then, being prepared with two jugs, each containing two gallons of water of a proper temperature, let these be placed upon a table of a convenient height: having poured also some water of a proper temperature into the tub, place in it a stool, upon which the individual is to sit naked while the water is poured over the surface of the body; first one jug and then the other being emptied over the shoulders. The surface should then be thoroughly

dried. Or, instead of this plan, sponging the surface may be adopted. A large piece of sponge dipped in water of a proper temperature may be squeezed over the shoulders. All this may be done in a few minutes. The use of a bath in this manner is one of the best modes of preventing all febrile affections.

In infants and old persons it is very important to clothe the surface well, for they have very little power of retaining their animal heat, and are consequently far more easily chilled than other individuals: therefore, their clothing ought (to use the popular expression) to be warm. Crowds of old persons die every winter from exposure to cold air. A person of advanced age, for instance, walks out on a very cold day, and suddenly dies of an attack of congestive fever.

The regulation of the temperature of the apartments in which infants—and especially in which old persons—live, is very important. Many old persons might be preserved from such attacks as I have alluded to, and from a bronchial affection, by remaining in a regulated temperature during the depth of our winters, when the cold is severe: they should be content to keep themselves at home as much as possible in winter; or, if they venture out, they should be clothed with some non-conductor of caloric.

I saw a man who became chilled one morning, and remained chilly some time; at length he grasped his head with his hands and suddenly fell down and died. Dissection proved that he died of congestive fever. I have preserved many old persons, year after year, by recommending them to keep within doors during the severely cold weather.

The next point with regard to the prevention of common congestive fever is—

2. To maintain the strength of body and tranquillity of mind.

1st. The strength of the body is best preserved by proper diet and drinks, by a proper quantity of sleep, and by a due regulation of the mind.

2nd. With respect to the tranquillity of the mind, it is the business of philosophy to teach how it is best preserved. If I had to pass my life again, I would guard against nothing so much as the anticipation of evils for the future. Many persons destroy all their happiness by gloomy apprehensions of evils before them; they are perpetually prying into futurity and expecting evils which never occur; and the anticipation is generally far more heavy to bear than the actual existence of the evil apprehended, come when it may.

The last method by which we may contribute to the prevention of common congestive fever is—

3. By avoiding the predisposing and remote occasions.

The great utility of enumerating the predisposing and remote agents is that they may be shunned. It is astonishing how useful a medical man might be in his intercourse with society, in pointing out the circumstances which give rise to the affections to which the body is liable. And I believe that one of the most useful works which has appeared in connexion with physic might be published on this subject: for these are points which are intelligible to the public, which is not the case with any other department of the practice of physic,—unless an individual be acquainted with the anatomy and physiology of the body, and have made his observations on the influence of remedies on affections at the bed-side of the sick.

Suppose a concurrence of predisposition and of exciting occasions to exist, sufficient to produce an attack of common congestive fever, what are the circumstances which characterise it?—We may divide the—

SYMPTOMS OF COMMON CONGESTIVE FEVER

into Generical and Particular. The generical symptoms are common to all the forms of congestive fever: the particular symptoms are those which belong to each variety of congestive fever.

The following are the

GENERICAL SYMPTOMS

of common congestive fever:—

1. More or less reduction of the heat of the skin.

You must here take into account the natural heat of the skin, which ranges from 96° or 98°, and is diffused over the whole surface of the body: but in common congestive fever the heat is considerably lower than this.

2. More or less prostration of the muscular power.

You must ascertain the power in health; and then consider what is the degree of prostration, which is always in these cases more or less considerable.

3. Diminution or oppression of the heart's action.

The pulse is the stroke of the heart, and by the stroke of the heart we make out its force and frequency of action. In common congestive fever the pulse in the worst cases is weak, and irregular,

and small. In the less strongly marked cases the pulse is oppressed, that is, the stroke of the heart is more protracted than natural, or made with a sudden laborious jerk, which you will readily recognise when you have once felt it.

4. More or less lassitude or torpor.

By lassitude I mean debility of mind or incompetency of mind. By torpor I mean a diminution of the sensibility.

With respect to torpor there are some exceptions; for in certain cases of congestive fever there is an increase of sensibility, as evinced by the patient complaining of pain in some part or other.

5. Disturbance in the functions of some important organ.

The functions of the skin are most remarkably disturbed. Here then is the disturbance of the functions of an important organ externally.

But the internal organs also undergo certain changes, and these take place chiefly in the following parts.

1st. The heart and large adjacent veins.

2nd. The lungs and mucous membrane of the bronchia.

3rd. The brain or spinal cord, or both, with their appendages.

4th. The liver and vessels associated in its circulation.

I shall for the present assume that these parts are congested, as I shall hereafter prove demonstrably that they are; and shall now explain the

PARTICULAR SYMPTOMS.

Suppose the congestion to exist in—

1. *The heart and large adjacent veins.*

It is then denoted by the following symptoms:—

1st. Some uneasy sensations in the region of the heart.

This may be a sensation of weight, of load, of extraordinary oppresssion, &c.

2nd. A deficiency of power in breathing.

This is what is commonly called want of breath.

3rd. A small, weak, irregular pulse; or an oppressed pulse.

By an oppressed pulse I mean that the stroke is protracted more than natural, or that it is made with a more laborious jerk than natural: it is a kind of jerk that you will very easily recognise when you have once felt it.

Lastly, you should examine the stroke of the heart in its proper region; and you will find that there is not that correspondence which naturally exists between the stroke of the heart as displayed in its own proper region and as displayed in the pulse. This arises

from an interruption which generally occurs in these cases to the flow of the blood from the left ventricle.

Suppose—

2. *The lungs and bronchial lining*

to be the seat of congestion, the two following are the most remarkable characteristic symptoms:—

1st. A peculiar colour of the lips and cheeks.

a. The lip is either of a plum colour, or of a violet colour, or of a leaden colour.

b. Again, the hue of the cheek is various in consequence of the variety of the natural colour. If the cheek had been vividly red in health, it puts on a plum or a dusky colour; if it had been pale in health then it assumes a pallidity which is mixed up with a leaden livor.

2nd. A laborious, or a weak, short, frequent respiration.

a. Either the chest heaves up and down with very great labour indeed; or—

b. Air is given out and taken in in smaller quantities than usual, and the respirations are weak and more frequently performed than usual.

In the worst cases there is no cough nor any expectoration, but by putting your ear to the patient's mouth you may frequently hear a whizzing or purring deep in the bronchial passages; and this is heard still more distinctly by the application of Laennec's instrument. In some cases, however, recollect that there are both cough and expectoration.

The influence of the lungs on the brain is extremely important, and is communicated in two ways.

First: The lungs influence the brain *mechanically.* When the respiration is laborious, or when it is very weak, there is a resistance offered to the transmission of blood from the right ventricle of the heart; in consequence of which an over-accumulation takes place in the ascending and in the descending cavæ—especially in the ascending cava. The brain becomes in this way preternaturally gorged with blood.

Secondly: The lungs influence the brain *chemically.*

For when the respiration is weakened, so that a sufficient quantity of air does not enter the lungs; or when the bronchial lining is so besmeared that the air does not come so fully as in health into contact with the blood in its passage through the lungs—the blood is not sufficiently oxygenated or decarbonized; and a dark sort of blood circulating in consequence through the

arterial system operates almost precisely as a narcotic does upon the brain.

Suppose—

3. *The brain and its appendages*

to be the seat of venous congestion, there are four symptoms of such a condition upon which you may rely:—

1st. Confusion; indifference or insensibility to surrounding objects; or giddiness, with pain.

In severe cases there is great confusion of intellect; in still more severe cases you have indifference or insensibility to surrounding objects; but if the case be still less severe, so that the individual has sense enough to know what he is about, he will often complain of giddiness, with pain.

2nd. An intoxicated, a stunned, or an alarmed expression.

In the most severe cases the patient will lie with his eyes closed. In the less severe cases there will be a stunned or an alarmed expression of countenance; and with this change in the countenance the patient will complain of giddiness, with pain.

3rd. A blanched state of the conjunctiva, with a watery appearance of the eye.

4th. Either a dilatation or a contraction of the pupil.

The pupil in these cases generally is dilated; sometimes, however, it is contracted. You must recollect the natural size of the pupil. You may assert pretty correctly that the pupil naturally is as one to three compared to the lucid cornea; and every thing beyond this may be called a preternaturally dilated pupil; while every thing within it may be called a preternaturally contracted pupil. As there is, however, a great variety of states of the pupil natural to certain individuals, you will sometimes find it proper to ask the parents or relations of the patient if they observe any difference from the natural state of the pupil.

There is no doubt that the brain exerts a most important influence upon the lungs, principally by the eighth pair of nerves according to the arrangement of the old physiologists. Legallois divided the eighth pair of nerves, and respiration was stopped. If you want to know in any case whether an affection of the lungs be primary or secondary, you must investigate the history of the case. If it be secondary when the brain is simultaneously affected, it is through the influence of the brain upon the lungs. Very frequently a patient dies of inflammation of the brain with a purple lip and oppression of the breathing.

Suppose—

4. *The spinal cord and its membranes*

are the seat of congestion, you have the following symptoms:—

1st. General convulsions or partial spasms.

If the spinal cord and its membranes alone be affected these convulsions or spasms will occur with a clear head. But if the brain and its membranes be also affected you will have other indications of an affection within the head.

2nd. Wandering pains, or tenderness of the surface of the body.

With these there is some diminution of the sensibility of some part of the body.

Suppose—

5. *The liver and its associate vessels*

to be the seat of the congestion, what are the symptoms?

1st. Nausea, retching, or vomiting.

The matter which is vomited may be merely the contents of the stomach; it may be, however, mucus; or it may be bile. Sometimes it does not amount to vomiting; but there is nausea or retching.

2nd. Fulness, with flatulence in the epigastric region; or, as it is sometimes called, the pit of the stomach.

3rd. Some uneasy sense of load, tightness, fulness, or pain, in the region of the liver.

4th. Diarrhœa, or constipation.

a. Most frequently there is diarrhœa: the stools being remarkably loose, chiefly consisting of mucus, and having the appearance of rice-water, or of thin gruel, and being sometimes mixed with blood. Generally there is a deficiency of bile; but sometimes, though rarely, there is a secretion of bile under a congestive attack of the liver and its associate veins.

b. When there is constipation the stools are generally of a light colour.

The tongue is most frequently moist, and covered with a ropy saliva, under all the forms of common congestive fever.

Congestion of the liver frequently exists with a simultaneous congestion of the brain and bronchial lining. And these parts seem to be all affected in what is called the Cholera Morbus of India—the worst form of which is nothing more than congestive fever; and the bronchial lining is almost always affected. But as far as I can find the affection of the bronchial lining has not been noticed, because that membrane seems never to have been

examined in the dissection of bodies after the Cholera Morbus in India.

It usually happens, in common congestive fever, that one part is most affected; but sometimes different parts are simultaneously congested; and this will be known by the combination of the symptoms which I have mentioned.

LECTURE XIII.

COMMON CONGESTIVE FEVER.

PATHOLOGY.—NATURE.—INHERENT PROTECTING POWERS.

HAVING described the symptoms of common congestive fever, and the indications of its existence in the principal organs in which it is seated, we now come to the—

PATHOLOGY OF COMMON CONGESTIVE FEVER.

The morbid appearances, as displayed by dissection after death, in fatal cases, are two, and sometimes a third.

1. An over-accumulation of venous and arterial blood in the part, the functions of which had been disturbed during life; and especially in the veins: or—

2. An effusion of a serous or of a mucous fluid, according to the structure of the part.

For instance, in the brain and spinal cord a serous effusion; in the bronchial lining a mucous effusion; and in the intestines both a serous and a mucous effusion.

Sometimes there is—

3. An effusion of blood.

This may arise from rupture of a vessel, but there can be no doubt that in these cases it takes place more frequently from transudation than from rupture.

You might suppose there was a difficulty in ascertaining after

death the seat of the congestion, because in death the blood naturally leaves the surface and retires to the internal parts of the body. It retires in the way which has been so correctly described by Shakspeare in a passage which I have been in the habit of quoting to illustrate this subject. Shakspeare says—

> " Oft have I seen a timely-parted ghost,
> " Of ashy semblance, meager, pale, and bloodless,
> " Being all descended to the labouring heart;
> " Who, in the conflict that it holds with death,
> " Attracts the same for aidance 'gainst the enemy;
> " Which with the heart there cools, and ne'er returneth
> " To blush and beautify the cheek again."

And this is what takes place in every example of death; but still I think there is no difficulty in making the distinction between this and what occurs in common congestive fever, especially if you be in the habit of accurately noticing the natural appearances after death.

1. The *heart and large vessels* having been the seat of the congestion, will be found (especially the right side of the heart) far more crammed with venous blood than in ordinary examples of death.

2. When the *lungs and bronchial lining* have been the seat of the congestion, the lungs are so gorged with blood, as to resemble the spleen in structure; the bronchial lining is overloaded with blood, and generally there is an effusion of mucus or of serum. Sometimes blood will be found in the bronchial passages.

You might, perhaps, confound with the effects of congestion an unimportant accumulation of blood within the part which takes place in every case (from the position of the body after death) in the lower part of the lungs, and which is the natural consequence of the blood gravitating to the inferior part. You should observe, however, that this is confined to the inferior part; but in congestion of the lungs it pervades the whole substance of the lungs, so that they closely resemble the spleen. In these examples you will usually find the blood a mere fluid gore, or coagulated very slightly indeed.

3. When the *brain and spinal cord, and their membranes*, are congested, you find the pia mater loaded with venous blood; you find the sinuses loaded with blood; you find the membrane of the spinal cord loaded with venous blood: this is accompanied generally with effusion of serum between the membranes and into the ventricles of the brain; and there will sometimes be blood in the

ventricles or between the membranes, and sometimes in the substance of the brain.

When the effusion is extensive the other signs of congestion are less obvious, as is the case in inflammation when effusion occurs.

In the effusion which occurs from venous congestion you have no coagulable lymph, as there always is mixed with the effused fluid in inflammation, but merely an effusion of thin transparent serum, or an effusion of serum mixed with blood; and this effusion acts on the veins in congestion as the effusion which takes place from inflammation does upon the arteries.

4. When the *liver and its associate vessels* are the seat of congestion the liver is excessively gorged with blood, so that if you cut it across the superabundant blood spouts out, and the veins of the mesentery are extremely loaded with blood; the splenic, the superior and inferior mesenteric, veins are so gorged as to form a beautiful tree.

Take these circumstances in conjunction with the symptoms during life, and you can then form a very near approximation to a first principle, to the condition in short which produces these symptoms. Cholera morbus, we are told, has been in some parts very destructive; and here we shall see the bad effects of names without precise ideas. Our systems, Thomas's Practice of Physic for example, have a set of names arranged and remedies described. Under these names pathological states essentially different are included. Vomiting and purging in inflammatory fever require different treatment to vomiting and purging in congestive fever. It is very important to attach precise meanings to words, and not to surrender your judgment to other men, but to think and act for yourselves. I shall endeavour to teach you the correct method of practising physic; but you must inquire for yourselves whether what I say is true.

NATURE OF COMMON CONGESTIVE FEVER.

What then is the pathological condition, or what are the pathological conditions, upon which common congestive fever depends? You must remember that it is produced by common depressants, or those agents which at the same time diminish the animal heat, the muscular power, and the heart's action; and all of which act either indirectly or directly upon the nervous system.

Some of them act *indirectly;* as the temperature, which changes the distribution of the blood, and through it operates on the nervous system.

On the other hand, mental emotions and some other depres-

sants, act *directly* upon the nervous system. Both, however, have a similar ultimate effect on the internal organs. And what are these ultimate effects?

I merely use the term Congestion as a collective appellation, to denote a state under which several circumstances, each highly important, are comprehended. Under this term there are ten circumstances combined.

1. The reduction of the animal heat on the surface of the body.

Do you ask me for a proof?—You have it by laying your hand upon the surface, and you will perceive that it feels colder than natural.

2. A recoil of blood from the surface to the centre of the body.

If you ask me for the proof, you have it in the remarkably feeble pulse, indicating that the arteries contain very little blood; in the emptiness of the capillary vessels, which leaves the surface pale; and if you open a superficial vein under these circumstances you will find hardly any blood in it, which is a distinct and direct proof of this circumstance.

3. A consequent excess on the venous side of the circulation.

That excess is evident from the state of the arteries during life, independently of the appearances displayed on dissection after death.

4. A correspondent deficiency on the arterial side.

That deficiency is evident from the state of the pulse, and from the diminution of the animal heat; which prove it almost demonstrably. The natural equilibrium is then disturbed,—there is a loss of the natural balance between the arterial and venous systems. But this is not all, for—

5. The heart has sustained a shock then.

This is demonstrable, as displayed at the wrist and in the region of the heart, by the change in the action of the heart.

In consequence of this shock there is—

6. An impediment to the free return of venous blood; and that leads to the following as its necessary effect, namely—

7. An over-accumulation of blood in some weak internal part. This can be demonstrated by an examination after death.

8. The respiration is weakened, or the bronchial lining is besmeared.

The individual either cannot take in sufficient air for the blood in its passage through the lungs to undergo its proper change from the venous to the arterial character; or the bronchial lining is so besmeared as to prevent the air which is inspired from coming into contact with the blood.

You have proofs of the respiration being weakened, during life; and of a besmeared state of the bronchial lining, by examination after death.

9. The constitution of the blood is thereby changed.

The proof of this change, during life, is the darkened colour of the blood in circulating through the lips or over the cheek; and, after death, you find the blood a fluid gore, or darker than natural.

10. A diminution of the nervous and muscular power.

This perhaps is referrible to the state of the lungs, or of the bronchial lining; for when less air than natural is taken in at each inspiration, or when the bronchial lining is so besmeared by an over-accumulation of mucus, that the venous blood in passing through the lungs is not properly converted into arterial blood; then the blood which has been only partially arterialised, circulating throughout the arterial system of the body, affects the nervous and the muscular systems.

It is a deficiency of the nervous and muscular power which renders the individual so weak: and when he cannot take in sufficient air, or when the bronchial lining is affected as I have described, then the muscular power is invariably affected.

There is no doubt that the muscular power is depending upon a subtle something communicated along the nerves. We might illustrate this, in some degree, by reference to a candle, or to a fire, which, if they be not sufficiently supplied with air, will not burn brightly. But if the lengthened wick of the candle be removed, and if the charred fire be stirred, so as to expose a fresh surface to the air, then it will burn vividly. The fire becomes dim for want of ventilation: it is charred on its surface, and it becomes more and more dull until at last it goes out completely. This is a pretty apt illustration of what takes place in those states of respiration to which I have just alluded. For life really seems to be connected with a species of combustion. It seems necessary that a certain quantity of charcoal should be consumed for the purpose of supporting the functions of life; for unless a proper quantity of arterial blood circulate through the brain and its membranes, the result is a deficiency of the nervous and muscular power. One might almost, *à priori*, suppose, that if this fire were properly fed, it would, like the sacred fire of the Perses, burn brightly and immortally: but experience teaches us that when once it is extinguished,

> "We know not where is that Promethean heat,
> "Which can its light relume."

The probability is that there is yet some important discovery to be made with reference to the nervous system; for there is unquestionably a subtle something—a *tertium quid*—the result of some mysterious change with which we are at present unacquainted. In chemistry two substances, of directly opposite nature and character, being brought into contact, a new compound is formed, different entirely from the characters of either of them. There is an example of this in glass. There seems something analogous to it in music. We have a flute, and a person who plays on it: the result is music, which is unlike either of the original component parts. So I believe, that by some very mysterious function of life, there is produced from the contact of arterial blood with nervous matter a certain ultimate result, a *tertium quid*, entirely differing from its component parts—differing, that is, from either nervous matter or arterial blood.

NATURAL PROTECTION FROM COMMON CONGESTIVE FEVER.

But for certain powers inherent in the body few individuals would be secure against attacks of common congestive fever. These are—

1. A power of preserving an uniform temperature.

Hence the circulation is, generally speaking, preserved, for the temperature of the body has great influence in preserving the equilibrium of circulation in the venous and arterial systems.

2. The elasticity of the vessels.

This is so great, that they admit of considerable distention before their contractility is in any degree destroyed.

3. The anastomoses or communications of the vessels.

By means of these the blood is divided among many organs; and the pressure of the blood is consequently divided, so as frequently to prevent mischief which would otherwise occur. Many organs are saved from a state of congestion by—

4. The compensating office of other organs.

You have a most remarkable example of this in the kidneys. When the surface becomes universally chilled by the application of a low temperature, the consequence generally is a copious flow of urine, which lessens the quantity of the circulating fluids. In the same way, in some instances, a copious secretion takes place from the mucous membrane of the bowels; from the mucous membrane of the air passages; or from the lungs themselves, perhaps, in the form of vapour.

5. The increased secretion of the organ attacked.

This very frequently saves the life of an individual; for instance, increased secretion from the bowels or from the bronchial lining.

In some places there is no outlet, as in the pleura and brain; and therefore, when effusion takes place into such parts, it often becomes very important.

6. An exudation of blood, or effusion from rupture.

If there be an outlet an effusion of blood will sometimes carry off the congestion; as from the bowels, or from the bronchial lining.

If all these powers fail, there is yet another inherent in the body, which is called—

7. Reaction;

By which it mostly happens, that the congestion is removed spontaneously. The word Reaction, as it is used in physic, is improper in pathology. The state which it is meant to denote is an increase of the heart's action with an increase of the animal heat, which state I shall call Excitement. When the whole surface is cold the heart in most cases is roused by the venous accumulation in its right side, and establishes what is called the hot state, or state of excitement; and by this method the circulation in the venous and arterial systems is restored to its natural conditions. The most formidable attacks of common congestive fever are those in which reaction or excitement does not—and the least formidable, those in which it does—take place. If the excitement be perfect; if the heart's action be increased, not only in force but in frequency, and if the heat of the surface of the body be at the same time higher than natural; then a state exists which is far less dangerous than that of simple congestion. When, however, the excitement is imperfect, or partial; when the extremities remain cool, and the pulse continues oppressed; a state exists which is nearly as dangerous as that of perfect congestion, because there is a congesto-inflammatory state of the organs; or a mixed state of congestion with inflammation, and partial excitement. But suppose neither of these states to occur, then we have a perfect example of what I call Congestive Fever; and in this case we must assist nature, and endeavour to create a state of excitement by certain artificial means.

LECTURE XIV.

COMMON CONGESTIVE FEVER.

SYMPTOMS AND TREATMENT OF THE EXTREME, INTERMEDIATE, AND MILD FORMS.—PROGNOSIS.

Towards the close of the last lecture I stated that when a state of depression was not followed by excitement, induced by either of those inherent powers of protection which the human body enjoys, it was our duty to assist nature in bringing about so desirable a purpose; and this brings me to the consideration of the—

TREATMENT OF COMMON CONGESTIVE FEVER.

There are three forms of common congestive fever; the first of which I shall call the extreme, the second the intermediate, and the third the mild form.

THE EXTREME FORM

is marked by the following four symptoms:—

1. By a cold skin.
2. By a small weak pulse, mostly irregular.
3. By a feeble or an oppressed respiration.
4. By great prostration of the muscular power; so that the patient feels, as it were, a dead weight upon the arms of his attendants; and—
5. By great topical disorder.

This disorder is chiefly seated in the heart, brain, lungs, bronchial lining, and liver.

The indication of the treatment of this form is to restore the natural balance between the venous and arterial circulation. How is this to be accomplished?

1. By exciting the heart, through the internal administration of stimulants.
2. By exciting the skin, through the external application of caloric.

The methods by which these intentions are to be effected are the following:—

The heart can be excited by the exhibition of—

1. Diffusible stimuli.

One of the best is brandy or wine. There is no stimulant in the apothecary's shop equal to these; the advantage of which is that either is extremely agreeable to the patient, pleasing to his taste, and grateful to his stomach; whereas æther and ammonia are more or less offensive to the taste and stomach. Brandy especially is the best; and as to the quantity, it must depend entirely upon its effects. If the patient labour under a combination of the five symptoms which I have enumerated as indicating the extreme form of congestive fever, a small quantity of brandy will sometimes excite the heart at once—so that the patient will very rapidly recover. There will be a sudden accession of power in the respiration, so that a large quantity of air will be taken in, and the heart will act with vigour.

You may give the brandy pure—"dry brandy" as it is called—at first by tea-spoonfuls, and watch its effects upon the heart's action and upon the respiration, till the heart's action is considerably increased, till the universal heat is in some degree restored, and till the respiration is relieved. If brandy be not at hand, then white wine answers best, and especially sherry. Brandy or wine taken into the stomach in these cases will not only excite the heart's action; but, independently of this, there exists a sympathy between the stomach and the surface of the body. This will be readily proved by the sensations which a person experiences in drinking a cup of hot tea, or a glass of cold water.

Sometimes opium has an excellent effect in conjunction with either brandy or wine. With respect to the dose of the tincture of opium, it should be seldom less than from thirty-five to one hundred drops to an adult in extreme cases.

Another method of exciting the heart consists in the administration of—

2. Hot drinks, when the patient is thirsty.

Sometimes he has an inclination or desire for cold drinks, which is by no means to be indulged; for, in this case, they will chill him more and more. You may, however, just moisten his mouth with some cold fluid, which will often be very grateful, and will do him no harm.

One of the best drinks in these cases is a strong infusion of ginger; but you must take care not to over-distend the stomach;

for if you do, the cold skin, and the feeble pulse, and the weak perspiration, will generally be aggravated.

3. The administration of a warm stimulating enema.

For this purpose nothing answers better than an injection of a strong infusion of ginger, which unloads the colon, and tends to bring a flow of blood to the surface. If you cannot get this, the tincture of ginger, or the aromatic confection, may be thrown up as an injection. Recollect, however, that these stimulants are only to be given while the five combined symptoms I have mentioned remain.

When the strength is completely subdued be exceedingly careful to avoid purgative medicines in the first instance.

With these means you may use also the following, which will excite the skin.

4. The application of the hot-air bath.

The simple apparatus used in applying the hot-air bath consists of a frame of basket work, of an arched shape, open at one end, and about six feet in length. The patient having been laid on a warm blanket, this basket is to be placed over him, and covered with one or two blankets (two are generally best), which are to be tucked under his chin. At the opposite and closed end of the frame is attached a tin tube, communicating with the interior of the frame; and at the lower end of the tube is to be placed a spirit lamp lighted. As the tube is very apt to get hot, you must take care that the blankets do not touch it, or they will be burned. If the heat become uncomfortable to the feelings of the patient, you may remove the spirit lamp for a short time, and then apply it again. The apparatus may be made more portable by having the basket made in three pieces.

The application of the hot-air bath is one of the most powerful means I know of for the removal of the urgent symptoms of common congestive fever.

The fatigue produced by the use of the hot-water bath is frequently fatal; but, on the contrary, the hot-air bath does not at all fatigue the patient, and it restores the natural degree of heat to the surface more suddenly than the water bath. In about half an hour it will bring pounds of blood on the surface of the body, which were previously suffocating some internal organ; it will produce a general perspiration; in short, it will restore the balance of the circulation sooner than any other means I know of.

Bontius, in his work on the diseases of the East Indies, mentions the great utility of a hot-sand bath in cases of the common con-

gestive fever in hot countries, though he was entirely ignorant of the pathology of those diseases. He observes that in the cholera morbus of India those patients who were put into hot sand recovered; and many persons have observed that in the same affection nothing is so useful as wrapping the patient in warm blankets, and laying him before a large fire. But the hot-air bath is the best; and next to it would be the vapour bath—the patient being wrapped in oil silk, and surrounded by the vapour of hot water.

If neither a hot-air bath nor a vapour bath be at hand, wrap the patient in warm blankets, and lay him before a large fire: apply bottles of hot water to his feet, and bladders of hot water to the region of the stomach.

Sydenham mentions his having been ridiculed by certain physicians of his day for recommending an individual in this state to be placed between healthy persons in bed. This plan is, however, sometimes very expedient.

I saw a woman who was apparently sinking of congestion after a large uterine hemorrhage, and after every other method had failed to return the heat of the surface, I succeeded completely by placing a healthy woman in bed on each side of her.

It is a very dangerous thing to ridicule any opinion which is borne out by matter of fact. The opinions of Laennec met with universal ridicule in this country, but there is no doubt they have been, and will be, productive of great benefit. There is now an extraordinary tendency to ridicule individuals on account of their opinions. I have as much respect as any man for the liberty of the press; yet I am sure nothing is more pernicious than so much personal allusion as exists in the press at this time. The malignant spirit which is nursed in our periodical journals, and thrown at individuals so unmercifully, will deter many men of delicate minds from communicating their knowledge to the public. Had Sydenham lived in our day I believe he would not have promulgated his opinions in print, on account of the bitter feeling displayed by the periodical press.

5. The regulation of the temperature of the apartment and the bed clothes.

As long as the patient's skin remains cold have a high heat in the room, and let the patient be covered with new, which are better than old, blankets. At the same time you must have plenty of air.

The next circumstance, and one which is of very great importance, is—

6. The regulation of the position of the patient.

Life frequently depends in these cases upon the individual keeping the recumbent position. I have known many patients lost by allowing them to get up to a night-chair in this state; the heart flags so much in the erect position, that it very often produces a syncope, which is very rapidly fatal. In this form of common congestive fever you must be extremely cautious about evacuations. It is best not to abstract any blood till you have, in some degree, brought about excitement; for extreme cases of congestive fever occur under states of profound exhaustion. The best surgeons lay it down as a rule, that you are not to bleed in what they call concussion of the brain till excitement has taken place. What they call concussion of the brain,—which is an abstract term, involving states essentially different,—is in some examples nothing but a variety of common congestive fever; in others, however, the brain is seriously injured. In some the brain is found gorged with blood, and in others a rupture is found: but I repeat, that in some cases no organic change is produced, and they are nothing but examples of common congestive fever.

Suppose the efforts of nature are inadequate to the restoration of excitement, are you to stand by and see the patient die with a cold skin, without endeavouring to assist those efforts by artificial means?—Certainly not; you must endeavour to create excitement, and, in the mean time, must be careful of abstracting blood. Shortly after I came to London, I was one day walking along Piccadilly, when I saw a man fall from a scaffold; a surgeon was called in, and abstracted blood, which proved almost immediately fatal.

I am confident that I have lost many patients from bleeding in extreme cases of congestive fever. Every medical man in the progress of life reflects, if he have any feeling at all, on those fatal cases which occur in his practice, and endeavours to find out a better mode of treatment; and a man should always rather suspect the fatality to arise from his own ignorance than from the violence of the disease.

Whenever you are called to a patient in the extreme shock of an accident, with a pale skin, with a sunk countenance, with a feeble pulse, and with a weak respiration, do not bleed him at all, but give him a little wine or brandy. A friend of mine was called to a young lady in this state, about three weeks ago; the friends of the lady urged him to bleed her, but he refused, and told them that if he bled her she would die. On the contrary, he gave her diffusible stimuli; and he did perfectly right. It is by far too

common for medical men to abstract blood immediately they are called to an accident; but the first extreme shock should be past before blood-letting is resorted to. One gentleman, whom I saw frequently in the country, used to treat common congestive fever, first, by brandy, secondly, by the hot-water bath, and thirdly, by bleeding. He was a very good practitioner, but his ideas passed so rapidly through his mind, that he had not time to analyze them. His practice was to put the patient into a hot-bath with salt, and during the time he was in the bath he gave him brandy, and then bled him. Now this is not bad practice. He, in fact, created a degree of excitement before he abstracted blood; and then he bled with great caution: when he had once created excitement, then he ceased to use stimulants, either internal or external; and that is the proper plan to adopt.

I saw a gentleman one morning who had an attack of the extreme form of common congestive fever. His surface was universally pale and cold; he had an intoxicated expression of countenance; when lifted, he dragged his limbs after him as if they were paralytic; his lip and cheek, together with the state of the respiration, showed an extreme congestion in the lungs and bronchial lining; he had also copious purging and vomiting; in short, he had congestion in the brain, in the bronchial lining, in the lungs, and in the liver; and laboured under what would be called an attack of cholera morbus. The attack came on at seven o'clock, and I saw him at eight; and I am confident he would have died in an hour or two more. All the ordinary means had failed to create excitement: brandy, opium, and so on, had been tried; and then I sent for a hot-air bath. In half an hour after its application the surface became universally warm, and he was perfectly convalescent.

I attended a young lady who was attacked with giddiness, universal and oppressive debility, vomiting, and diarrhœa. When I saw her she looked like a person intoxicated: the tunica conjunctiva was blanched, the face pallid, the surface of the body cold, the respiration weak and impeded, and the lips were blue; she had no muscular power—the head rested on her shoulder, and the hands were by her sides. I placed bottles of hot water to the feet, a bladder of hot water to the stomach, and gave her hot water and opium internally. Nothing, however, was of benefit, and it was apparent that she was rapidly sinking. In this case I sent for a hot-air bath, which was immediately applied; and in half an hour the pulse rose and was bounding, her countenance became ani-

mated, and she was nearly convalescent. Nothing further was required but the exhibition of slight calomel purges. This, according to our nosologists, would be called cholera morbus, but it was a case of congestive fever; and in these cases, if assistance be not promptly rendered, death will be the consequence; the blood will coagulate in the interior of the body.

I saw another individual, who was brought into the Fever Hospital, who was sinking very rapidly from an extreme form of congestion of the lungs, and of the bronchial lining; and the hot-air bath produced a state of excitement almost immediately, and by following this up by small doses of calomel and opium, he did perfectly well.

Just before lecture one evening I was called to a young lady, who had been out all the morning, and was very cold, and as soon as she returned home ate a piece of cold apple dumpling. She had an idiotic expression of countenance; she was stupid, and had a flow of saliva from the mouth; the respiration and heart's action were impeded, and her skin was universally cold. I directed the exhibition of an emetic, which did not operate; but by the application of the hot-air bath all these symptoms were removed with very great rapidity, and on my return I found her convalescent.

I recollect I saw a young man who laboured under an extreme form of congestion in the spinal cord; he was struggling in convulsions, with a clear head, and with a feeble pulse; and the symptoms in this case were rapidly removed by the use of the hot-air bath. This individual was afterwards preserved several times from an attack of congestion by the administration of drachm doses of the tincture of opium.

In cases of febrile disorder, in which the skin is universally cold, opium may be given, especially if the brain be not so affected as to oppress the respiration; for if it be, opium is generally better omitted.

There are some cases of perfect collapse following excitement, in which the skin is universally cold; as, for instance, when, after vomiting and purging with fever, the pulse falls in force and frequency, but is small; the heat declines on the surface; the face becomes pale and sunk; and the patient lies prostrate on his back, becomes insensible, and seems in the agonies of death; and if you prescribe a full opiate, and small doses afterward, in twenty-four hours you will see the patient, perhaps, sitting erect in bed.

In some cases of irritation and exhaustion after copious bloodletting, opium is very useful.

Sometimes a warm-water bath answers a very good purpose.

I saw a gentleman who was chilled by bathing, and fell down upon the beach: he was taken to a house very near, and put into a warm-bath; and he perfectly recovered.

When individuals are *gradually* chilled, nothing is so good as rubbing the surface with snow. This plan is very often adopted in North America, the surface being rubbed with snow till it becomes warm.

A small portion of the body may also be chilled, and then its vitality is best restored by rubbing it with snow till it becomes warm.

When offending ingesta produce congestion life sometimes depends on the exhibition of an emetic. You read in the papers of cases of apoplexy arising from this source; but the fact is, the stomach being disturbed, the heart's action sinks, and, by consequence, the flow of blood from the brain is retarded, and the patient falls down pale and insensible, and sometimes dies as if he were shot. In some cases the person may live in this state for hours.

In extreme cases the best emetic is sulphate of zinc. I saw a case in which it operated almost like a charm.

A gentleman who was travelling ate some cold veal pie, and fell on the floor in a state of extreme congestion, with the heart extremely oppressed. A large dose of sulphate of zinc was given, and all the symptoms were got rid of by vomiting.

In these cases sometimes emetics do not operate; and when the skin is universally cold, the pulse feeble, the respiration oppressed, and the prostration of strength very great, life may be saved by half a glass or a glass of dry brandy, with twenty, thirty, or forty drops of tincture of opium. Sometimes the pulse is struggling, the respiration anxious, the intellect clear, and the heat of the skin nearly natural; and then brandy is useful. If no emetic be at hand, introduce your finger into the throat, or tickle the fauces with a feather. A tea-spoonful of mustard given in tepid water will cause vomiting, or oil may be given for that purpose. These cases are often succeeded by inflammation, and therefore you should attend closely to the patient for a day or two. When a large quantity of spirit has been taken, the patient sometimes falls in the same way. If the pupil contract on the application of light, and an emetic operate, the patient generally recovers. If emetics fail apply the instrument. An elastic bottle has long been used for this purpose.

Shocks of other kinds require the same treatment in the first instance. Individuals seldom die of the shock from burns in the north of England, if large doses of opium be given: a great many died until opium was commonly exhibited. The same treatment is proper after the shock of operations in surgery. I believe that in these cases many individuals who are lost might be saved by opium, diffusible stimuli, and the recumbent position.

I have already stated that the same treatment is sometimes applicable to the collapse which follows excitement. An individual has been very much excited, and suddenly an universal collapse comes on, with a feeble pulse, &c.

I saw a young lady, the sister of a gentleman whose case I mentioned before (page 166); she had been powerfully excited in the first instance, and had afterwards vomiting and purging; in short, an attack of what would be called cholera morbus. I found her extremely exhausted, with a sunk countenance, with a cold skin, and with a faultering pulse. A full dose of opium entirely relieved these symptoms.

I saw a case of this kind in an individual who was apparently dying; his cheeks were sunk, his eyes turned upward, his pulse fluttering and weak, his skin universally cold, his respiration almost imperceptible. A full dose of opium removed all these symptoms, and he was perfectly convalescent.

Some friends of mine have told me that they have seen individuals rescued from the very jaws of death by the administration of opium, under the collapse of cholera morbus (as it is called) in India.

In some instances patients may be saved without the employment of the hot-air bath; and calomel and opium will be found to induce re-action. Opium has considerable influence in restoring the circulation on the surface of the body; given in a full dose it will in a short time remove the cold stage of intermittent fever.

Opium does good when the tongue is moist, but should not be exhibited while it is dry. I have given it with good success when the head has been affected; but my experience does not enable me to say whether this is judicious, nor what is the proper dose. But in affections of the lungs it is of great service.

THE INTERMEDIATE FORM

is distinguishable from the extreme form by the following circumstances:—

1. The animal heat is less affected on the surface, being

about the natural standard, or perhaps rather less in the extremities.

2. The pulse is less sunk, but oppressed or labouring. This oppression gives to the pulse a feel as if the heart were struggling to throw off some superincumbent weight.

3. The breathing is less oppressed, and not weak.

4. The strength is less prostrate.

5. The topical disorder is less strongly marked.

When you see a patient in this condition you will recognize it at once by marking the countenance, which has not so sunk an appearance as in the extreme form. The animal heat, too, though low on the extremities, is not below the natural temperature on the trunk; the breathing displays more power, and the patient has more muscular strength.

These patients, if seen early, will generally bear bleeding well.

I saw a boy in this state with congestion of the brain; his pulse was oppressed and labouring. A few ounces of blood were drawn from his arm; his pulse rose, and a state of excitement was fully developed.

Apoplexy sometimes comes on in this way. And the abstraction of a little blood in these cases often either wholly removes the congestion at once; or creates a state of excitement, a state far less dangerous than that of congestion.

A gentleman labouring under dropsy of an inflammatory kind, and having an inflammatory pulse, desired my services. He gorged himself, and on my visiting him he stared at me like an idiot, and had all the marks of venous congestion. He was bled, and rapidly recovered. A second time I attended him; and a third time he gorged himself so as to require again to be bled. He lost his inflammation, but his sight was materially affected from some mischief done to the brain.

Some persons will risk all the consequences, even if they are informed of them, merely for the sake of the present gratification of their desires.

By the way, dropsy is another abstract term, involving essentially different states. All dropsy, according to the nosologists, is explained by weakness, which is a very convenient word for the purpose.

Sometimes the quantity of blood abstracted in these cases should be small, sometimes large. Occasionally it happens that on opening a vein the blood at first only trickles or oozes out like so much tar, and then you must persevere and wait a quarter of an hour. The blood will soon come out in drops, then in jets, and

lastly in a full stream; and as this occurs, the pulse becomes full and very strong, from the heart's forcible action. This circumstance perhaps indicates, that the forcing power of the heart extends through the whole circulation.

There is one rule to be remembered with regard to the abstraction of blood in these cases. If the pulse rise under the bleeding, and become fuller and stronger, and more round and resisting, you may generally safely proceed in the abstraction of blood; which will be beneficial, provided you stop short of syncope. But, on the contrary, if the pulse sink under the evacuation, the sooner you tie up the arm the better. This rule is applicable in all those cases in which you have any doubt of the propriety of bleeding.

Never bleed a patient to syncope in congestive fever; for if you do, he may die under that state. It is better to stop while you have a pretty round pulse. And here I may remark, that in cases of organic affection of the heart you should never bleed to approaching syncope.

Afterwards you may use purgative medicines.

The blood drawn in common congestive fever never shows the buffy coat; sometimes it does not coagulate in the vessel; and when the lungs and bronchial lining are much gorged, it is sometimes a fluid gore.

I recollect an individual, who was brought into the Fever Hospital, labouring under congestion of the lungs and bronchial lining. He was bled; and as his pulse became stronger and stronger under the evacuation, thirty-five ounces of blood were drawn before he was relieved.

I recollect I saw a lady who was in the puerperal state, and had convulsions. She had a turgid face, with a prominent staring eye, and extreme confusion of head, from congestion of the brain. A vein was opened in each arm, and forty ounces of blood were abstracted, with a complete removal of all the symptoms, and she was soon delivered.

I saw a young gentleman who had an attack of congestion in the brain, in the lungs, and in the liver; and two moderate bleedings entirely removed the affection.

In some persons, however, I should be afraid to abstract blood. To illustrate this, I may mention one case. A lady, whom I had known before, being ill, I was sent for, and I found that she had a remarkable change of countenance. She was a very accomplished and amiable woman, and had naturally an animated expression of countenance; but now she looked almost like a perfect idiot. She

was labouring under an intermediate form of common congestive fever. She had been sitting the whole day over a miniature, and this, together with the position of the head, had produced the congestion in the brain. Her animation of expression was gone, her pupils dilated, her lips blue, and her face pale. Her breathing was weak, and her pulse oppressed: she could not give me a distinct answer, and the heat had failed in the extremities only. I did not venture to bleed her, but I opened the bowels by a calomel purge, gave her hot drinks, applied a small blister, and laid her in warm blankets; sinapisms were applied to the feet, and the heat of the apartment was carefully regulated. Probably an effusion had taken place about the base of the brain; for she had an uneasy sensation in the head for a long time. At length, however, she perfectly recovered.

Sometimes the stomach is disturbed in these cases.

A little boy ate some orange, and rich plum cake, and he became remarkably oppressed. He had a stupid expression of countenance, cold extremities, a natural warmth on the trunk, a laborious pulse, and a hurried respiration. He was placed on his mother's knee, and when he was removed vomiting was produced; and in this way the oppression was removed by the removal of the offending matter from the stomach.

Whenever you see an individual labouring under the intermediate form of common congestive fever, always inquire whether he had taken any indigestible food before the attack; and if any of the offending matter remain in the stomach it should be removed. For this purpose, therefore, a mild emetic will be best, followed by a little brandy. In some cases connected with the stomach emetics will do good whether in the extreme or intermediate form of congestive fever. I have known a person who was apparently dying, cured by vomiting. Mere flatulence will sometimes oppress the heart's action.

If the pulse be so feeble that you are afraid of the shock of an emetic give the patient brandy; or if convulsions occur in children you may use opium, in the form of a suppository.

In the intermediate form of common congestive fever purgative medicines are often very beneficial, especially those which operate on the liver; and therefore calomel is the best.

THE MILD FORM

is distinguishable from the extreme and intermediate forms of common congestive fever, and is by far the most common form. It is denoted by the following symptoms:—

1. By lassitude and languor.
2. By chilliness and paleness of the surface.
3. By a more feeble pulse than natural.
4. By aching of the head or back
5. By more or less prostration of the appetite.

In these cases the patients very often drag themselves about with a pale face, and the other signs I have mentioned, and suppose that they can remove the indisposition by exercise. This is especially the case with men who are engaged in important business. Nothing is more important than to attack any disease at its commencement. If you are called to any patient labouring under the mild form of common congestive fever, never compromise your sense of duty to the wishes of the patient or of his friends; for both the one and the other will sometimes suppose that the affection may be removed by exertion. In these cases a medical man must exercise over his patient a despotism; but he must exercise it mildly. And he should not take upon himself such heavy responsibility if the patient will not take his advice. The truth is, that if patients be allowed to go about in this state they will very often have an attack of the extreme form of common congestive fever, under which they will sink at once; or it may be followed by great excitement and an attack of acute inflammation.

Always, therefore, recommend the following measures to be adopted; namely—rest in bed; a mild emetic; the use of a warm salt water bath; a mild aperient; and a bland diet. Small bleeding by leeches is generally beneficial; but a tepid bath answers a better purpose.

In all these cases a mild dose of calomel is very beneficial. When the body is torpid, with a cool skin and diminished sensibility, you may often give calomel largely, without producing any effect except purging. If the skin be cool without torpor calomel will produce its specific effects very rapidly.

Never give calomel as a purgative till you know the idiosyncracy of the patient. If you want a common aperient do not run the risk of a violent ptyalism.

One point of very great importance is the chill of the surface. If you investigate the history of examples of acute and of chronic diseases of a serious character, you will find that many of them were preceded by an universal chill of the surface, which chill will very often be found to have continued a great many hours. This takes place in many of the cases of congestive, of simple, and of inflammatory fever, which occur in this country, from the low

and variable temperature of our atmosphere. And no rule is more important to the public than that which instructs them to restore the natural heat of the surface as early as possible. I generally mention this to all the families whom I attend. I advise them, if ever they be chilled, to make for the first hot bath they know of, and restore the heat of the surface.

The chill very often continues for many hours before dangerous venous congestion comes on; or before excitement, the consequence of which often is an attack of inflammatory fever, occurs; and, by the use of a hot bath, you may often prevent a great deal of mischief. The temperature of the bath in these cases seldom ought to be less than 100° Fahr. In Paris you may have a hot bath in any house at five minutes' notice. In every well regulated government there ought to be a Minister of Health. There are many things in London the effects of which are very injurious to the public welfare; and the notorious deficiency of warm baths is one of them. Besides this there are a great many others which I could mention.

I repeat that a hot bath will generally carry off the attack directly; if it should not, emetics will be found exceedingly useful, particularly mild emetics, as a scruple of ipecacuanha powder.

The use of purgatives seems to have induced medical men to neglect emetics in many cases where they would be found very useful. You must not, however, give emetics empirically on the assumption of the case being one of congestive fever, but examine whether there are no marks of inflammation. Emetics may be followed up by purgatives. Keep the patient in bed surrounded by a temperature of from 60° to 66°, and allow him a bland diet.

Having premised these remarks on the treatment of common congestive fever, I shall say a few words on the

PROGNOSIS IN COMMON CONGESTIVE FEVER.

THE EXTREME FORM.

This is an extremely dangerous affection indeed, but you must take care not to confound with it an ordinary case of mere universally cold skin; which, if it exist without any symptom of local disturbance, is not at all dangerous, provided it be soon removed. But if at the same time some organ be excessively disturbed in its functions, the case is very alarming; and unless you remove the oppression or collapse it is generally fatal.

I have known some cases terminate fatally in one hour, in three hours, in four hours, and very often in twenty-four hours.

If you have produced a state of excitement the patient is generally going on well, if properly managed.

If the congestion continue, and the brain, heart, lungs, and stomach be disturbed, the case will generally terminate fatally.

If the excitement be imperfect, and the case put on the congesto-inflammatory character, it is very serious. If the trunk be hot while the extremities remain cold, with great disturbance of the functions of the brain, of the lungs, and of the liver, the case is mostly very serious.

If the excitement be perfectly developed then the fever is either simple or inflammatory, and the prognosis is to be given accordingly.

The prognosis in the extreme form of common congestive fever is influenced also by the age. It is most dangerous in infants, in old persons, in women after delivery, and in individuals labouring under great mental distress. Middle-aged persons will struggle through it better than the young or old. Congestive fever is more fatal in a cellar than in a garret. This depends on the air the patient breathes.

THE INTERMEDIATE FORM.

This is far less dangerous than the extreme form, and is generally removed by bleeding, if you see the patient early. If you do not see him early he very often sinks into the extreme form; and sometimes the case puts on the character of congesto-inflammatory fever.

THE MILD FORM.

The prognosis in this form is almost invariably favourable if you put the patient to bed early, and provided he be properly managed.

Generally speaking, you must be guided in your prognosis by the increase or the diminution of the local disorder, and of the general disturbance. If they both become diminished then the case becomes more favourable. But if they both continue, and increase, the prognosis is unfavourable. If you observe the remedies succeeding, the prognosis is favourable; but if you find them failing, the prognosis is less favourable.

LECTURE XV.

COMMON SIMPLE FEVER.

SYMPTOMS.—DIAGNOSIS.—TREATMENT.

Common fever is a generic term, which I use to mark generally those effects which proceed from common occasions.

One of these effects, which proceeds from common depressants, I have already considered under the name of common congestive fever. Another, which I call

COMMON SIMPLE FEVER,

will form the subject of this lecture.

In the definition which Dr. Cullen has given of Pyrexia, he has entirely omitted the congestive form of fever; and indeed that form of disorder is entirely unnoticed by all our systematic writers on medicine, for this obvious reason, that they follow Dr. Cullen to the letter. As long as this is the case, we shall have no valuable work on modern medicine. This omission is very serious, for congestive fever is the most important form, as forming an exception to general laws. Cullen has assumed that fever always begins with cold, but we dispute the authority of men: we are not like the members of the profession of the law—we do not suffer ourselves to be guided by ancient laws or mouldy records; from them we appeal to the volume of nature. The word Fever, in most languages, is expressive of increased heat of the skin; but this, as a definition, would be defective, inasmuch as it would exclude the congestive form of fever. But when common depressants are the occasion, congestive fever is always an incipient part, and in some instances the whole, of the fever.

I use the term Congestive Fever to denote the state which exists from the influence of depressants, in which excitement does not take place, but in which the symptoms of congestion remain as an exception to a general law of the animal economy. When the excitement is once developed—when it once happens that the skin becomes hotter and the pulse quicker than natural—then the

fever is no longer of the congestive kind; but it is necessarily either Simple fever or Inflammatory fever.

The simple form of fever proceeds from three different sorts of common occasions.

1. When it arises from common depressants, it universally has three stages—

1st. A stage of Depression; with a diminution of the heart's action, of the animal heat, and of the muscular power.

2nd. A stage of Excitement; with an increase of the heart's action and of the animal heat; and—

3rd. A stage of Collapse; in which the heart's action again falls, in which the animal heat again falls to the natural standard, and in which the patient feels universally weak.

A very apt illustration of these successive stages is offered in the affection called ague, which arises, however, from peculiar occasions. Ague has three stages:—

1st. A stage of depression, called the cold stage.

2nd. A stage of excitement, called the hot stage; and—

3rd. A stage of collapse, called the sweating stage.

Now what takes place in the course of a few hours in ague, takes place in common simple or in common inflammatory fever in a few days.

1st. The cold stage, or stage of depression, is generally short.

2nd. The stage of excitement is of various periods of duration, generally a few days; and—

3rd. The stage of collapse follows.

2. When the fever (in the popular acceptation of the term) arises from common stimulants, it has not three stages. Cullen states that fever is always preceded by a cold stage. He makes this assertion roundly; but this is not really the fact. Suppose fever (for the sake of argument) to consist of a hot skin and a quick pulse, I repeat, that it has not always three stages; for if it arise from stimulants, the heart's action and the animal heat are increased directly; and—

3. When common simple fever arises from irritants the same is very commonly the case. A glass of brandy, for instance, given to a weak convalescent will often irritate the mucous membrane of the stomach, and produce fever; and in this case the fever will commence directly with a hot stage.

Suppose then that what I call common simple fever be established from the influence either of depressants, of stimulants, or of irritants; what are the indications of it?

SYMPTOMS OF COMMON SIMPLE FEVER.

They are a combination of the following seven circumstances:—

1. The heat of the skin is somewhat higher than natural.

You almost invariably find that the heat is highest in the evening and through the night, and is rather less in the morning, at which time the pulse also falls. The heat of the surface, however, is more or less higher than natural throughout the whole twenty-four hours. You will find it at any part of the day somewhat above 98°, if the temperature be properly measured by means of a thermometer placed under the axilla. The skin also is drier than natural.

2. The pulse is somewhat quicker than natural.

The pulse varies with the age of the individual, and you must take into account the standard of the pulse, which in a healthy adult may be stated to be seventy-two pulsations in a minute, while in common simple fever the number of pulsations in a minute will range from ninety-six to one hundred and ten, increasing towards night and decreasing towards morning. This is the case also in health, and appears to depend upon a law of nature, which law is more observable in the febrile state than in health.

3. Some thirst.

4. Some fur upon the tongue.

This constantly attends common simple fever.

5. Some loss of appetite.

This almost invariably attends.

6. Some change in the stools, in the urine, or in both.

The stools are unnatural either in colour or smell, and the same is correct with regard to the urine.

7. Some languor of body and lassitude of mind.

These symptoms are almost invariably combined in common simple fever, which is generally a very mild form of fever.

DIAGNOSIS OF COMMON SIMPLE FEVER.

This is remarkably easy.

Take the most perfect form of common Congestive fever, and you will recollect that it consists of a diminution of the heart's action as to its force, and a diminution of the animal heat as to its degree. The pulse is less strong and the heat is less high than natural.

In common Simple fever, on the contrary, the degree of the animal heat is above the natural standard, and the force and fre-

quency of the heart's action, and consequently of the pulse, are greater than natural.

Again, you may distinguish common simple fever from common inflammatory fever by the following circumstances:—

In common Simple fever there is no sign of either an internal or external inflammation. Sit down, and examine the patient attentively. Consider the seats and healthy functions of the various organs: begin with the head and go on to every part of the body, and if the fever be simple you will find no marks of inflammation.

In common Inflammatory fever, on the other hand, there are signs of an internal or of an external inflammation.

What I call Common Simple fever is synonymous with what the older authors called Idiopathic fever. They were aware from observation that fever frequently begun, and even went on without inflammation; and this they called idiopathic fever, presuming it to be a peculiar effect, independent of any local disorder. This presumption, though true in some examples of fever, especially in the beginning, will, if generalized, lead to unsatisfactory results; for in the progress of the fever inflammation may occur and change the character of the case. No doubt many cases of what the older authors called idiopathic fever were in reality cases of inflammatory fever. They were ignorant of the symptoms of inflammation; and, therefore, the mortality arising from the use of the term idiopathic has been very great. It is one of the *asyla ignorantiæ* which learned men make use of to conceal their ignorance.

There is a great deal of ignorance in learning; and there really is no ignorance so deplorable. There is a mighty difference between learning and wisdom. The physicians of Sydenham's day were learned men; they could speak and write Latin fluently; but Sydenham could do neither. He attended, not to words, but to things—to the phenomena of nature; and despised and neglected the learning which was so much the pride of his cotemporaries. I have never met with a learned physician—I mean a man of black-letter learning—who did study the phenomena of nature. There may be such a person. I do not mean to deny the existence of such an one, but merely intend to say that I have never met with such an one either in public or in private. Physicians very often are what Milton calls

"Deep versed in books, but shallow in themselves."

In the writings of the older authors is displayed nothing but an

external pathology; they were ignorant of any kind of correct information about the conditions or internal pathology of diseases; and, therefore, it is perfectly fruitless to hold them up either as pathologists or as practitioners.

Another term which is often used is Symptomatic fever. This corresponds with what I call Inflammatory fever. I use the term inflammatory fever to designate the connexion of fever with inflammation. Where fever and inflammation exist together, and arise from a common occasion, then I call it Common Inflammatory fever. You will see that the older authors, in the term sympathetic fever, have an assumption which in the term common inflammatory fever I entirely exclude. They, namely, assume that the inflammation is the cause of the fever; but I merely notice the fact of the combination. The truth is, that inflammation is sometimes a cause and sometimes a consequence of fever.

Some men are very unwilling to give up their favourite terms; but I shall show you that the term sympathetic fever, including, as it does, an assumption, is incorrect. I care not on what authority such terms rest; for I protest against systems, but not against men. Each man has his failings, and if we carefully examine ourselves we shall find sufficient cause for self-humiliation. Bacon has said, that men are not wise by years, but by hours. You should always treat the prejudices of the old with respect, and with kindness—but with firmness; and if you can you should reason with them. Mr. Abernethy is a man of great talents, and I respect him because he has improved his profession; but it is my duty to protest against the term which he uses, "disorder of the digestive organs." Dr. Hamilton, of Edinburgh, forms a noble example of a very old man laying aside his prejudices, and he has thrown more light on diseases than any other man.

But in common simple fever there is no inflammation whatever; and this opinion I am bound to maintain from minute investigation, which has plainly demonstrated that the distinction between common simple fever and common inflammatory fever is legitimately deducible from facts.

In one respect common Simple fever differs remarkably from common inflammatory fever—in its pathology. If you sit down and examine the physiology of each organ of the body, and contrast and compare this with the existing state of the functions of these organs, you will not in common simple fever detect any inflammation in any external or any internal organ, and yet the skin is hotter and the pulse is quicker than natural.

As there is no word in our language to distinguish this state from that of inflammation I designate it by the term

GENERAL SIMPLE EXCITEMENT.

There are many facts which show that such a state does exist independently of inflammation.

You may produce such a state in a few minutes by exercise, as by running, and especially in a warm day. The pulse then becomes quicker and the skin becomes hotter than natural; but still there is no inflammation.

If an individual be exposed to a high temperature the skin becomes hotter and the pulse quicker than natural; but still there is no inflammation.

Let an individual be roused by mental emotion, as by anger, and the skin becomes hotter and the pulse becomes quicker than natural; the face becomes flushed, and the eyes brighter than natural; but still there is no inflammation.

So also if an individual take a full meal of food, and three or four glasses of wine, the pulse will become quick and strong; the heat at the same time is high, and the face flushed; but still there is no inflammation.

Again, let an individual be marked in the advanced stage of pregnancy: there is frequently no inflammation, but the heat is high on the surface, the pulse is quick, and the blood drawn from such a female is loaded with the buffy coat. This is especially the case in the last month of pregnancy.

Again, a similar state may be produced by blood-letting. If you take an individual in health and bleed him to-day, to-morrow, and the next day, you will find that after each abstraction of blood the pulse will become quicker, and ultimately fever will be established, but often without any inflammation.

Another fact which demonstrates this state to exist is drawn from inflammation itself. An individual has inflammation in the brain, in the lungs, or in the bowels: you bleed him, purge him, and starve him, and all the signs of inflammation abate; yet it often happens that for two or three days the skin remains hotter and the pulse remains quicker than natural, without any disturbance whatever of the functions of any organ. This fact I consider conclusive as a proof of the existence of such a state as that which I call general simple excitement, without any, either internal or external, inflammation.

There is even a condition of the vascular system locally,

—differing from that of General simple excitement. It is what I call

LOCAL SIMPLE EXCITEMENT;

in which we have evidence of an accumulation of blood in certain organs, not amounting to inflammation. It is readily distinguished from inflammation, being merely an increase of the redness and sensibility of the part.

Blushing is an instance of local simple excitement. The cheek will become at first as red as a rose, and then in a short time as pale as marble; and yet when the face is thus suffused no one will say that it is inflamed.

If heat be applied to the back of the hand it will redden it, and yet within a certain point there will be no inflammation.

If you apply friction to the skin you will produce the same condition; but it is not inflammation, although it certainly may be carried on to such an extent as to produce inflammation.

Rubefacients applied to the skin of any part will produce the same effects without any inflammation.

In mental emotion too, as in grief, you will see the eye suffused with tears, and those vessels of the conjunctiva, which naturally admitted only a colourless fluid, allowing red blood to pass through them. This is a state of increased sensibility and redness; but it is temporary.

In scarlet fever there is a blush of redness on the eye; but the symptoms of inflammation are not there.

In the mouth, on the tongue, and about the salivary glands, during mastication, there is an increased quantity of blood, and yet there is no inflammation.

From some experiments which have been made, the same seems to take place in the stomach during the process of digestion, and even in the colon when it is overcharged with fæces.

What obtains in these examples may perhaps be applied to every part of the body. Probably each organ has a certain supply of nervous influence which affects the quantity of blood distributed to it.

If the heat of the head become higher than natural there is an increased flow of blood towards it; and this is either connected with an irregularity of the distribution of the nervous influence or of the heat—perhaps the former.

Three very remarkable circumstances occur in common simple fever, with respect to—

1. The animal heat, which is increased on the surface.
2. The heart's action and blood.

The action of the heart is increased; and, by consequence, the rapidity of the circulation is increased; but the distribution of the blood seems so equable, that no organ can be said to be inflamed; —and with respect to—

3. The change in the secretions.

This is especially seen in the change of the secretions of the tongue, of the bowels, and of the kidneys.

In simple fever there is increased rapidity of circulation over the whole body.

A boy had a hot skin, and a pulse the quickest I ever felt in simple fever—beating one hundred and forty-eight times in a minute. I staid with him an hour, and examined him carefully, but could not detect any trace of inflammation. I knew this pulse, if it went on, would produce inflammation. I therefore bled him, and the blood was florid like arterial blood. Was this colour the cause or the consequence of the fever?

This common simple fever certainly has a sort of approximation to common inflammatory fever. This is so true, that though in some instances a case begins, goes on, and terminates as simple fever, yet, in other instances, in its progress or towards its termination the case becomes one of inflammatory fever. Therefore, though a fever be simple in its commencement, you are not to presume that it will continue so in its progress. I hardly ever see a case of fever which remains the same during twenty-four hours. The change may be slight or trifling, but sometimes it is important. The fever may change from the simple to the inflammatory fever. However this may be, I have been in the habit of daily taking notes of cases of fever for twenty years, and I repeat, that I have hardly ever found a fever continue precisely the same during twenty-four hours.

Common simple fever can only exist in a sound subject, whose organs are nicely balanced, and in whom there is no faulty structure locally.

It therefore most frequently occurs in sound children; in adults the fever is mostly inflammatory.

TREATMENT OF COMMON SIMPLE FEVER.

The treatment of common simple fever is very complicated according to our systems of medicine; but I shall display it to you in a different view. If you understand the nature of a disease,

the treatment will always be simple; but if you be content to follow systems because they are old, your treatment of diseases must necessarily be complicated.

There are three leading indications:—

First—to reduce the animal heat to the natural standard;

Secondly—to reduce the heart's action to the natural standard; and—

Thirdly—to restore the secretions to their natural characters. There is, invariably, a disturbance in the balance of the secretions. In one organ the secretion is diminished—is less than in health; while in another organ the secretion is increased beyond the healthy standard. This disturbance in the balance of the secretions takes place especially between the skin and the internal mucous membranes. It is extremely common that there is an increased secretion from the mucous membrane of the intestines, but a diminished secretion from the kidneys; and towards the termination of the fever the natural balance becomes restored.

Mild congestive fever is sometimes permanent, but sometimes it is merely a stage of common simple fever.

In almost all cases where common simple fever begins by a cold stage, you must recollect the treatment of mild congestive fever, which I mentioned in my last lecture. It will be necessary to prescribe the use of a water bath of the temperature of about 100° Fahr., to exhibit a mild emetic, and to direct the patient to rest in bed, using a bland diet, and taking mild aperients.

Suppose you are called to a patient in whom a state of common simple fever has been developed by the treatment just mentioned, or in whom a state of common simple fever has risen directly from the influence of stimulants, or irritants; what is to be done? I repeat that you have the following distinct objects in view:—to reduce the heart's action; to reduce the animal heat; and to restore the secretions.

There are certain means by which you may accomplish these objects, and these means are of three kinds:—

1. Regiminal; 2. Mental; and 3. Medical.

These means must be combined; and I put the medical means last, because the medical treatment really is secondary compared with the other means. The following things are necessary with respect to—

1. *THE REGIMINAL TREATMENT.*

1st. Rest in bed.

This diminishes the action of the heart, both in force and fre-

quency; and diminishes also the labour of respiration. It tends to act equably on the skin; it tends to maintain the strength; and has all the good effects, without any of the bad effects, of bleeding. If you allow a patient whose pulse is one hundred and twenty to go about, it will soon rise to one hundred and sixty.

Another extremely important point is—

2nd. The temperature of the apartment, &c.

The temperature of the room, and both the kind and quality of the clothing, require strict attention. In short, you must avoid all those means which tend to raise the animal heat: for in proportion as the animal heat is diminished or increased, so will the heart's action also be diminished or increased. The temperature of the apartment should be perhaps about 60°, seldom below 56°. The patient should be lightly covered. If he be accustomed to have his throat covered in health, it should be covered now; and the heat of the surface should be watched, especially towards night. Nurses in winter are generally more attentive to their own comfort than to the welfare of the patient; and often by making up a large fire at night convert a simple into an inflammatory fever.

In all cases of fever there are two things with regard to the nurse which deserve attention. *First*, you should attend to the mind,—to the intellectual powers of the nurse, and ascertain how far they extend; and *secondly*, you should ascertain the moral character of the nurse, which should be very high. Nurses should be more liberally remunerated than they generally are. You should let the patient have a nurse of common sense, and of great integrity. You should also let her know that she owes you the most perfect obedience. The life of your patient, and your own reputation, will often depend entirely upon the character and conduct of nurses. It is a remarkable truth, that the American Indians select the most respectable women in their societies as nurses, and thus they prove that they properly estimate the importance of the office.

Another material point is—

3rd. The diet.

Analogy would lead us to infer, that as the patient under common simple fever feels and appears weak; and that as the weakness which is consequent upon fatigue is removed by cordials and by eating—that, therefore, the exhibition of solid food and of cordials would be proper in fever. Try the experiment, however: it has been tried thousands and tens of thousands of times; but

experience has proved that the effect is contrary to that which analogy would lead us to expect.

The way to support the strength in these cases is to adopt certain negative measures, by avoiding all demands upon the strength. The fact is, that under fever the patient feeds upon himself; he lives upon his own flesh and blood; he lives, in short, by a species of cannibalism.

Whenever fever exists,—whenever the heat of the surface and the action of the heart are above the natural standard, adhere to a diet of either arrow-root, gruel, barley-water, or whey. You might, perhaps, think the exhibition of broths or of solids of no consequence in these cases; but if you give the patient broths or solid food you will almost invariably convert it into an inflammatory fever. They will irritate the stomach, or produce an effect at once upon the heart's action so as to endanger the production of inflammatory fever. Food is fuel to fever: choose, therefore, a bland diet of some kind, and give precise instructions as to the quantity, which may be a small cupful morning, noon, and evening. Nurses will frequently say, that a patient's rule as to diet in fever should be "little and often;" and they will give the patient gruel every half-hour throughout the day and night, till he is blown up like a bladder. This irritates the mucous membranes of the stomach, and sometimes produces vomiting; or passing into the intestines, corrupts and putrefies there, and irritates the mucous membranes of the bowels. Three small cupfuls of either of the kinds which I have mentioned are quite sufficient for a day. In children you may allow an additional cupful in the night.

4th. The drinks are very important.

Water is the best kind of drink in fever; and if there be no irritation in the mucous membranes of the alimentary canal, you may let the patient take for common drink a slight infusion of lemon juice in water, in the proportion of a spoonful of juice to a pint of water. Or a little juice of orange, of apple, of pear, grapes, peach, or of other fruits, as raspberries, strawberries, currants, gooseberries, or jam, may be given, diluted with water. The juice of either of these fruits should be squeezed through fine muslin. It should always be expressed; for if you allow the patient to eat these fruits, they are very apt to do a great deal of mischief, and convert the simple into the inflammatory form of fever.

I am perfectly confident that I lost many patients in the early part of my practice from this cause; and now, a week scarcely ever passes in which I do not see the life of some patient sacrificed to an indiscriminate indulgence in the use of fruits.

When you go into a patient's room, therefore, you must use your eyes, and if you see things lying about which you have ordered the patient not to take, you may generally be quite sure that something is wrong in this respect. It is astonishing what irritation these things frequently occasion. Examine, and you will see what a quantity of indigestible matter these fruits contain, except perhaps peaches and grapes. But, as a general rule, it is best not to allow the patient fruits.

When you have prescribed the proper diet for the patient, always take care to add that the patient is to have nothing else whatever.

5th. Quiet.

Not only the whole house should be kept quiet, but more especially the apartment of the patient. Hence you must regulate the conduct of the attendants; and you must also regulate your own conduct. Light may be freely admitted in common simple fever. There is something gloomy in the character of the English, and this often leads them to darken the apartments of the sick; but if the head be free, there will be no occasion in these cases to exclude the light, and make the apartment so gloomy.

6th. Ventilation.

This also is of great consequence. You may always with safety admit fresh air into a room on one side; avoiding, however, cross currents. If you have a fire—and you generally should have a small one, otherwise the room cannot be properly ventilated—then it will be especially proper also to keep a thermometer in the room, and to attend to the temperature.

7th. Cleanliness.

Never allow the stools or the urine to remain in the room after they are evacuated; because they taint the air of the apartment, and tend to sink the strength of the patient. Always have the stools passed in a little water, and removed directly into another place if you wish to examine them. The linen should be changed, the feet washed, and the room should be cleaned if there be any dirty spots upon the floor. Nurses will often clean the room by slopping over it a large quantity of water, and then imperfectly drying it; so that the patient is often injured by the damp room, especially on getting up to a night-chair. The best way of cleansing the floor is to use hot water, and then to dry it at once. Never allow much water to be used for this purpose.

When the patient gets up, you should give strict directions that he be not exposed to a current of air.

2. *THE MENTAL TREATMENT.*

It is of very great consequence to study the minds of individuals, and it is especially important under disease; because you may draw inferences from a knowledge of this kind, and act accordingly. The mental treatment clearly admits of precise rules, and we must make our own observations on the subject of each case as carefully as possible.

1st. Remove, if possible, every anxiety about the health.

If you confidently assure the patient that he will get well, it will often give him very great relief.

I knew an individual who was always counting his pulse: he was very irritable, and finding his pulse above eighty, he was very much alarmed. The medical practitioner made him promise not to count his pulse, and then it was soon below eighty; and he did perfectly well.

Be careful to direct the attendants not to do too much; for the patient is very liable to be irritated by the *nimia diligentia* of the friends or nurse. The affection of the friends prompts them to be perpetually doing something for the patient, by which they keep up in him an incessant state of mental and bodily irritation day and night.

2nd. Avoid all occasions likely to disturb the mind.

Avoid all business, the writing or reading of letters, and the making of wills, unless necessary. You cannot control the mind, it is true, but you may very often avoid the occasions likely to irritate the mind; and this should, if possible, be done.

3rd. Be mindful of your looks and your language.

There is a language in the looks, by which the emotions of the mind are very often expressed so as to be detected. No doubt the dress and the appearance of the old physicians must have done great mischief; no doubt, by means of the gold-headed cane, the immense wig, the grave and solemn countenance, they sent a great many patients to their graves. Their fanciful dresses and solemn faces, as displayed in their portraits, must have been highly injurious, from their influence on the minds of patients. One of the improvements with respect to physicians certainly is the adoption of the modern fashions of dress; for one had far better be dressed like a dandy than be disfigured like the old doctors.

When a patient is under your care there is naturally one exclusive feeling with respect to himself; and by removing any doubt from his mind with regard to the certainty of his recovery,

you will often render him very comfortable; especially if you do so cheerfully, and with confident assurance.

4th. Be punctual in the performance of your promises.

Perhaps there is no higher pleasure which a patient experiences than the expected visit of his medical man. If you do not arrive at the time when he expects you, the pleasure is converted into disappointment and pain, and the consequence often is a great increase of the fever. You will see, therefore, the necessity of punctuality. At the same time, in slight cases do not make too many visits; otherwise, the patient will be liable to think himself dangerously ill, without any other reason than the frequency of your visits to him.

With respect to your visit, there are two rules which I would advise you to observe. The *first* is, never to visit a patient too early in the morning in slight cases. Many patients go to sleep towards this time, and by breaking in upon the sleep you will do great mischief. The French commit a very serious error in their hospitals with regard to this point. The *second* rule is never to visit a patient too late at night in slight cases; otherwise, you will probably so excite his mind that he will pass a restless night.

5th. Be precise in the manner of prescribing medicines.

Be precise as to the time of repeating medicines: do not prescribe it to be taken "every four or six hours," but either "every four hours," or "every six hours." Be precise as to the quantity of medicine for each dose: do not order "two or three table-spoonfuls" for a dose, but either "two table-spoonfuls," or "three table-spoonfuls." You should be precise in these particulars, for the patient will then attach far more importance to the medicine than if it were prescribed carelessly.

6th. Say something consoling before you leave the patient.

Leave him with a cheerful face and with a cordial grasp of the hand, assuring him that he is going on well. You should act as if you were the friend as well as physician of the sick. Celsus very sensibly observes, that if he knew two physicians of equal intelligence, he would choose him who was his friend, who would inspire him with more confidence, and would give him more consolation, than a stranger.

I pass on to—

3. *THE MEDICAL TREATMENT.*

This is very soon and very briefly told. In the first stage, when the patient is pale, and complains of languor and lassitude, with a

feeble pulse and cool skin, mild emetics, if there be no inflammation of the mucous membrane of the abdominal viscera, are exceedingly useful, and often cut short the fever. They have been far too much neglected, in cases of incipient fever, since the general introduction of purgative medicines. Nauseants are often very beneficial in incipient fever.

When excitement is fully developed you may use—

1st. Aperient medicines.

These are necessary; and, with regard to them, there are three points to be considered:—the kind, the quantity, and the time of repetition.

As to the kind of aperients; purgatives and laxatives only should be given either to children or adults; cathartics are very dangerous, producing inflammation of the bowels, which consequence I have frequently seen arise from calomel and colocynth, with infusion of senna, sulphate of magnesia, and tartrate of antimony.

Among the best aperients in common simple fever are—submuriate of mercury (calomel), rhubarb, cold-drawn castor oil, infusion of senna, sulphate of magnesia, and tartrate of soda; and, generally speaking, about three grains of calomel are sufficient, combined with eight grains of powdered rhubarb, and followed up by half an ounce of cold-drawn castor oil. If calomel do not agree with the patient; if it produce bloody stools, which is sometimes the case, leave it off. If the castor oil produce sickness you may omit it, and substitute a draught of Epsom salts and infusion of senna; but if the castor oil only produce nausea, this is desirable, and will do no harm. Or, instead of these, you may give the following draught:—

> Magnesiæ Sulphatis drachmam,
> Acaciæ pulveris grana octo,
> Infusi Rosæ unciam cum semisse. Misce.

As to the frequency of repetition, you hardly ever need give more than two doses in the day; sometimes one will be sufficient. Do not prescribe purgative medicines to be taken every four or six hours, as many physicians do; for the consequence is, that a constant irritation is kept up in the bowels. You may give calomel and rhubarb at night, and the castor oil in the morning; and do not tease and worry the patient by a frequent repetition of the medicine. If you prescribe senna with sulphate of magnesia, you may use the following draught:—

Magnesiæ Sulphatis,
Mannæ, *singulorum*, drachmam,
Infusi Sennæ compositi, unciam. Misce.

This is generally all that is necessary with regard to aperients. Cover the patient lightly, and keep him on a spare diet: by these means moderate doses of purgative medicine will operate; but when the skin is very hot scarcely any purgative will operate at all, except in very large doses. If the patient be a child above two or three years of age, you may give it three grains of calomel, as I have just mentioned. You may go on thus for two or three days, and then a grain and a half of calomel will be sufficient. You should try to procure by these means about two, three, or four stools in the twenty-four hours. As the pulse and the heat of the surface fail, you must withdraw the calomel; for if you continue then to administer calomel, you will most likely produce ptyalism, which is not at all necessary, and is sometimes a very great evil. You must take care to have the medicines good, for it makes a great difference in their effect. You should also be especially careful, in compounding the medicines, to avoid mistakes. I believe the reputation of a general practitioner constantly depends on the care with which medicines are compounded; and so also does very often that of a physician.

These are all the medicines necessary for the body of the patient, but you must also prescribe for the mind. People have been so long accustomed to the hocus pocus of physic, that if you only give them what medicine is necessary they will think you know nothing about their complaints.

2nd. Febrifuge medicines.

With regard to febrifuge mixtures, I have no faith in them. Saline and antimonial medicines are generally given; and for what reason? I would have you ask yourself always, before prescribing any medicine, Why do I prescribe this? A medical man should always have a reason for prescribing. If you cannot satisfy yourself as to the real state of the case, you had better do nothing; it is better to stand still till the light returns, than to walk about in a dangerous place in the dark. I believe the reason why salines and antimonials are prescribed in fever is, that it has been the custom to do so from time immemorial. If our grandfathers had shaved themselves with wooden razors, we ought, on this principle, to do the same. A great many abuses continue to be sanctioned from a deference to custom; we must do, forsooth, in Rome as the Romans do. But the proper plan is, that we must use our

reason; we must employ our senses, and find out whether the use of these medicines in fever deserves to be continued. I have seen many cases of inflammation of the stomach and intestines distinctly arising from them, and they generally do a great deal of mischief. Sometimes a small quantity of the liquor ammoniæ acetatis, in almond emulsion, or a few drops of the vinum antimonii tartarizati, will act on the skin and kidneys; but these are extremely uncertain. Or you may give carbonate of potass and lemon-juice, perfectly saturated and mixed with water; but, generally speaking, no fever mixture is so good as pure water tinged with a little burnt sugar or with either of the celebrated syrups of the Pharmacopœia. This mixture is to be given to keep the mind of the patient tranquil, for which purpose you may conscientiously prescribe a placebo. I knew a lady who received a parcel containing mixtures, draughts, and boluses, all for the same complaint. Her husband said to the boy who brought them, "I dare say this is all very right; but I should like particularly to know on which part of this parcel your master depends for the removal of the complaint." And any one might ask the same question.

3rd. Tepid ablutions.

As to the skin, it is important that it should be attended to, and therefore tepid ablutions are of consequence. In the first onset of the fever, if you see the patient early, you may very often use a tepid bath with advantage, especially when the skin is husky. Immerse the patient for a quarter of an hour or twenty minutes, so as to soak the cuticle; then soap the whole surface, and, having washed the soap off, dry the skin thoroughly. In the progress of the fever, the use of a water-bath would fatigue the patient; and, by exhausting the strength, would often do great mischief. But if the surface of the body be hotter than natural sponge it, remembering to wipe the parts very dry. You should avoid a chill after the use of the bath, and nurse the patient's strength as much as possible.

The abstraction of blood generally is not necessary, unless inflammation be supervening or threatened; and, if so, you must use general or local bleeding.

When the patient is convalescent there is an appetite, and a disposition to sleep; you must not, however, allow him to gorge himself, but let him pass gradually from a low to a more nourishing diet.

LECTURE XVI.

COMMON INFLAMMATORY FEVER.

RELATION OF INFLAMMATION TO FEVER.—PHENOMENA OF INFLAMMATION.

Common Inflammatory Fever comprehends a much more extensive range of conditions than simple fever. It arises sometimes from depression, and has then three stages; sometimes directly from the influence of stimulants; and sometimes from the influence of irritants. It is distinguished by a consentaneous increase of the heart's action and of the animal heat, with evidence of some external or internal inflammation. And if twenty different persons were exposed to the same common remote occasion you would probably find that in half the number the inflammation was seated in different parts;—in one in the pleura; in another in the mucous membrane of the bronchia; in another in the serous—in another in the mucous—membrane of the intestines; in another in the cellular connecting membrane of the lungs; in another in the liver; in another in the skin, producing that form of inflammation which is commonly called erysipelas. Now how does this happen? The reason is, that these individuals had different faulty structures, and the inflammation fell on the weak organ. These persons had different inherent or acquired predispositions, the nature of which I have before explained.

But an interesting question arises in reference to the connexion between inflammation and fever in this combination.

When inflammation arises from depression, is it the cause or the effect of the fever?

The idea which we attach to a cause is, that it is antecedent to the effect. And the idea we have of an effect is, that it is a consequence and follows the application of a cause.

When fever arises from depression, there is, first, a cold stage, with a condition almost directly opposite to the state of inflammation. The next stage is one of excitement; and thus inflammation arises as the effect, and not as the cause, of the fever.

When inflammation arises from stimulants, is the inflammation the cause or the effect of the fever?—It is here clearly the effect of the fever.

When inflammation arises from irritants, is it a cause or an effect of the fever?—If the inflammation be produced directly by an irritant, as by the application of a blister, then clearly the fever is the effect of the inflammation; for the inflammation arises first. But suppose the impression produced by the application of an irritant to be local simple excitement, then the inflammation follows the fever, and is secondary to it; and here it may be said that the inflammation is the effect of the fever.

It may happen that a local irritation and a general shock may exist at the same time. An individual, for example, falls from a ladder and fractures his leg. When you are called to him you find that his surface is universally cold and his pulse feeble; and withal he has a compound fracture of the leg. Now inflammatory fever generally arises from such an accident; and then is the inflammation a cause or an effect of the fever?—The fever in this case arises in two ways:—

First: The fever arises from the shock which the patient has sustained; and,

Secondly: It arises from the local injury which he has sustained.

And, in consequence of the fever, inflammation occurs in the seat of the injury, because that part is powerfully predisposed; upon the principle that the weakest goes to the wall. This too is a palpable proof of predisposition.

I have the records of three or four hundred cases in which inflammation was the effect of local irritation.

When inflammatory fever arises from interruptants the inflammation generally precedes the fever, and may be said to be the cause of the fever.

Cullen has made all the Phlegmasiæ symptomatic of inflammation; and many modern conjectures are afloat in the medical world, which take for granted that inflammation is invariably the cause of fever; but this is not the fact.

A modern writer has complained that the ancients have stolen all our pretty thoughts; and, if we look in Celsus, we shall find that it was laid down by the ancients that inflammation is the consequence and not the cause of fever.

Some practitioners assume that inflammation of the brain, and others that inflammation of the mucous membranes, is the cause of fever.

If I find it set down that inflammation of the brain is the cause of fever, how am I to ascertain whether it be true?—By appealing to nature, the simple test of all opinions. Examine cases of fever, and in many examples you find no symptom of such inflammation during life, and no appearance of such inflammation on dissection after death. It does occasionally happen, but not constantly; and therefore this doctrine is unfounded.

I find another author who sets down that inflammation of the mucous membranes is always the cause of fever; and this opinion I prove to be true or false in the same way. There are many cases of fever in which there is no symptom of such inflammation during life, nor any appearance of it after death; and this hypothesis therefore is false.

You must examine with your own eyes, and touch with your own hands. Be perfectly independent; and only take up the opinions of any individual, especially my opinions, as materials for consideration, and you will be far more successful than you otherwise would in drawing correct inferences. With respect to physic, all men ought to observe, think, and act for themselves, and I hope you will constantly do so.

THE PHENOMENA OF INFLAMMATION.

The word "inflammation" is an abstract one. We are much in the habit of using abstract terms, and we arrive at their use necessarily through observation and reflection. When we observe any series of phenomena we are led to reflect on them, and we select those which have a peculiar and constant character; and, on the contrary, reject those which have an occasional character.

There are many circumstances mixed up with inflammation, but the following are its most constant characters:—Heat; Redness; Pain; and Swelling. These symptoms have been selected from the phenomena which attend inflammation, and being combined together under that abstract term, have been deemed, by Celsus and all subsequent writers, characteristic of inflammation, and have served to distinguish that condition, or, rather, the phenomena of that condition. Pain, however, is sometimes absent.

Whatever part of the body be inflamed, the immediate seat of the inflammation is in the capillary vessels of the part; which are (with the exception of the absorbents) the minute terminations of the arteries and veins.

But the phenomena of inflammation are so extremely compli-

cated, that we must not only consider the state of the capillary vessels of the part, but the state of other parts connected with the inflamed part.

1. The capillary vessels then admit red blood.

This is the first and most remarkable circumstance connected with inflammation.

You have an example of this in the conjunctiva, the vessels of which convey in a healthy state a colourless fluid; but when the eye becomes inflamed the vessels of the conjunctiva admit a current of red blood. The capillary vessels are finer than the threads of a silkworm: is it not then wonderful that a man should live many years without inflammation? Surely we need not be surprised that when the heart's action is excited, obstruction to the circulation arises in some part.

2. The diameter of the capillary vessels is increased.

This is implied in the former condition in fact; but it can also be proved to exist, by examination of the inflamed eye during life, and of other inflamed parts after death; so that in this way you may have ocular demonstration of the fact.

Anatomists are aware that injections will pass more readily after death through parts which have been inflamed than through other similar parts.

If an incision be made in an inflamed part more blood will flow *cæteris paribus* than from a healthy part.

You have also a remarkable proof of this circumstance in the vasa vasorum. In the healthy condition of an artery you see only a white tunic lining it internally; but when an artery has been inflamed you will distinguish on the internal coat, by the naked eye, and more readily with the microscope, the vasa vasorum ramifying and containing red blood. Hunter proved this fact demonstrably by some experiments which he made on the ear of a rabbit, as will be seen by referring to his work on inflammation.

3. The volume of the larger arteries leading to the part is enlarged.

We have an example of this in rheumatism. Suppose the right wrist to be the subject of rheumatism; then on comparing the radial artery of that side with that of the left side, you will find that the volume of the artery leading to the inflamed part is enlarged. The same takes place when the brain is acutely or sub-acutely inflamed; for then the volume of the carotid arteries is enlarged.

4. The volume of the larger veins leading from the part is enlarged.

You may see this in the throat, especially if it be chronically inflamed. If you throw a strong light from the sun or from a candle, by means of a mirror, upon an inflamed throat, you will see the enlarged veins ramifying over the surface. You find the same thing also in other parts after death.

Having made these observations on the circumstances connected with inflammation, I shall endeavour to explain some of the phenomena of inflammation, namely, Heat; Redness; Pain; and Swelling.

One of the most remarkable phenomena of inflammation, and one of a constant character, is—

1. *HEAT.*

The heat is remarkably higher than natural: it is to the touch sensibly higher than natural, but less sensibly so to the thermometer than might be imagined. It is difficult to say whether the heat of the blood in an inflamed part is higher than natural; but on some external parts it is relatively higher than upon the surrounding parts. One cause of the equal distribution of blood through the capillary system is the uniformity of the caloric. If the caloric be superabundantly accumulated in any part, the quantity of blood is invariably increased; and if the blood be superabundantly accumulated in quantity in any part, then the quantity of caloric in that part is invariably increased. And if the quantity of caloric be diminished in any part, the quantity of blood is invariably diminished, so that the part becomes paler than natural.

On what does this increased heat depend in inflammation?—We can do little else than record the fact; we do not know the cause. We may say that it proceeds from an irritant applied either externally to the nerves, or internally to the nerves through the blood coming in contact with them; and that is all we know about it. We can, however, record the fact; and the fact leads to important inferences with respect to the explanation of many of the subsequent phenomena of inflammation.

There is a natural relation between the size of the capillary vessels and the atoms of blood, especially the red particles of the blood. This may be beautifully seen in the web of a frog's foot. When this relation is disturbed it invariably happens that the capillary system is disturbed, and then ultimately the whole system. This relation depends probably on two conditions;—partly on the elasticity of the vessels, and partly on the con-

tractility of the vessels, especially the capillary vessels. The Elasticity of the vessels is a property which remains in them not only during life, but after death; but the Contractility of the vessels remains only during life. The Contractility, Tonicity, or Irritability of the vessels, is the power which the vessels have of adapting themselves to the quantity of blood circulating through them. The probability is, that this property is sometimes lost entirely in fever.

The contractility of the veins and arteries is very evident. We observe the difference in summer and winter. In summer the superficial veins are distended with blood; in winter they are much more contracted; and in both cases the vessels perfectly accommodate themselves to their contents.

Again: take an universally plethoric individual, and you will observe that his arteries are so distended with blood, that they seem about to burst. Abstract blood from this individual, and then you will observe that the artery becomes comparatively a small thread.

Again: if you apply a small quantity of ammonia to an artery, it contracts exceedingly; but, on the contrary, you will find that if you apply a small quantity of common salt to an artery it dilates.

Without these combined powers or properties in the vessels, namely, elasticity and contractility, the probability is that the circulation could not be carried on.

2. *REDNESS.*

We can account for the redness in inflammation satisfactorily. No doubt, in inflammation the relation which naturally subsists between the size of the capillary vessels and that of the atoms of blood, is lost. Caloric expands all bodies—it expands fluids; it necessarily then expands the blood; and then, the blood expanding the vessels, they admit the red particles, or larger atoms of the blood than they previously contained.

The larger arteries also which lead to the inflamed part are increased in volume; and how is this to be accounted for? The increase of heat about the part will expand the blood, and thus increase the caliber of the vessels. For example, when the left hand is inflamed there is a considerable increase of heat about the hand, and partly up the fore-arm; and hence the volume of the radial artery is increased. So, also, when the brain is inflamed, not only the head, but also the neck, is hotter than natural, and the volume of the carotid arteries is thence increased.

Probably another reason is a resistance or interruption to the passage of the blood through the capillary vessels of the inflamed part; the consequence of which would be an accumulation of blood in the artery leading to the inflamed part.

We can produce all the symptoms of inflammation by interrupting the circulation, which proves that interruption of the circulation is the cause of inflammation. Observe the phenomena of strangulated hernia, which is, in effect, a ligature round the gut interrupting the circulation.

We can, at pleasure, increase the volume of an artery by increasing the heat of a part. For instance,—cover one arm of a patient under scarlet-fever for a quarter of an hour, so as to keep it warm, and expose the other for the same time. On comparing the radial artery in the two arms, you will find that the artery is more expanded in that arm which was kept warm than in that which was left naked. Measure, however, the number of pulsations in each radial artery, and you will never find it different: there is no increase in rapidity of circulation in either hand.

So it is, in all probability, from inflammation, that the volume of the arteries is increased principally from this cause, and partly from a resistance to the current of blood.

The throbbing which accompanies inflammation probably is the result of the interruption of the flow of blood through the capillary vessels of the inflamed parts. We can produce throbbing instantly by clasping the hands and fingers together, so as to interrupt the circulation through the digital arteries. We can also produce the same phenomenon by pressing the tips of the fingers together, because we then interrupt the passage of blood through the capillary vessels of those parts.

Many individuals say that the throbbing of an inflamed part is the result of what they call increased action of the arteries, from the arteries contracting and dilating in an inflamed part more powerfully than other arteries; but they forget the law of reaction. It is a law in mechanics, that action and reaction are equal, but in opposite directions. The recoil or reaction is equal to the action; so that if one portion of an artery were to contract more forcibly than another, the blood would still be driven with equal force through all parts. But it is merely assumed that contraction occurs. I have seen the carotid artery of a horse laid bare for inches, and I have seen the radial artery of a man laid bare, without being able to observe any contraction or dilatation of the artery. The volume only is increased, and not the contraction.

The increased volume of the larger veins leading from the inflamed part, in all probability, depends,—*first*, upon the increased heat; and, *secondly*, upon the diminished contractility of the veins.

Increased action is a term sometimes applied to inflammation.

A distinguished physician, Dr. Philip, has recently published a paper, in which he thinks he has proved that the vascular system has an action independent of that of the heart; but my opinion is, that his experiments do not prove this, and that the arteries have no contracting power independent of the heart. Dr. Philip says that the circulation is decreased, and that the blood flows languidly through an inflamed part. Dr. Thomson, on the contrary, says that sometimes it flows more rapidly, and sometimes more slowly. Both these gentlemen appear to be accurate experimentalists, and yet their opinions on this subject do not agree. Sir Isaac Newton being once complimented upon his discoveries in the physical world, said that he appeared to himself to be like a man who had been amusing himself with picking up pebbles on the sea-shore, and had been fortunate in finding a few curious ones, while the vast sea of truth lay open before him. Such a reflection we may, with deep humility, apply to ourselves.

3. *PAIN.*

This seems to be a sort of sentinel in the body, sounding the alarm whenever any danger exists; otherwise we should very frequently fall victims to inflammation.

Pain generally, but not always, attends inflammation. We cannot explain it. It is connected with some change in the nerves of the inflamed part; and sometimes it is connected with the kind and the quantity of the blood there. We know that pain is often connected with a more rapid state than natural of the circulation through all parts of the body; and in those cases where any affection exists sufficient to prevent the natural change in the blood from a venous to an arterial kind in its passage through the lungs, the most destructive inflammation may go on without any pain. In the mucous membrane of the bronchial passages, even when intensely inflamed, there is no pain.

Generally the pain is very acute when there is much tension in the part.

Under inflammation of the tunica conjunctiva the pain is very acute. Shakspeare, in "King John," has a beautiful passage connected with this subject. When Hubert, the king's chamberlain, has determined to put out the eyes of Arthur, the young prince exclaims, in anticipation of the cruel torture—

"O heaven!—that there were but a mote in yours,
"A grain, a dust, a gnat, a wand'ring hair,
"Any annoyance in that precious sense!
"Then, feeling what small things are boist'rous there,
"Your vile intent must needs seem horrible."

And there are also other parts which are so exquisitely sensible that the slightest inflammation produces great pain; for example, the serous and fibrous membranes.

4. *SWELLING.*

The swelling depends on an effusion of fluid principally; and partly, probably, on the quantity of the blood. And this leads me to observe, that not only is the relation between the atoms of blood and the size of the vessel lost, but also the relation between the blood as a mass and the vessels as a whole structure is lost. If you include a portion of blood in an artery, between two ligatures put around that artery, that blood will be longer in coagulating than it would be in other parts. This then seems distinctly to be the case in inflammation. The relation between the blood as a mass and the vessels as a whole structure is lost, and this relation being disturbed the blood becomes more dark and assumes more of the venous character; it becomes flocculent, and at last stagnant. And this is almost all the evidence we can have of the interruption to the circulation. In what I call "Local simple excitement" there seems to be no such interruption to the circulation. The mass of blood under inflammation appears to be covered with the buffy coat; but the buffy coat is seldom found except when the pulse is hard and the heat on the surface high. It seems indeed not to be an essential part of inflammation. In bronchitis the inflammation passes on more and more urgently till an effusion of mucus into the bronchial passages prevents the decarbonization or oxygenization of the blood, and thus a black blood circulates throughout the whole arterial system; and in these cases you seldom find the buffy coat. You may draw blood if the patient labour at the same time under inflammation of the brain and its membranes, of the bronchial lining, and of the bowels, and there will be no buffy coat on the blood.

From what I have mentioned you will have perceived that there are several general circumstances connected with inflammation, and of these the following are the most remarkable:—

1. Some change in the nerves of the part.

These are connected with the sensibility, the heat, and the secretions.

2. Some change in the volume of the blood.

From the expansion of the blood by heat the volume of the blood is larger than natural, both in the trunks and in the capillary vessels, and hence the capacity of the vessels must also be increased.

3. Some change in the diameter of the vessels.

The diameter of the vessels is increased, and their contractility is gradually diminished till it is entirely lost, so that the blood stagnates in the inflamed part.

When the inflammation is sufficient to produce a change in the whole nervous system the heart's action is increased, and consequently there must be—

4. Some change in the motion of the blood.

The motion of the blood is necessarily increased; but as we have no evidence that the motion of the blood through the inflamed parts is increased, it probably is not the case. At least we cannot prove that it is increased, and all the facts of which we are in possession favour the contrary opinion, namely, that there is an interruption to the circulation of the blood through the inflamed part.

5. Some change in the constitution of the blood.

This is evident after death, on dissection of parts which have been the seat of inflammation; and very often upon examination during life on external parts.

When the circulation is rapid the blood is generally florid. Our pathology only goes to consider the changes which take place in the solids; but many diseases are connected with changes in the fluids, as small-pox, hooping-cough, scarlatina, &c.

Now I avoid all allusion to the doctrine of increased or diminished action, as they are terms which are used without any precise meaning. And, as Sir Roger de Coverley observes, "a great deal might be said on both sides of the question;" but to what purpose? You must, in short, draw your own inferences.

LECTURE XVII.

COMMON INFLAMMATORY FEVER.

THE EFFECTS OF INFLAMMATION.

THE effects of inflammation, which are generally called the Stages or Terminations of inflammation, are of two kinds, which I shall call the Immediate Effects and the Remote Effects.

The Immediate Effects are those which take place about the inflamed part.

The Remote Effects are those which take place in other parts.

Writers have enumerated many terminations of inflammation, which is a most unphilosophical word applied to inflammation; for it can only *terminate* in one way, namely, resolution (if that ever happen); and the others are stages, periods, processes, or effects of inflammation. Hunter called them Adhesive inflammation, Suppurative inflammation, and Ulcerative inflammation; and this method of giving names is now too much neglected.

Surgeons call the immediate the Local effects, and the remote the Constitutional effects. I dislike the word constitutional; it is a slang word in physic as much as it is in politics. You may safely defy any surgeon to define to you exactly what he means by the word "constitutional." It means anything or nothing, just to suit the purpose of the individual, and is used either for self-delusion or for the deception of others. We really do require great precision in our language, and all mistakes in language should be corrected as quickly as possible. We should correct them as a gentleman did when he stepped into a shop and said, "I want some rosin for my fiddle." "You mean," said the shopkeeper, "for your fiddlestick." "No, I don't," replied the gentleman, "I mean for the hairs of my fiddlestick."

THE IMMEDIATE EFFECTS OF INFLAMMATION.

1. *EFFUSION.*

And this effusion may be—1st. Simple; 2nd. Adhesive; or 3rd. Suppurative.

1st. If the effusion be Simple, it is nothing but an increase of the natural secretion of the part; as an effusion of tears from an inflamed eye.

Or it may be an effusion of blood from an inflamed part, which may be called simple effusion; as, for example, an effusion of blood from inflammation of the mucous membrane of the bronchia, or of the small or large intestines.

Effusion of blood, however, is not always the consequence of inflammation: and it may occur in two ways from inflammation; sometimes by rupture, but much more frequently in my opinion by transudation; and in this I concur with Laennec, the author of the very interesting work on diseases of the chest.

When inflammation terminates by simple effusion it is what surgeons generally call the termination by resolution. There is, strictly speaking, no such thing as resolution; for after inflamma-

tion there is always some change taking place; a part is never left in the condition in which it was previously to the inflammation.

2nd. Adhesive effusion.

This is an effusion of the fibrin of the blood. Let blood be drawn from an individual with a hot skin, with a hard pulse, and with some local pain; and if you view this blood after the crassamentum has separated, you will see a white crust, which is called the buffy coat, on the top. This is the fibrin of the blood. Celsus was quite aware of the circumstance that this is the bond of union between divided parts; and a knowledge of this fact has led to all the great improvements which have taken place in operative surgery. A surgeon, when he removes a limb, adapts the divided parts together by their surfaces; fibrin is effused; little red points shoot into it, and these soon become new vessels, by which means the fibrin is organized and becomes the bond of union between divided parts. This is the way in which arteries are secured when they have been tied; the sides of the vessel adhere, and hemorrhage is consequently prevented.

Adhesive effusion sometimes is, and sometimes is not, vascular; sometimes it is, sometimes it is not, organized. When the effusion is on a mucous membrane it is not so often organized, but very frequently when it is on the serous membranes. Thus folds of intestine are glued together, and the liver to the adjacent parts, &c. When union between the serous membranes takes place, the first change is a deposition of lymph; next a streak of blood, which soon forms a cylinder, ramifies, and carries red blood. As I have already hinted, it is partly from effusion of lymph that hemorrhage is prevented, for without this the ligature would be of no use. Ambrose Paré was the first who introduced the use of the ligature into surgery.

It was formerly doubted,—and it is surprising that it should have been doubted when the subject of grafting was considered,—that any part having been separated from the body would again adhere to it. I saw an individual whose finger had been separated, and had continued so for nearly twenty minutes; but the parts being nicely adapted together, adhesion took place between the separated finger and the stump. A part which has been removed from the body we should, *à priori*, say is dead; yet this part may be re-united to the same or to any other part when the skin has been removed. In the time of Celsus this truth was partly known. Benedictus wrote a work on the formation of noses. A surgeon, in 1597, speaks of making new noses from the flesh of the arm; and of these noses he discourses in very feeling terms, observing

that they will not bear either much heat or much cold, or much rough handling. In India the principle is the same, but the skin is cut from the forehead. The spurs of cocks were, by an ingenious experiment, grafted on their combs.

The vitality of a part remains for some time after it has been separated from the body, just as the vitality of the whole body remains for some time after its vitality is apparently extinguished. An individual, for example, has been under water for two minutes, and he appears to be dead: he has ceased to breathe, and the heart has ceased to act. Yet it would be very improper to presume in these cases that vitality is extinguished; for in some cases the life of the individual can be saved.

In surgery we should take nothing for granted; our opinions should be put to the test, and we should not judge from appearances. Suspended animation appears to be death; yet we learn that a person whose animation is suspended from hanging, drowning, &c., may be restored: that the body may be resuscitated.

We should draw no opinions *à priori;* such opinions are very dangerous; but we should form them entirely from the results of our experience.

3rd. Suppurative effusion.

This is an effusion of pus, which is a fluid resembling cream, and containing little globules, which swim in a fluid somewhat like milk whey. Senac was the first who observed the existence of these little globules in pus.

This process may take place either externally or internally. If you examine pus with a microscope you will distinctly see the globules in it; and this is a good test of it. Pus may be found in various parts, but most frequently in the cellular membrane; sometimes in the mucous membranes. When it is formed in the cellular membrane there is generally a destruction of parts; but not if it be formed in the mucous membranes.

The effusion then may be either simple, adhesive, or suppurative; and it frequently happens that these states succeed each other.

In bronchitis at first you generally have simple effusion; next the patient spits up coagulable lymph; and after that he expectorates pus. And the same principle prevails in pleuritis and peritonitis. Pus may be found either with or without a breach of continuity of the parts.

2. *ULCERATION,*

An ulcer is a breach of continuity combined with absorption of the part. This is the definition which is usually given of the process of ulceration.

In the human body we have many proofs of absorption. Most, if not all, parts of the body are undergoing constant changes.

In ulceration there is an actual loss of substance. A part may be absorbed without any loss of organized substance.

Effused blood, in the form of ecchymosis, will be removed by absorption, without any ulceration or removal of an original part. There is, however, in ulceration, a removal of some original structure of the body through absorption; and of course even the absorbents themselves of the part must be removed. There is something about ulceration which still requires further investigation. Probably in this process certain compositions and decompositions go on which have not yet been explained.

Weak parts are the most prone to ulceration; for instance, the throat in delicate persons, and other mucous membranes, especially that of the small intestines.

Upon the whole, the parts most liable to ulceration are the skin, mucous membranes, synovial membranes, and bone.

Some structures resist ulceration very strongly, especially the arteries. Thus it will sometimes, on dissection, be found that the lungs of an individual are a mass of ulcers, the arteries, however, remaining untouched.

Ulceration is most frequently attended with some discharge.

The loss of substance in the part is, in all probability, connected with some change which takes place in the texture of the part before it becomes absorbed; bone, for instance, becomes softened before it becomes absorbed.

3. *GRANULATION.*

Granulation is the regeneration of the part which has been removed. If a part have been removed by ulceration, then this third kind of effusion succeeds often—namely, granulation; and it is nothing but what I have called the adhesive effusion. Fibrin is effused; red points shoot into it and become vessels; it is organized, forming granulations by which the part is filled up, regenerated, or repaired.

There are some of the inferior animals which have a surprising power of regeneration. Spallanzani relates that there is a species of snail which will regenerate its whole head.

Some parts are renewed in their original characters, but others are not: thus, if a muscle be divided and a portion of it cut off, union will be produced between the ends of the muscle; but the

intervening substance will not be exactly like the original muscle. Celsus remarked that cartilage was never regenerated.

I know a man whose appearance was, as he thought, deteriorated by a black spot which he had on the end of his nose. An empiric to whom he applied told him that it might be removed, and that he could make the flesh grow again like grass. He dug out the black spot, but did not perform the whole of his promise, for the man has a hole in his nose to this day. Thus nature does not always obey empirics.

By observing the process of nature in granulation, we learn to imitate her, and for this purpose apply bandages, &c. to bring the sides of a suppurating cavity as much as possible or prudent into contact; and this Galen called healing by the second intention.

4. *MORTIFICATION.*

Mortification comprehends two conditions—gangrene and sphacelus.

Gangrene is a threatened or a forming mortification or sphacelus; and sphacelus is a complete mortification.

Gangrene is denoted by a sudden diminution of pain, and a purple hue or livid discoloration of the part, which, from being yellowish, becomes of a greenish hue. It is also denoted by a softness of the part; by a detachment of the cuticle, under which a turbid fluid is effused; the formation of vesicles containing blood; the heat, circulation, and sensibility of the part remaining. It may terminate in one of five ways.

1st. In resolution.

2nd. In what Mr. Hunter would call adhesive inflammation.

3rd. In ulceration; so that the dead part is separated from the living part.

4th. In granulation; and

5th. In mortification, usually called sphacelus, or complete death of the part.

Some parts of the body are very prone to gangrene and sphacelus; these are the external parts of the body.

In gangrene the vitality remains, though the part has a purple appearance, and has vesicles; but the heat, the sensibility, and the circulation of the part remain.

In sphacelus the part is completely dead—its vitality is lost; it is offensive to the smell; the heat and sensibility of the part are extinguished; and the circulation of the part is destroyed. And, generally, on examining a sphacelous part after death, you find the

blood coagulated in the vessels, and lymph effused into some of them. Gangrene may be removed by artificial means.

I saw an individual with a gangrenous thumb; it was purple, with livid vesicles. He had intense inflammation of the brain, for which he was bled, and under this treatment the thumb rapidly put on the healthy character, and the inflammation of the brain was removed.

In sphacelus the part is dead, and is got rid of by a natural process, being thrown off in the form of a slough. This is seen in individuals labouring under fever, who lie for a long time upon the back. The back becomes inflamed and black, and a red line of ulceration is then seen to take place around the black part. Ulceration being thus set up, goes on, and at length a slough is thrown off, and the part, if nothing prevent, is then filled up by granulation.

There are besides, and independent of, these four which I have mentioned, other immediate changes.

5. *THICKENING.*

Take for an example the thickening of the cellular connecting membrane from an effusion of lymph. When the mucous membrane of the colon is inflamed, all its coats become thicker than natural; and the same takes place when the mucous membrane of the bladder is inflamed.

6. *CONTRACTION.*

Thickening and contraction of the urethra frequently arise thus; and the same of the cardia, of the pylorus, of the rectum, and indeed of the other parts of the large and small intestines.

7. *SOFTENING.*

This is often an effect of inflammation, especially in the brain. When a small portion of the brain has been inflamed, it is often found to be softened down, so as to resemble custard-pudding. The same condition, namely, softening, almost invariably attends inflammation of the mucous membrane of the small intestines.

8. *HARDNESS.*

This is another effect of inflammation; and it takes place especially in the lungs, when lymph has been effused into their cellular connecting membrane. Many slow tumours also are formed in this way through inflammation.

THE REMOTE EFFECTS OF INFLAMMATION.

Nothing is more striking than the circumstance that a little heat with a little pain, a little redness, and a little swelling, in a small part of the body, should be capable, from its intercourse through the nervous and vascular systems, of producing a disturbance in all the other parts of the body. Thus then it appears, that inflammation can decidedly and distinctly produce certain remote effects far more important than its immediate effects.

An accident excites and keeps up irritation, and produces a change in the nerves of the part; a state as vaguely called "general irritation" follows, and the heart's action is excited. Though the injury be local at first, inflammation may take place in different parts: the whole mass of blood being put into rapid motion, some irregular distribution takes place, the nervous system becomes affected, the heart's action is embarrassed, the extremities become cold, the blood is accumulated in the centre of the body, and the heart ceases to beat.

Local irritation comprehends two conditions, neither of which is very well known; namely, Local Simple Excitement, and Inflammation; and as I have already shown, these conditions are legitimately separable from each other. This local irritation produces a change in the whole nervous system, which we call general irritation, a term which we use to express the condition which the local irritation produces through the whole nervous system, but of the nature of which condition we are perfectly ignorant. Whenever you read or hear abstract words made use of, pause, and ask yourself whether the writer or lecturer has attached any distinct meaning to those words.

Pope was sitting in a coffee-room one day, and observed to a friend of his who was sitting by him, that a certain passage of the Iliad was very obscure. A stranger hearing this, said: "If you add a note of interrogation, the meaning will be perfectly distinct then." Pope, who was remarkably small, and very deformed, turned to the stranger and inquired, "Pray, sir, what is a note of interrogation?" "A note of interrogation," rejoined the stranger, "is a little crooked thing that asks questions." Now this "little crooked thing" is exceedingly useful; and when a lecturer speaks of "constitutional disorder," "general irritation," and so on, you should satisfy yourself as to whether he attaches any precise meaning to those words. Gibbon says, with great truth, that men speak rather from their ignorance than from their information of

subjects; and they are very apt to deceive even themselves by the use of abstract and cramped terms.

The *first* of these remote effects is referrible to some change in the nervous system; suppose we call it general irritation, meaning thereby a change throughout the whole nervous system.

The *second* of these effects is referrible to some change in the vascular system.

The *third* change seems to be the combined change resulting from the two former changes—a disturbance of the muscular system.

With respect to the vascular system, inflammation affects the motion and the velocity of the blood; and if it go on, it changes the kind of blood, not only in the inflamed part, but probably also through the whole body.

Whenever you see an external inflammation in any part of the body, you should ascertain whether all the internal structures be sound. If the internal state of the circulation be general simple excitement, the external inflammation is comparativly an affection of no consequence. Indeed, after an accident or an operation, such an external inflammation will be beneficial while the internal state of the circulation continues that of general simple excitement; for under it lymph will be effused, and become organized, so as to form the bond of union between the injured parts. But if internal inflammation exist without your being aware of it, it may go on most destructively. Thus you see the close connexion between physic and surgery. You see that a surgeon creates irritation, by which he disturbs both the nervous and the vascular systems, through an operation; and if the individual have any weak internal organ it becomes inflamed, unless the case be well managed; and the inflammation may be fatal, unless it be detected and subdued at an early period. A surgeon who takes a mere external survey of the body—who confines his views to mere external evidence, is really a very dangerous character. What can his plasters do "but skin and film the ulcerous place, while corruption, ruining all, lurks and corrupts unseen." The quack who vends his nostrums round the country is nothing compared to this individual, as to the danger of his character to the public. Surgery and physic are inseparable, and I recommend you constantly to connect them together. The separation of them took place abroad, from the cunning of the monks in Paris, who established a college of Physic, and said that the church abhorred

the shedding of blood: ("*Ecclesia abhorret a sanguine.*") Getting more powerful, the monks raised a separate establishment, which has been since then an oppressive body. Law after law was framed to oppress surgery more and more; and a surgeon could on no account be made a physician without being defranchised. A similar law exists in this country. If a man go to the College of Physicians in London, he cannot, as a surgeon, be admitted there. No; he must be defranchised; he must undergo absolution; he must be cleansed from the sin of surgery, before he can enter that sanctuary! The surgeons might refuse the doctors on the principle of retaliation. They might say to them, "You can't be a surgeon; you know something of physic; you can have nothing to do with surgery." There are strange monopolies now, both in medicine and in surgery; and in London they are as pernicious to medicine and surgery, and to the public, as would be the monopoly of the Company of Fishmongers. And when the public are once alive to this subject, it is certain that some very important changes must take place. It is a subject of very great consequence, and if no one else does it I mean to call the attention of the public to it at no very distant period. There really are required some very important changes in the Colleges of Physicians and Surgeons, in which the legislature ought to interfere. We require an establishment for ensuring a more practical education than can at present be obtained in our profession.

But to return to the importance of attending to the condition of the internal parts under an external inflammation produced by an accident or an operation; the first change which I have detailed is in the vascular system;—and the next change is in the muscular system. This is especially displayed in the respiration. Towards the close of inflammation the heart's action becomes hurried, but the muscular power becomes more and more prostrate, and especially the muscles connected with respiration. Death then takes place, unless the medical attendant has the power of arresting the inflammation if it be seated internally.

Aretæus has said, of course figuratively, that no man would die if he had resolution enough to determine to live: and no doubt the existence of such a resolution would often ward off the approaches of death by sustaining the action of the nervous and vascular systems. But it might much more correctly be said that very few persons with acute or sub-acute inflammation of an internal organ would die if the medical man had resolution and judgment enough to act as the occasion may require.

There are some terms which I shall use with reference to inflammation which I may as well here explain.

I shall use the term "Acute inflammation" to denote the highest degree of inflammation.

I shall employ the term "Sub-acute inflammation" to denote a lower degree of inflammation; a degree in which there is less local and less general disturbance.

I use the term "Chronic inflammation" to denote that inflammation which has a protracted character.

The words "acute" and "sub-acute" denote merely the *degree* of inflammation; the word "chronic" denotes the *duration* of inflammation.

Acute and sub-acute inflammation are almost invariably attended by fever; but chronic inflammation very often goes on insidiously without any fever, but, at length, generally winds up with fever.

I use the word "active" to designate the inflammation when it is accompanied with a very strong pulse and a very high heat on the surface. I use the term "passive inflammation" to denote that which occurs with a feeble, soft, compressible pulse, and with a low degree of heat upon the surface. And by and bye you will see the great importance of these distinctions. Fever may exist without inflammation; and inflammation may exist without fever, if it be not sufficient to disturb the whole nervous system, as when it is seated in an external part of the body.

In my future lectures I shall pursue a plan almost entirely different from that which I have hitherto followed.

In my next lecture I shall give the morbid anatomy of all the internal organs, with that of the arteries and veins. Then I shall give a minute description of the symptoms of inflammation seated in different structures; then shall detail the diagnosis of all the internal inflammations; and afterwards I shall give the treatment of these affections.

LECTURE XVIII.

COMMON INFLAMMATORY FEVER.

MORBID ANATOMY OF INFLAMMATION OF THE INTERNAL STRUCTURES AND OF THE ARTERIES AND VEINS.

HAVING considered the immediate and remote effects of inflammation, the next subject in order is that of the appearances which inflammation produces in the different organs.

I shall commence with the

MORBID ANATOMY OF THE BRAIN AND ITS MEMBRANES.

In pursuing the subject of morbid anatomy it is of great importance to know what is the natural appearance of different parts; in order that you may contrast them with the morbid appearances; produced by inflammation which has been seated there, and displayed by dissection after death.

When inflammation has existed in the Dura Mater, it changes its colour. The dura mater is a fibrous structure, and generally has in health a shining or tendinous appearance; but when inflammation occurs a dense redness is generally left after death, and it adheres more strongly to the skull than natural. The dura mater is very liable to be attacked with what is called rheumatism. It is less liable to acute or sub-acute inflammation than the tunica arachnoides and pia mater.

The Tunica Arachnoides in health is almost as transparent as a pellicle of ice frozen over pure water. After inflammation it generally is opaque, and has a milky appearance; and sometimes you may discover red vessels ramifying across it. The French consider the milky appearance of the arachnoid as a positive proof of inflammation seated in that membrane. I have never seen the arachnoid opaque in cases of acute and sub-acute inflammation, except where the pia mater has been affected. But in cases of chronic inflammation I have seen the arachnoid membrane opaque without the pia mater being affected. Anatomists say that the arachnoid is not vascular; but this is not correct, for I have seen it dis-

tinctly charged with red blood. The tunica arachnoides and pia mater are, I think, simultaneously affected by acute or sub-acute inflammation.

When the Pia Mater has been inflamed it is excessively distended; both the arteries and the veins containing more blood than natural.

When the Brain itself has been inflamed it exhibits, on cutting its substance, many red points, and you see then little red knots full of blood, especially on the medullary portion.

You must not, however, be content with one morbid appearance alone as an indication of the seat of inflammation, for you will find other concomitant morbid appearances.

In inflammation of the Membranes of the brain you will find an effusion of serum, either with coagulable lymph or with pus, between the membranes, or at the base of the brain, or in the ventricles. Effusion into the ventricles is very frequently found; and when the fluid has been slowly effused in this situation the convolutions of the cerebrum are sometimes unfolded; as, for example, in cases of sub-acute inflammation which have wound up in chronic inflammation. In these cases it sometimes happens that, the bones giving way, even as much as a pint of fluid is effused, and the convolutions are unfolded till the brain looks like a red night-cap lined with white. In cases where there is copious effusion into the ventricles, the choroid plexus is blanched and flabby; at least I have never met with but one exception to this, and in that case the choroid plexus was pale and flabby only on one side. In these cases, too, you frequently find softness about those parts which form the floor and sides of the ventricles; so much so, that if the head be much shaken in getting off the calvarium, portions of the brain will fall from the sides of the ventricle into the effused fluid.

Sometimes when the Brain has been inflamed, it is softened by portions; and this can only be detected by examining all the parts of the brain. In slighter cases of inflammation of the brain you will find the brain having a rose-coloured or a yellowish tinge. In the higher degrees of inflammation you will sometimes find it softened so as to be something like custard-pudding.

If the inflammation have been rapid in its progress and termination, the brain is generally firmer than natural. But when the inflammation is more slow, having gone on, for instance, during two or three weeks, then the brain is usually softer than natural.

You must, however, take into account the time of examining

the brain; for in many examples you will find it more or less softened, if it be not examined earlier than forty-eight hours after death.

You must also take into account the influence of exposure to air. If you have taken off the membranes from the brain, and left it exposed while you proceed to examine some other parts of the body, you will often find the brain softened from the exposure to the air.

MORBID ANATOMY OF THE SPINAL CORD AND ITS MEMBRANES.

You will find the same appearances in the spinal cord and its membranes when they have been inflamed, with this exception, that the nerves at their exit are generally very much affected. Recollect that the spinal cord always contains after death a considerable quantity of blood from the position of the body. The corpse is laid upon the back; and you must take into account the influence of the laws of gravity upon the blood in the spinal cord: so that you must look also for other evidence of inflammation besides a large quantity of blood: such as an effusion of serum, of lymph, or of pus; ulceration, &c.

With respect to other parts of the body, the morbid appearances produced by inflammation are still remarkably similar. To proceed with the—

MORBID ANATOMY OF THE FAUCES AND AIR-PASSAGES.

1. I may observe that Cynanche Tonsillaris alone never terminates fatally, as far as I have observed. It seldom is fatal without inflammation about the pharynx and larynx.

I saw a patient in the Fever Hospital who had been the subject of a common attack of cynanche tonsillaris. Suppuration occurred in one, and ulceration in the other tonsil; the pharynx and larynx became inflamed and ulcerated; and, secondarily, some of the cervical vertebræ became diseased.

Van Swieten mentions a similar case, in which the cervical vetebræ became secondarily affected from inflammation in the throat.

2. When the mucous membrane of the Larynx has been the seat of inflammation the appearances are very uniform. In all the cases of this kind which I have seen, the mucous membrane of the pharynx has been simultaneously inflamed. Sometimes the inflammation is concentrated about the epiglottis, the under part of which is intensely injected with red vessels, and is œdematous and swollen. You should recollect that this redness disappears from the epiglottis very rapidly: and in order to observe it you should

examine the body shortly after death. The best rule to have with respect to this is to wait about twenty-four hours after death in this country, from a proper respect to delicacy. You cannot request an examination of the body sooner than twenty or twenty-four hours after death; and you should always pay proper attention to the feelings of the friends.

You are aware of the natural appearance of the lining of the larynx; for instance, when a patient has died of inflammation in the bowels, or any other internal organs, the lining membrane of the larynx is very nearly white. But when the mucous membrane of the larynx is inflamed you will find it after death pencilled by red vessels. These red vessels will be seen running every way, and ramifying across the mucous membrane as the fibres ramify across a leaf. And there are usually broad blushes of inflammation.

There is, at the same time, swelling of the parts, which arises partly from the red blood contained in the capillary vessels, and also partly from an effusion into the subjacent cellular membrane.

The redness sometimes extends from the larynx into the trachea, and even down the bronchial lining. Occasionally, however, the redness is limited as if by a line drawn across the larynx,—say at its centre. You have also (as I have just stated) effusions of serum into the subjacent cellular membrane; sometimes an effusion of lymph about the mucous surface; and sometimes an effusion of pus without ulceration; and when it has been protracted ulceration, generally about the epiglottis. When the inflammation is chronic it sometimes goes on to the most destructive ulceration of the cartilages.

I have seen the gullet and the larynx at the same time inflamed; for example, in cases of small-pox.

3. When the mucous membrane of the Trachea has been inflamed, you have a pencilled appearance of red vessels, and a diffused red blush of inflammation, very often with an effusion of coagulable lymph, or (as it has been called) 'false membrane,' which is moulded into the form of the trachea. This false membrane very often is present, but not always. Sometimes it extends down the mucous membrane of the trachea to that of the bronchia, when the bronchial lining has been at the same time inflamed. Occasionally lymph is effused into the trachea in patches. Sometimes, however, only a frothy sort of mucus is found.

There are certain specific occasions which produce very extensive effects in the way of inflammation; for example,—the contagion of small-pox, of measles, and of scarlet fever.

In small-pox the fauces, the pharynx, the larynx, the trachea, and the bronchia, are found inflamed when the case has terminated fatally.

There is, however, one exception to this, which is in typhus fever, in which cases the inflammation mainly falls on the mucous membrane of the bronchia, and is invariably found there; while, generally, though not always, the larynx and trachea are free from inflammation; and in fatal cases of typhus fever it rarely happens that lymph is effused about the trachea or bronchia.

4. When the mucous membrane of the Bronchia is inflamed you find it highly injected, while in the healthy condition it remains white and blanched. You also find the membrane darker than natural; and the reason for this is an effusion of a muco-purulent fluid, which you find besmearing the membrane, and which is the cause of death. This effusion prevents the blood from being in contact with the air, and hence the membrane is darker than natural. If you wipe off this fluid with a sponge the membrane will become vividly red, because you will enable the air to come into contact with the blood.

In some sudden and severe cases of bronchitis there is a copious effusion of serum into the bronchial passages, and here there will be a less intense appearance of injection.

In specific cases of bronchitis the lining membrane is still darker, especially when the tongue is dry, brown, and glazed before death. And the difference between these cases and those of common bronchitis is this,—that in bronchitis from specific or peculiar occasions, the secretion is not so copious in quantity as in common bronchitis; but is more sticky in kind, and therefore excludes the air more effectually from contact with the blood.

Sometimes only one of the bronchia is affected. Sometimes if you open the chest in bronchitis, the most extensive mischief is seen; and though these are the most common appearances produced by inflammation of the mucous membrane of the bronchia, you will also find other appearances.

The lung pits on pressure. When you press the lung with your finger, that portion of it, instead of rebounding, sinks down from an effusion into the cellular membrane. Again, on examining the substance of the lung itself, you will find it very much loaded with dark blood. If you cut the lung a bloody serum oozes out together with a muco-purulent fluid from the bronchial passages, and some portion of the lung generally sinks in water. The blood is found also a fluid gore in the right side of the heart and large adjacent vessels; these contain blood more fluid than natural.

MORBID ANATOMY OF THE LUNGS.

You may have a good idea of what I call congestion of the lungs, by observing what in every case takes place in the lower part of the lungs after death. This part then contains a large quantity of black blood from the common law of gravity. This will give you a tolerable idea of genuine congestion, in which the lung has an appearance so much like spleen, that I believe an experienced anatomist in many cases would not be able to say whether it was a portion of lung or of spleen.

The whole substance of the lung is sometimes thus congested. But sometimes it happens that the whole lung is not congested; and then how do you distinguish congestion of a portion of the lung?—Very easily. In the first place, the congestion is not at the lower part of the lung, to which the blood has a tendency to gravitate after death; but it is in some other portion of the lung. In the next place, in congestion the gorged part terminates much more abruptly, and is much darker than in inflammation, in which it terminates by almost imperceptible shades. The French call this appearance of the lungs "pulmonary apoplexy," and it frequently precedes hemorrhage from the lungs.

With respect to the morbid appearances produced by inflammation of the lungs, Laennec has given by far the best account of them. His is the ablest work on pathological anatomy I have seen. To those who read French fluently I particularly recommend the original work; to those who do not I recommend the valuable translation by Dr. Forbes.

When inflammation of the lungs terminates in—

The First Stage, the inflamed portion of the lung is more vascular and gorged with blood—more red and livid than natural. If you slice a portion of the lung across with a scalpel a copious effusion of bloody, frothy serum follows the knife, oozing out from each of the cut surfaces. If you examine the lung you will find that it is still of the natural spongy structure, and has the crepitous feel. The inflamed lung is heavier than natural, and sinks in water; which is also the case in congestion in the lungs. When a patient dies of inflammation of the trachea or bronchia, the lower part of the lung is always gorged with blood. The engorgement which takes place in congestion is mostly universal in one or both lungs.

When inflammation of the lungs has terminated in—

The Second Stage, you have different appearances from those of the first stage. In the first stage only serum is effused: in the second stage coagulable lymph is effused into the cellular con-

necting membrane, and the lung is converted into a substance very nearly resembling liver; and closely resembling liver when the effusion has gone on so long as to allow a portion of the lymph to become organized. This has been emphatically called "hepatization of the lung." This effusion gives a hardened feel to the lung. If you slice a portion of the lung across, no bloody fluid follows the knife as in the first stage, but you may scrape a dirty coloured fluid from each cut surface. And if you examine the cut surface, especially by the aid of a magnifying glass, you will see a granulated appearance of the lung, probably from an effusion of lymph. When inflammation of the lungs has terminated in—

The Third Stage, there still remain some of the characters of hepatized lung; but you will find also a yellow purulent effusion into the cellular connecting membrane of the lungs, which issues out when you slice the lung across. This is the common "suppuration of the lungs." You must, however, be informed that a circumscribed abscess of the lungs from acute and sub-acute inflammation is a very rare thing. Men go in herds; and because Cullen has said that acute abscess of the lungs is common, medical men generally say the same. If any man make an assertion, however incorrect, there are some who will follow it up. Look at the state of religion in this and in other countries, and see how the world is divided into sects, each taking up certain opinions merely because this or that man has said so. And amongst Christians a great many persons adhere to certain opinions because they were maintained by Wesley, by Calvin, by Luther, or by some other individual. In religion, as well as in physic, men are too apt to surrender their judgments to certain individuals; and if in the one case men appealed more to the Volume of Revelation, and in the other to the volume of Nature, there would be far less difference of opinion than now exists. It is dangerous in physic as in religion to be led by particular individuals; and if a man wish to be satisfied of the truth, he must be led to make the most careful examination of facts for himself. And, besides, it is degrading and disgraceful to a rational being to take up any thing for granted without examination. Laennec in examining the bodies of five or six hundred patients who died of inflammation of the lungs, found only six or seven cases of abscess in the lungs.

Circumscribed abscess of the lungs, I repeat, from acute and sub-acute inflammation, is an extremely rare occurrence; but it is not a very rare occurrence in chronic, ill-conditioned inflammation, which is attended by an effusion of curdly, ill-conditioned matter.

Laennec appears to me to have committed a great mistake in calling this an "infiltration of tubercular matter," for I have seen it where there has been no trace of a tubercle.

MORBID ANATOMY OF THE PLEURA.

The following are the appearances connected with inflammation of the pleura:—You will have redness in lines and in blushes, and when the inflammation goes on its natural course, undisturbed by treatment, there is always an effusion of serum into the bag of the pleura, with either lymph or pus, but most frequently lymph.

In strong subjects the lymph is generally remarkably hard and firm; but in weak subjects it is loose. In both cases it is tinged so as to look like rennet whey. This gave the older authors the idea of what they called Empyema: they thought this was a collection of pus, produced by an infiltration of pus from the lungs through the pleura pulmonalis into the bag of the membrane. Such an empyema, however, is very rare. Our systematic writers state that empyema, or a bursting of an abscess of the lungs into the bag of the pleura, is not unusual; but this is not true. What they denominate empyema is this effusion of serum and thin coagulable lymph, which is somewhat like milk-whey and curds. Sometimes pus is effused from an inflamed pleura. The effusion of serum which takes place into the bag of the pleura is coloured either by pus sometimes, but generally by lymph. Not uncommonly a very large quantity of serum is effused, so that pleuritis terminates in Hydrothorax.

In the sanative process, when it takes place, serum is effused; and if there be layers of coagulable lymph, the two layers of pleura come into contact, and new vessels are formed, which knit the pleura pulmonalis and the pleura costalis together; so that what was a sanative process becomes, on the contrary, one—when the adhesions are uncommonly close—by which the motions of the lungs may be impeded. Sometimes, however, the adhesions are in bands, so as to allow of considerable play to the lungs.

When the effusion of lymph upon the pleura pulmonalis and pleura costalis is very large in quantity, and when the effusion of serum has continued for a very long time, it compresses the lung from the mere weight of the superincumbent fluid, so that the lung becomes of a grey-reddish colour, closely resembling muscle: it deserves the name of Carnification.

Occasionally it happens, as Laennec has explained, that from inflammation of the pleura contraction of the chest occurs. A copious effusion of lymph and serum takes place into the bag of

the pleura: the serum becomes absorbed, but the lymph remains, and pressure is made upon the lung; and as the lung cannot rise to meet the ribs, the ribs must necessarily descend to meet the lungs, and the person walks about with an obvious contraction of the chest on one side.

I saw a case in which before death one side of the chest sunk, and corresponding to it was a slight adhesion, different to what Laennec mentions. These patients most frequently lean to one side when they walk.

Partial adhesions often take place from effusions without pain, the consequence of slight inflammation, which is not perceived. You will scarcely examine any person above forty years of age in whom there is not some adhesion of the pleura, although perhaps through life there was no complaint of symptoms of inflammation of the chest.

Sometimes there is a layer of lymph spread out upon the pleura costalis or pleura pulmonalis,—whichever has been inflamed. If the adhesions be easily ruptured they are recent; but if they be firm they are old. Sometimes the adhesion is in the form of bands. When the disease has not been stopped, if you examine you will find occasionally one side of the chest larger than the other, from the effused fluid pushing it outward.

MORBID ANATOMY OF THE PERICARDIUM.

When the pericardium has been inflamed you will find a copious effusion into the bag of the pericardium, and the surface of the heart covered by an effusion of lymph, in such quantity as to give it the appearance of tripe. In slighter cases sometimes there are adhesions of the pericardium to the heart. Sometimes you will see white spots upon the pericardium, which are the remains of former slight attacks of inflammation of the pericardium. You must recollect that in the agonies of death it is common for an effusion, to the amount of three, four, or five ounces, to take place into the pericardium; but this effusion is of thin and transparent serum, without redness, or any mixture of lymph.

I have seen patients convalescent from rheumatism die very suddenly. On examining them I have found no morbid appearance sufficient to account for death: this may have arisen from not having made a sufficiently minute examination. By such circumstances as these I am more and more fully convinced that I am but a mere student of medicine, especially in the examination of morbid anatomy. In future, in examining these cases I shall be careful to inquire into the state of the spinal cord. The attack comes on suddenly, with a pale face, a pallid surface of the body,

a feeble and irregular pulse; and the patient breathes by fits and starts. I have seen patients generally die thus in a few hours. It arises from a spasmodic affection of the muscular fibres of the heart, and of the muscles concerned in respiration.

MORBID ANATOMY OF THE MUCOUS MEMBRANE OF THE STOMACH AND INTESTINES.

As to the appearances consequent upon inflammation in these parts, you must bear in mind, that in the healthy condition the mucous membrane of the stomach and intestines is blanched.

Now there are three conditions, the combination of which will lead you to infer that inflammation has been seated in the mucous membrane of the stomach and intestines.

1. Redness.

This will be pencilled and diffused in rays and in blushes. You will have also some degree of—

2. Pulpiness of the mucous membrane; and also some degree of—

3. Thickness of the mucous membrane; arising partly from the injection of the capillary vessels with red blood, and partly from an effusion of fluid into the subjacent cellular membrane.

Occasionally you will find an exudation of blood, and I have found this in spots like internal petechiæ.

In the Small Intestines especially you will very frequently find ulceration, and you will observe it under two conditions:—*First*, when the inflammation has existed in patches the size of sixpence, a shilling, or a half-crown; *secondly*, in other cases where the inflammation has been diffused over a very large portion of the mucous membrane. In either of these cases ulceration of the small intestines is a very common circumstance. There is one condition which precedes this ulceration; and it is, that the mucous follicles are larger than natural, and that the mucous surface becomes puckered. You can prove that this is not ulceration—that there is no absorption of the surface—that the continuity of the membrane is entire; for if you stretch the membrane it will be obvious to the eye. When ulceration has taken place the ulcer has ragged edges, with a loss of substance in the centre.

In the Large Intestines ulceration gives the appearance of honeycomb, combined with thickening of all the coats of the intestines. Ulceration is more frequently found in the mucous membrane of the lower part of the ilium than in any other part of the intestinal canal.

In the Stomach, especially about its great end, it sometimes happens that a hole is formed by the gastric juice, which first pro-

duces thinness and pulpiness of the coats, and then complete solution; so that the contents of the stomach may escape into the abdominal cavity. Sometimes ulceration of the mucous membrane of the small intestines penetrates through the peritoneal coat, permitting the contents of the gut to pass into the cavity of the abdomen; but this is a rare occurrence.

How is the escape of the contents of the intestines into the peritoneal cavity prevented?

First, by an effusion of lymph, so that adhesion takes place between the edges of the ulcerated part and an opposite fold of the intestines; and—

Secondly, by the uniform pressure of the abdominal muscles.

The stomach and small intestines have their mucous membranes simultaneously inflamed more frequently than the mucous membrane of the small and of the large intestines.

It sometimes happens that the mucous membrane of the stomach and of the large intestines are inflamed together, but it more frequently happens that either is inflamed separately.

MORBID ANATOMY OF THE SEROUS MEMBRANE OF THE STOMACH AND INTESTINES.

The morbid appearances produced by inflammation in these parts are remarkably uniform.

I may premise that mortification of the bowels, though often talked of, is a very rare occurrence. The fact is, that inflammation of the bowels generally proves fatal before it reaches the point of mortification. Under that state which has often been called mortification, the intestines are quite sound in texture, and will bear to be tugged about and roughly handled; but in mortification of the coats of the intestines they will separate readily on the slightest touch. Even in hot countries it is very rare.

A friend of mine, who examined a great many bodies after inflammation of the bowels in hot countries, told me that he had never found a case of genuine mortification of the bowels, though the weather was so hot that he was obliged to make his examinations in a very few hours after death.

I have never found the bowels mortified except under strangulated hernia, or from the influence of poisons.

The appearances produced by inflammation of the serous membrane of the stomach and intestines are—redness; effusion of serum, lymph, or pus; and sometimes adhesion between the coils of intestines, from the effused lymph having become organized. You are aware that pus does not admit of organization.

Occasionally you will find the combined appearances of inflammation of the serous and of the mucous coats of the intestines. The mucous membrane of the bowels then becomes first inflamed, and then terminates in ulceration, which goes on to corrode the coats of the bowels till it reaches the peritoneal covering; which being thus irritated becomes the seat of intense and fatal inflammation. On examining the body after death you find appearances of inflammation both of the serous and of the mucous coats of the bowels.

MORBID ANATOMY OF THE MESENTERIC GLANDS.

The mesenteric glands are often found enlarged; and when this takes place I believe it is always secondary to some preceding inflammation of the mucous membrane of the bowels. Sometimes these glands are simply enlarged; sometimes they are inflamed; and sometimes you will find in them ill-conditioned pus of a curd-like character.

MORBID ANATOMY OF THE LIVER.

The serous membrane of the liver is very often inflamed in this country, especially that part of the peritoneum which covers the convex surface of the liver.

After death, in fatal cases of this kind, you will find redness, and an effusion of lymph generally; sometimes an effusion of pus; and very often adhesions to the adjacent parts.

When the substance of the liver has been inflamed, it will be found to be much more vascular than natural. This inflammation sometimes passes on to suppuration, and the abscess is generally very large. This seems to be very common in hot countries; but acute inflammation and abscess of the substance of the liver is not common in this country. In this climate, after acute or sub-acute inflammation, hardness of the liver is the most common occurrence; and, after chronic inflammation, softening of the liver, so that it readily breaks like gingerbread.

MORBID ANATOMY OF THE KIDNEYS.

Dr. Baillie observes that inflammation very rarely takes place in the proper capsule of the kidneys; and this observation is correct. The reason is, that the connexion between it and the peritoneal coat is but slight.

When the substance of the kidney is inflamed you will find the whole structure of the kidney more vascular than natural, and an effusion of serum into its interior. When the kidney is acutely or sub-acutely inflamed abscess is not common; but abscess often

occurs from chronic inflammation, either arising from the presence of a stone or from any other cause. In such a case you will probably find a large quantity of pus effused into a kind of cyst, so that the substance of one kidney is completely consumed.

MORBID ANATOMY OF THE BLADDER.

After inflammation of the internal coat of the bladder you will find appearances similar to those produced by inflammation of the mucous membrane of the intestines; namely, redness, pulpiness, and thickness of the membrane.

After inflammation, too, of the serous membrane of the bladder, the appearances are the same as after inflammation of the serous membrane of the intestines; namely, redness, with an effusion of lymph or pus.

Inflammation of the mucous membrane is far more apt than inflammation of the serous membrane to degenerate into a chronic state, which becomes a very distressing affliction to the patient. The dropping of the urine into the bladder keeps up the irritation; and it very commonly happens that the acute or sub-acute inflammation of the bladder winds up in chronic inflammation, which goes on to disorganize the structure of the parts, so that upon examination you find that ulceration has taken place,—in the female into the vagina; and in the male into the rectum. So that inflammation of the bladder may lead to one of the most distressing conditions which can befal an individual.

MORBID ANATOMY OF THE UTERUS.

If the peritoneal coat of the uterus be inflamed it becomes red; and generally lymph, sometimes serum, sometimes pus, is effused into the pelvis.

Sometimes the substance of the uterus is inflamed, and sometimes its mucous membrane.

When the mucous lining of the uterus is inflamed it is red, as in inflammation of other mucous membranes; and in these cases the inflammation is very apt to extend up the mucous membrane of the Fallopian tubes to the ovaries.

Inflammation of the uterus seldom occurs except after delivery.

MORBID ANATOMY OF THE VEINS AND ARTERIES.

Inflammation of the veins and arteries sometimes occurs after delivery; and my friend Dr. Davis thinks the veins are inflamed

in Phlegmasia Dolens; but I believe that the arteries also are then inflamed.

Inflammation is frequently found in the internal iliac vein, in the crural or femoral vein, or in both; and sometimes in the internal iliac artery, or in the femoral artery, or both.

I saw two cases where the inflammation of the internal iliac artery extended along the aorta even to the left side of the heart.

I have never seen inflammation entirely confined to the veins and arteries; for I have in such cases invariably found some other internal organ simultaneously inflamed.

Now, in considering what are the signs by which inflammation may be known to have existed in the veins or in the arteries, recollect, *first*, the natural colour of the veins, and the natural colour of the arteries; and, *secondly*, that both the veins and the arteries are liable to be stained by the blood. For instance, the aorta is often stained by the blood, of which it contains a large quantity; for it is not true, as it is usually stated, that the blood after death entirely leaves the arterial system. The same sanguineous stain may often also be observed in the veins.

Now how do you distinguish this die from the result of inflammation—?The distinction is very easily made.

1. If an artery or a vein have been inflamed, you see the vasa vasorum injected with red blood on its internal coat.

2. The inner tunic is raised and rough, as may be distinctly seen by the aid of a microscope.

3. There is generally an effusion of lymph or pus with the coagulated blood, and sometimes there are spots of ulceration.

Inflammation of the veins and of the arteries occurs by far more commonly in what are called "low fevers" than in other examples of fever. Such inflammation is not uncommon after erysipelas or typhus fever, when they put on the low, putrid, or malignant character.

The opaque spots which are occasionally found upon the arteries are often the products of inflammation. You very often see these white spots in the cavities and about the valves of the heart.

LECTURE XIX.

COMMON INFLAMMATORY FEVER.

SYMPTOMS OF INFLAMMATION OF THE BRAIN AND ITS MEMBRANES IN CHILDREN AND ADULTS.— HYDROCEPHALUS INTERNUS.

THE first object in the practice of physic is to know how to distinguish disorders and diseases. The next object is to know how to treat them when they are recognised. Unless we arrive at the former of these we cannot attain the latter, but shall be prescribing at random.

I think it will facilitate the study of the subject before us if we consider separately the symptoms and diagnosis of inflammation as it occurs in each internal organ, before we advert to the treatment; because I think that by thus considering each department separately, I shall be able to give a more distinct view of the whole.

I have in a former lecture stated that the anatomical pathology of a disease is that condition which is displayed by dissection after death. It shows the last effects or ultimate results, but not the intermediate changes between the occurrence of the symptoms and the termination of the disease.

We may see this illustrated in inflammation of the eye. The eye may become inflamed, and the whole globe may be destroyed by the progress of ulceration; and if we trace the history of the case from the commencement to its termination, we shall find that many intermediate circumstances had occurred.

We must therefore not take the anatomical pathology as involving all the considerations with respect to the condition on which the symptoms have depended. We must take into account what happens in the external parts of the body, and we may from this infer what occurs in the internal parts of the body, though the evidence will be only circumstantial. The evidence of internal inflammation, however, amounts almost to a certainty if we be minute in our observations; and this can be reduced to a certainty after death.

I shall begin with the—

SYMPTOMS OF INFLAMMATION OF THE BRAIN AND ITS MEMBRANES.

Not less than four individuals of high distinction have fixed upon inflammation of the brain as the sole cause of fever. This may perhaps be very classical; but another individual might with equal propriety fix on the great toe, in which member there is often some uneasiness in the febrile state. The French fix on the mucous membranes; as if we were, in fact, entirely a mass of mucous membranes rolled together like a bale of cloth. The French are remarkable for assuming to themselves credit for inventions which do not belong to them. This is not their own original idea.

I have said that all the symptoms of disorders and diseases might for the sake of convenience (as has been done by some of the older authors) be arranged under the three following heads:—

1. Certain uneasy sensations;
2. Certain disturbed functions; and—
3. Certain external changes evident to the eye.

In the consideration of all the forms of internal inflammation I recommend you not to be guided by any one symptom, which will often deceive you; but if you take the concurrence of symptoms into account, you will hardly ever be misled.

In speaking of inflammation of the brain I shall describe it as it affects adults and children. The complaints of children have been separated systematically from those of adults; and this separation appears to be prejudicial, for the same pathological principles apply to each.

Now the first and most remarkable circumstance in the combination of symptoms which denote acute or sub-acute inflammation of the brain and its membranes, is—

1. Pain.

This varies in some degree according to the duration of the disease. It is the most distinct in the highest degree of inflammation of the brain; and it is more acute when the membranes alone are inflamed than when the substance of the brain alone is inflamed. This is a very remarkable fact.

Whether the inflammation be acute or sub-acute, the pain is generally the most distinct in the evening and during the night. And the reason probably is, that the circulation of the blood generally is more rapid in the evening and through the night than in the morning and during the day; or if the frequency be not greater, yet the force of the heart's action is then greater.

The pain of the head which occurs in acute and sub-acute inflammation of the brain and its membranes, is almost invariably

increased by the erect position of the body, by light, by noise, or by coughing. It is generally increased by shaking the head, which is, indeed, a very good test of such inflammation. Tell the patient to shake his head; and if he labour under inflammation of the brain and its membranes, he will generally do it with extreme caution; but if there be no such inflammation he will give his head a good hearty shake.

There are, however, exceptions to this: for I have seen a patient able to shake his head well under the most distinct evidences of inflammation of the brain. I met with such a case last week. A gentleman for whom I had prescribed in London was taken ill at B——, a village near Oxford, and sent for me to see him. Part of the road near this village was remarkably rough, and shook me excessively. I found the gentleman labouring under slight inflammation of the brain, and slight inflammation of the mucous membrane of the bowels. On my return I avoided that part of the road which was so rough, and took another route. The next day I was sent for to see a rector at Hampstead, whom I found labouring under inflammation of the brain. He told me that he had been residing at B——, a village near Oxford, and that on his way to town he came over a piece of very hard rough road, by which he was so shaken that he was quite confident it brought on the attack under which he now laboured. Shaking, indeed, will even produce inflammation, when the brain is much predisposed to it. This gentleman could bear to shake his head without any increase of the pain, which was situated in the crown and in the back part of the head; yet both the brain and its membranes were, in this case, distinctly inflamed.

In considering the pain you must recollect that there are two stages of inflammation of the brain.

The first stage is marked by an increased sensibility, or capacity or power of sensation; so that all stimulants and irritants then make a stronger impression than they do in a healthy condition.

In the second stage of inflammation of the brain the converse of this is the case, and this stage is marked by torpor or a diminution of the sensibility of the body; so that these stimulants and irritants make a less powerful impression on the nervous system than they do in a healthy condition of the body.

I make this observation for the purpose of illustrating the fact, that pain is almost entirely lost in the second stage. The pain at first diminishes, and then ceases, and at length the individual loses entirely all sensibility to surrounding circumstances. But even in the

first stage pain is sometimes absent; the patient only complains of a sensation of tightness, fulness, or throbbing. When inflammation of the brain and of the bronchial lining exist simultaneously, it very frequently happens that there is then no pain in the head. Nothing is more common than to find after death, in cases of typhus fever (in which cases the membrane of the bronchia is always inflamed), an intense inflammation of the substance and membranes of the brain, though no pain in the head may have been felt throughout the whole progress of the case. This arises from the bronchial affection, which prevents the natural change from taking place in the blood as it passes through the lungs, so that a darker blood than natural is carried through the arterial system, and deadens the sensibility of the nervous system. But even in this case, if you take into account the other circumstances, that is, the combination of the other indications of inflammation of the brain, you will be at no loss to distinguish it. Both children and adults who have a slow pulse and a torpid colon often complain of pain in the head; and as this cannot be referred to increase of the heart's action, we must refer it to sympathy.

Connected with acute or sub-acute inflammation of the brain and its membranes, there is a peculiar expression in the eye, which shows—

2. The mixture of physical brightness and intellectual dulness.

The globe of the eye, at least the lucid cornea, is physically brighter than natural, but there is at the same time an expression of mental dulness or lassitude.

This is generally the case; but there are exceptions even to this. When the patient is in a state of high delirium or phrensy the expression of the eye is sometimes remarkably wild and vivid, indicative of excessive energy of mind. Recollect, however, that this is an exception to the general condition. There generally is—

3. A dropping of both the upper eyelids.

The upper eyelids overhang the globe of the eye to a greater extent than natural. In the last stage of inflammation of the brain there is a depression of one eyelid more than of the corresponding lid of the other eye; for instance—the left upper lid overhangs a larger portion of the globe than the right. This arises from a slight degree of paralysis of the lid, and is always a very formidable symptom.

There are occasional exceptions to this dropping of the upper eyelid, but it is generally present; and the patient, if in pain,

ever and anon knits his eyebrows. Observe the child when asleep, and you will see that the eyelids are not quite closed.

4. The lucid cornea is more glassy or glairy than natural.

This is especially the case in the first stage, and even during greater part of the second stage the eye is more splendid than natural. A little before death, however, the cornea is very often covered with a thin film. This splendid, or glassy, or glairy appearance of the cornea depends on the supply of blood from the ophthalmic artery, which is a branch of the internal carotid artery.

These states of the eye deserve very careful attention, as they are very important with respect to the diagnosis. Indeed, I dare venture in any case to say whether or not the brain and its membranes be inflamed, by merely taking into account these appearances of the eye.

5. The pupil is contracted, variable, or dilated.

In the first stage of the inflammation the pupil is either smaller than natural, like a pin's point, or alternately contracts and dilates with very great rapidity.

In the last stage of the inflammation, especially when it has wound up in effusion, the pupil is dilated, and is at last insensible to the stimulus of light. Indeed, one of the most common indications of effusion into the ventricles is a permanent dilatation, and, at last, immobility, of the pupil.

Sometimes the pupil is drawn from the centre of the eye, and in the last stage of the inflammation there is generally more or less squinting.

6. The conjunctiva is generally streaked with blood.

The red blood in its vessels gives the conjunctiva a sort of ferrety appearance.

There are exceptions to this circumstance, especially when the brain alone is acutely or sub-acutely inflamed; and in the insidious inflammation of the brain and its membranes which takes place in children. In these cases the appearance of the conjunctiva often remains blanched.

There is generally in the first stage—

7. Intolerance of light or of noise, or both.

This is the case even in infants, who will become fretful or restless on the admission of light, or when any noise is made about the crib or bed. And in adults the stimulus of either light or noise produces increase of pain in the head. The hearing is generally more acute than natural in the first stage, and generally more dull

than natural in the last stage. And the same is generally the case with all the senses.

Recollect that deafness in affections of the brain very often depends on the inflammation having extended from the mucous membrane of the throat along the eustachian tube into the lining membrane of the internal ear, so that if you break down the petrous portion of the temporal bone, you will frequently find the internal ear filled with a muco-purulent fluid, the product of inflammation, which has destroyed the lining membrane of the cavity, and thus produced deafness.

This circumstance was observed long ago by Morgagni, but it has been of late very much overlooked. It is a very common cause of the chronic deafness which occurs after inflammation of the fauces, and which is sometimes permanent.

8. The sense of touch is preternaturally acute in the first stage; —supposing the sense of touch to exist over the whole surface of the body.

This is very remarkable in children. A child under these circumstances very often lies in a state of apparent sleep in its crib or bed, or in the nurse's lap. If you approach the child it starts; you touch it and it screams. There is apparently an unusually acute degree of the sense of hearing, and a preternatural sensibility of the eye to light, and of the surface to any stimulants; and yet with this the child appears at first heavy or insensible.

Whenever you are called to an infant lying in this state of apparent insensibility or heaviness, with an unusual sensibility of the eye, the ear, and the surface, you may suspect that the brain or its membranes are inflamed; and investigate the case accordingly.

In acute and sub-acute inflammation of the brain and its membranes there is in adults—

9. Wakefulness in the first, and heaviness in the last, stage.

Heaviness sometimes occurs mixed up with fretfulness in children. In adults the heaviness at last amounts to stupor. In the first stage there is more watchfulness when the membranes of the brain are inflamed than when the substance of the brain is inflamed. On the contrary, there is more heaviness when the substance of the brain alone, than when the membranes alone, are inflamed. Heaviness is common to both in the last stage; that is, whether the substance of the brain alone, or the membranes alone, be inflamed. A combination of heaviness and fretfulness is a very suspicious circumstance.

You should attend to the heaviness and sleepiness which exist, especially in children.

You will find in children that the time of sleeping is changed. If the child be well it lies in an easy position, goes to sleep, and awakes nearly at a certain time, and the breathing is free; but if the brain be inflamed the child lies in an uneasy or awkward position, its sleep is disturbed and of uncertain duration, and the breathing is oppressed.

You will see perhaps a blackness under the eyes, and you will observe also that the countenance undergoes a change of expression, which it is impossible to describe in words, or to analyze. Mothers often observe this, and are alarmed at it. If the mother be a sensible woman she will be sure not to disregard this, but if she be a novel and romance-reading woman she will most likely not observe it.

Sometimes there are sudden changes of countenance.

You will observe that at one moment the face is flushed—a suffusion comes over it like a sunbeam across a flower; the next moment the face will become pallid and blanched. This change is very remarkable.

The sleep is almost always disturbed, and the patient moans or starts. This and delirium are most common towards the evening, and in the morning the patient is somewhat recovered.

One of the most striking signs of this inflammation is that the child starts from its sleep, with a peculiarly alarmed expression of the countenance; and whenever you observe this, and that the alarmed expression continues, be upon your guard; for this is one of the most common attendants upon inflammation of the brain and its membranes in infancy.

The brain is the instrument through which the mind operates; and when the brain and its membranes are acutely or sub-acutely inflamed—

The intellectual faculties are more or less disturbed.

The disturbance in the slighter examples is—

1st. Incompetency.

It is now about seven years since I had an attack of inflammation of the brain, which crept on insidiously for several days, and at length became excessively acute. It attacked me suddenly in the street, so that I had great difficulty in recollecting what I was about. At length I managed to get home, and found myself extremely ill. Reflecting that my life was of great consequence to my family, and being a stranger in London, knowing only two or three individuals, I reviewed my own case to dictate as far as possible the treatment. This was a most laborious process, and it

was a long time before I could draw any inference from the existing circumstances. At last, however, I was satisfied that I laboured under an attack of acute inflammation of the brain. I had not the power as it were of reflecting, or at least only to a very limited extent, and it was only by hard and repeated efforts that I could draw any correct conclusions.

This is the first state of disturbance of the intellectual faculties which attends inflammation of the brain. The next is a degree of—

2nd. Reverie, which is only occasional, and occurs most commonly about the hour of twilight. These reveries sometimes refer to living objects. The patient fancies he sees persons whom no one in the room but himself sees, and gives correct descriptions of persons who are perhaps still living, and others who have long paid the debt of nature, and are mouldering in their graves. These reveries sometimes excite so much terror as to occasion death. The descriptions which patients in such a state give of things and persons are particularly accurate in many instances, so as almost to realize the picture drawn by the poet:

> "They rise in dim succession led,
> "The dark, the faithless, and the dead,
> "With hearts as light and brow as gay
> "As if they parted yesterday."

I had this kind of reverie towards twilight, and fancied that I saw crowds of people walking about in all directions. Their faces were all strange to me except one, which was that of an officer, a gentleman in the country, who had a nose as long as that of Sterne's soldier, and by the size of his nose I knew him.

The next slighter kind of delirium is that which occurs only in the evening, being retained through the night, and leaves the patient in the morning.

These then are not dangerous symptoms if the case be properly managed.

3rd. Permanent Delirium, however, is always a very serious thing.

But recollect this: systematic writers say that delirium attends inflammation of the brain from the beginning. This is not the case, for delirium seldom occurs in this country before the second, third, or fourth day of the attack; many in the most acute forms are very distinct for three or four days. Delirium generally does occur, however, in hot countries at the very onset of the attack.

When inflammation of the brain attends individuals labouring under any anxiety of mind, or individuals accustomed to take ardent spirits or strong malt liquor, then, even in this country,

delirium may occur at the onset. It is very liable at all events to set in early, and these cases will probably terminate fatally.

No individual from a brewer's was brought into the Fever Hospital with inflammation of the brain without delirium. In these cases it always became necessary, on account of the furious delirium, to make use of the strait-waistcoat.

The reason of the delirium occurring in those persons was the large quantity of strong malt liquor which they were accustomed to drink.

The delirium is of various kinds. Sometimes it is general incoherency. Sometimes it turns on particular subjects, as the multiplication table in boys, and various kinds of business in men.

You must not, however, be guided by any single symptom; for in the next lecture I shall show you that delirium occurs in other affections besides inflammation of the brain. It occurs, for instance, in hysteria; very often in that affection of drunkards which has been called delirium tremens; sometimes from the use of mercury; sometimes from other poisons. Shakspeare, who has made many beautiful allusions to the subject of physic, illustrates this subject very well.

The Prince Henry having seen King John surrounded by his attendants, vainly endeavouring to relieve the sufferings occasioned by poison, exclaims—

> "It is too late; the life of all his blood
> "Is touch'd corruptibly; and his pure brain
> "(Which some suppose the soul's frail dwelling-house,)
> "Doth, by the idle comments that it makes,
> "Foretel the ending of mortality."

Delirium sometimes also arises from perfect exhaustion. Lord Byron has made an allusion to this in his beautiful poem of "Childe Harold," in which he describes the Gladiator as having fallen amid the inhuman but exulting shouts of the Roman people:—

> "He heard it, but he heeded not. His eyes
> "Were with his heart and that was far away.
> "He reck'd not of the life he lost, nor prize;
> "But where his rude hut by the Danube lay,
> "There were his young barbarians all at play;
> "There was their Dacian mother, he their sire
> "Butcher'd to make a Roman holiday."

These, then, are remarkable facts—facts which are valuable to the medical philosopher; for if he relied upon one symptom he might be most egregiously mistaken. In most of the complaints of infancy you must investigate the child's character; for children have a

species of delirium which is very obvious to a minute observer. You must ascertain the character of the infant, and investigate its habits and affections for persons and things; and you will invariably find some great change in them when the brain is inflamed. The child takes no notice of persons to whom it was previously attached —of its parents, brothers, sisters, or of the nurse of whom it was very fond.

One very curious thing is a sort of fearfulness and dread of falling; so that you observe an infant clinging suddenly to the nurse, as if afraid of falling from the lap. You will find with this all those changes in the eye which I have mentioned. The eye of an infant is as bright as a bird's eye, and far more beautiful; and the mysterious intercourse which naturally exists between its eye and that of its mother or nurse will be lost in this case. The infant in health watches the eye of the mother or nurse, so that there is a remarkable and mystical intercourse between eye and eye—between affection and affection—which, when the brain is inflamed, is almost invariably lost. There is generally too in infants some enlargement about the veins of the forehead; and when the brain is very much inflamed, the fontanelles often become distended; and this is always an exceedingly dangerous symptom.

As to the fretfulness and uneasiness in infants, you must investigate them very carefully, recollecting that these symptoms sometimes occur in catarrh. But if you be minute in your observations you will find that they are only occasional in catarrh, but in inflammation of the brain they are more permanent and have not the same variable character as in catarrh.

11. The carotid arteries throb more evidently than natural.

If you expose the neck you will observe that the carotid arteries distinctly throb more violently than natural, and more strongly than other arteries, unless the breathing is affected. This arises from the accumulation to heat about the neck and face, and also from the interruption to the free transmission of the blood through the capillary vessels. I say nothing of the increased action of the arteries; for to call it so is an abuse of language. The arteries act on the blood, not from any increased action, but from an increase of caloric and from the interruption to the circulation of the capillary vessels; and this is the cause of the increased volume of the arteries.

Not only the carotid arteries, but their branches, especially the temporal arteries, shut more violently than natural.

12. The neck, face, and head, are sensibly hotter than other parts of the body.

The hands also are hot; and when this is the case in infants there is always something wrong: the hands of an infant in health are cool. The feet are often very cold.

13. The patient now and then takes a deep inspiration, and sighs.

This is one of the most certain and remarkable indications of acute and sub-acute inflammation of the brain and its membranes in children and adults.

The respiration has a connexion with the pulse, respiration being carried on eighteen or twenty times while the pulse beats seventy times in a minute. In the first stage the respiration is invariably quicker than natural; and if you stand over the patient you will observe that the respiration for a short time is hurried, and then there is a pause, which is usually followed by a deep and anxious sigh. This symptom is scarcely ever absent.

In the last stage the patient breathes perhaps only twelve times in a minute; and when you see this the case look for the cause of it either about the head, about the heart, or about the lungs.

14. The patient cannot hold the head up so well as in health.

The patient, if he be an adult, staggers as if intoxicated in attempting to reach a night chair, and is fain to lay his head upon the pillow; if an infant, upon the nurse's lap. As the disease advances there is a tremor about the hands, which become completely relaxed, and the countenance sunk.

In infants you generally find that in these cases the head is drawn more or less forcibly backwards. This is always a suspicious circumstance if it be contrary to the custom of the child at other times; for you must recollect that this position may be habitual to the infant when in health.

15. The speech is apt to be affected, especially in the last stage.

The speech is always affected in the last stage, and becomes an indistinct mumbling. Sometimes even in the early stage of the inflammation the speech of children is affected. A child, for example, is unable to pronounce a certain letter distinctly. This is invariably an announcement of something serious in the head.

If you find a child, three or four years of age perhaps, suddenly stammering, unable to pronounce a letter or a word so well as it had formerly done, you should investigate the case very minutely; for this forebodes a violent attack of inflammation of the brain with convulsions.

Another circumstance which you may often observe in children in these cases is the conical hand, which in infants is almost invariably an indication of some affection of the head, most frequently of acute or sub-acute inflammation of the brain and its membranes.

The child sometimes has a tendency to put the hands to its head, tosses them to and fro, or lays them torpidly by the side.

16. The stomach is irritable, or the bowels are torpid, or both.

You will have vomiting, and the bowels so torpid that you cannot move them by strong cathartic medicines, even in those case where the stomach is not irritable and will retain such medicines. As vomiting is only a symptom, and not a diease, you should refer it if possible to its true cause: it is often present, but sometimes it is absent, in inflammation of the brain.

A child if over-fed throws up part of its food without any exertion, and this by nurses is called posseting. It differs from vomiting.

In the first stage the bowels are occasionally lax, and this depends on the retention of scybala in the colon, or inflammation of the mucous membrane of the large intestines.

You must be very cautious respecting vomiting when it comes in infants, for it is sometimes the first indication of inflammation of the brain in infants, and also in adults, especially after blows on the head which at the time appear trifling.

I have frequently seen inflammation of the brain and its membranes occurring in an adult in a week or ten days after a blow on the head, and the first symptom of this acute or sub-acute attack has been a sudden fit of vomiting.

The most common effect, however, of blows is chronic inflammation. If, however, an individual have received a blow on the head, it will be proper to abstract blood after the first shock, to keep the bowels open, and to enjoin an abstinent diet for two or three months afterwards. In this way you will often prevent the occurrence of very great mischief in the head.

I have seen several instances of fatal disorganization of the brain and its membranes from blows, the consequences of which have been disregarded for weeks and months.

These indications, then, of acute and sub-acute inflammation of the brain and its membranes will serve to guide you to the formation of accurate opinions in any individual case. Most of these symptoms will be present, and if you investigate them carefully you will never be mistaken as to the accuracy of your diagnosis.

17. Fever is also present; and if the inflammation be acute the fever is ardent, the pulse quick, and the skin hot and drier than natural. There is, however, one exception to this. Sometimes the substance of the brain is extensively and acutely inflamed, and the patient lies in a state of oppression with a surface scarcely hotter than

natural and a pulse scarcely quicker than natural, but with oppressed breathing, and with an occasional deep inspiration followed by a sigh. When you see this combination of symptoms you may always suspect that the patient labours under intense inflammation of the substance of the brain.

With respect to the pulse, when the fever is openly developed it is almost invariably stronger and quicker than natural, ranging in an adult from one hundred to one hundred and forty pulsations in a minute, and hard.

18. The tongue is almost invariably furred.

If the substance of the brain alone be inflamed, the tongue has a velvetty appearance and is not much furred, unless it happens that the stomach, liver, and bowels, be at the same time disturbed. In the first stage the tongue is of a dirty white colour, becomes more and more foul as the disease advances, and is often dry.

It is obvious, then, from what I have said, that there two stages of acute and sub-acute inflammation of the brain and its membranes; and I may now draw your attention to the circumstances which characterize each of these two stages.

The following are the symptoms which are most constant, in children and adults, in acute and sub-acute inflammation of the brain and its membranes in—

THE FIRST STAGE.

1. Some pain, throbbing, or other uneasiness in the head.

It is sometimes a sensation of tightness and fulness, as if the contents of the head were too large for the cranium.

2. A combined expression of physical brightness and intellectual dulness in the eye, and the conjunctiva streaked with red lines.

3. Some degree of preternatural dropping of both the upper eyelids over the globes.

4. Contraction, or alternate contractions and dilatations (rapidly made) of the pupils.

5. Some intolerance of light, noise, or touch, or all.

6. Either watchfulness, or heaviness attended by fretfulness.

7. Inaptitude, confusion, reverie, or delirium.

8. Unusual throbbing of the carotid and temporal arteries.

9. Concentration of the heat about the hairy scalp, face, and neck.

10. An occasional deep-drawn breath, followed by a sigh.

11. An irritable state of the stomach, or a torpid state of the bowels, or both.

In the last stage the irritable state of the stomach almost invariably gives way: the vomiting ceases, but the bowels are still torpid.

When acute and sub-acute inflammation of the brain and its membranes, in children and adults, is winding up, especially towards a fatal termination, the following symptoms arise and indicate—

THE SECOND STAGE

1. A diminution of sensibility.

The second stage commences by the patient becoming heavy, as if he were asleep. He becomes more and more negligent, and at length totally indifferent to surrounding objects and circumstances, till at last the diminished state of the sensibility terminates in a state of complete stupor, and the patient dies under a slowly superinduced state of apoplexy.

The stupor increases from the commencement to the close of the second stage, when the patient dies perfectly insensible.

Sometimes the patient sinks into a low sort of delirium, and mutters of those circumstances which have most interested him in health. Dr. A—, the head-master of ——, thought he was in school hearing his scholars their lessons. After muttering some time he suddenly stopped, and said, "It is getting dark; you may go."

I saw a very affecting case of this kind in a woman who, having inflammation of the brain, was separated from the infant which she suckled. She gathered the clothes together and fondled them as she would her child.

Some cases are laughably ridiculous. One is on record of a magistrates' clerk, who was continually saying, "So help you, God. "Kiss the book. Give me a shilling."

2. The pupils are generally first dilated and then immoveable.

This is the case if effusion have taken place into the ventricles; but when no effusion occurs the pupils very often continue contracted to the last.

3. The patient has either a vacant stare or strabismus.

Some individuals have naturally a vacant stare, and then it is not of much importance. So also some individuals naturally squint.

There is commonly—

4. Slight paralysis of one upper eyelid, especially in children.

5. One side of the body is generally moved more than the other.

This is quite manifest if you stand at the bedside of the patient, and see how he moves in bed.

And sometimes there is a peculiar swing of the arm. A child very often has so much sensibility remaining that if you put any medicine to its mouth it will try to put it away with the hand. In doing this, as soon as the child's hand reaches the lip, it seems as if it could be raised no higher, and by a singular movement the palm is turned outward and downward, the thumb resting on the chin. This is a very sure indication of something wrong in the head.

6. The pulse often becomes slower, and then quicker again.

While, however, the pulse becomes slower, all the other symptoms are aggravated; and towards the close the pulse often becomes so quick that you cannot count it at all, especially in children.

Golis has committed a great error in saying, that in the first stage of inflammation of the brain the pulse is not quicker than natural. He remarks, that "in some cases it may occur that the pulse is not quickened in the first stage." This may have occurred in one or two cases; but it is very uncommon. Never regard the assertions of any man further than they are borne out by facts. The pulse generally is quicker than natural in the first stage, becomes slower in the second stage, and is quick again before death.

7. The speech becomes more obviously affected.

The patient mumbles and moans, and at last becomes apparently idiotic.

There are generally—

8. Subsultus tendinum, with difficulty of deglutition.

The respiration is affected, and there is a glutting noise in the throat when the patient swallows any fluid, from its resting in the fauces, and going down with difficulty. The respiration becomes slower, the sighs are deeper and deeper, and are frequently followed by a peevish scream.

9. The patient lies in a more sunk position on his back.

There is relaxation of the sphincter ani and of the sphincter vesicæ. And to these I might add that—

10. The brain becomes more and more oppressed, as the disease advances.

After this occurs what old nurses will know under the name of "lighting before death." A marked change takes place; the patient becomes sensible, and although previously quite blind,

now sees well; but he mostly sinks rapidly after this. Sometimes there are—

11. Convulsions; which, in children, occasionally occur at the onset of the inflammation; you must therefore look to the other symptoms which exist in concurrence with the convulsions. These convulsions often come on with very great rapidity in infants, and suddenly destroy life.

Acute is distinguished from sub-acute inflammation of the brain by two circumstances—the fever is higher, and the local excitement is greater. It runs a more rapid course, and the symptoms are more strongly marked, than in the sub-acute inflammation. Acute inflammation of the brain, if allowed to run its natural course, would terminate in from four to ten days. Inflammation of the brain in children frequently, however, has a more protracted course than in adults; generally it goes on for three weeks. In adults it more frequently terminates without effusion.

The mode in which acute or sub-acute inflammation of the brain and its membranes attacks different individuals is very various, and very important to be known.

It sometimes follows an external injury. I have mentioned a case of this kind in a previous lecture, and I may draw your attention to it again here. I mention it now to show the inseparable connexion that exists between physic and surgery.

I saw an individual who had an injury to the thumb. Gangrene took place in the thumb, and produced fever; and his brain, being predisposed, became inflamed in the progress of that fever.

I saw another case, which I may relate;—and I could mention a great many more similar cases.

A surgeon bled a man at the bend of the arm, and after the operation he applied to the orifice a coarse cloth, and bound over it a narrow tape, and in this way the wound was irritated. It happened that the patient was in a bad state of health: erisypelas affected the arm; the heart's action and the animal heat became excited, and the brain became so intensely inflamed, that he sunk with great rapidity.

I am confident that no individual ever dies after an operation, when excitement has taken place, in whom death is not connected with some internal inflammation.

Nothing is more absurd than the separation which exists between physic and surgery, a separation which is countenanced by the College of Surgeons. It is a source of great mischief to the public, and therefore it is my duty to protest against it. The

time, however, is, I trust, approaching, when the legislature will interfere between the public and those corporate bodies, that enact laws for their own selfish purposes and for the oppression of others. In such corporations some important changes must soon take place, when the public are sufficiently made aware of the circumstances connected with their rules.

Inflammation of the brain sometimes follows after inflammation in some other parts.

It is a very common circumstance to find inflammation of the brain existing simultaneously with inflammation of the bronchial lining, especially in children.

Inflammation of the dura mater sometimes occurs suddenly in individuals labouring under rheumatism.

Both in children and in adults inflammation of the brain will frequently follow some inflammation or excitement of the mucous membrane of the intestinal canal. This is very common indeed in children; and in such cases of inflammation in the mucous lining of the bowels, you should be on your guard with respect to the brain, which is, as I have before explained, in all children predisposed to inflammation. On this account inflammation of the brain often follows specific affections in children, as catarrh, measles, small-pox, hooping-cough, &c. For the same reason, inflammation of the brain may follow the exhibition of any indigestible food which irritates the intestinal canal.

Pressure on the abdominal aorta will produce affections of the head; and they will also often arise from other impediments to the circulation of the blood. A child has catarrh, and the head, in the first instance, is mostly free from disease; the respiration becomes increased, and the brain heavy, and it dies; and, on examining the head, an effusion of serum is found in the ventricles of the brain. Local irritation of the lungs will increase the heart's action; as may be known by feeling the pulse during a fit of coughing. Difficulty of respiration also retards the transmission of blood from the right ventricle of the heart, so that there is an impediment to the return of venous blood from the head, which may lead to effusion in the head.

The inflammation of the brain is either acute or sub-acute; and it generally happens that the heat is fully developed on the surface of the body, except about the feet, and the pulse is totally expanded, with the single exception I have mentioned. When the patient is very much oppressed, with a soft pulse very little quicker than natural, with a heat of the surface very little higher

than natural, with a blanched appearance of the eye, and a glassiness of the lucid cornea, it is the most dangerous form of inflammation of the brain; for in these cases the degree of the fever does not correspond with the intensity of the inflammation.

You have most perfect examples of what I call passive inflammation of the brain in the last stage of typhus fever, and in all those fevers which are called low, malignant, or typhoid. You will see, for example, a patient with a feeble pulse, with a low degree of heat upon the surface, dying with intense inflammation of the brain and its membranes, of the bronchial lining, and of the mucous membrane of the intestines. The value of the power of distinguishing this passive form of inflammation of the brain, with a soft compressible pulse, a perfectly calm respiration, and a low heat upon the surface, is, that if you were to treat it as you would the active form of inflammation, the patients would inevitably die; while such persons will mostly recover if they be mildly treated.

The last stage of inflammation of the brain is combined with one of two states—simply with over-distension of the arteries, or with effusion. If there be effusion in the head of a child it cannot recover; but from over-distension it may, and thus may be restored from apparent symptoms of hydrocephalus internus.

With respect to effusion into the ventricles of the brain, at the base of the brain, or between the membranes of the brain, or, as it is called—

HYDROCEPHALUS INTERNUS,

or water in the head; it arises from various sources. It is not a disease, but an effect produced by three different conditions brought about by three different remote occasions.

The *first* of these conditions is what I call—

VENOUS CONGESTION.

And the probability is, that the effusion of fluid then arises from an impediment to the return of venous blood. The internal carotid arteries are excessively gorged with blood; effusion takes place into the ventricles; and the patient dies, with a feeble pulse and a perfectly cold skin.

I recollect the case of a man whom I saw nearly dying from congestion of the brain, produced by the impediment to the return of venous blood by a ligature round the neck. I was coming along Great Surrey Street, and saw a coach coming very fast. The horses had run away, and were at a full gallop. I followed as

fast as I could, seeing that the coachman had become entangled with the harness, having fallen from the box. A man with great presence of mind and firmness placed himself in the road, and at the risk of his life seized one of the horses, and stopped the coach. I came up almost immediately, and found the coachman with his face perfectly livid. A mob immediately collected around him; and no form of government is so bad as that to deal with. I therefore explained my profession, and my directions were then obeyed. The man's cravat was drawn tightly about his neck, and this being removed, I gave him some stimulus, and found a feeble fluttering in the region of the heart and a faint motion of the chest. I gave him a little brandy; and when I left him he was nearly well. In this case the tight ligature round the neck prevented the free return of venous blood, but effusion had not taken place; and probably this is what occurs in many cases of congestive fever.

Some individuals have thought that the enlargement of the glands of the neck produces effusion by preventing the return of the venous blood—for instance, the enlargement of the bronchial glands. This may possibly be the case; but I have seen these glands enlarged a great many times without producing any effusion. Effusion in the head sometimes takes place apparently from affections of the liver. There is a connexion between the liver and the brain for which I am unable to account. One patient, after a fracture of the skull from a blow, becomes jaundiced; another knows that the bile flows too copiously, or not sufficiently freely, if he feel pain across his forehead.

Secondly: One of the most common causes of effusion is—

INFLAMMATION.

Effusion of fluid, you will remember, is one of the terminations or immediate effects of inflammation.

The *third* cause of effusion is some—

ORGANIC DISEASE,

such as tumors or tubercles within the brain or about the membranes. I have occasionally met with tubercles in the brain or in the choroid plexus connected with effusion. I have found effusion also in connexion with tumors in the brain of old persons. These operate as interruptants to the circulation.

Two friends of mine in the country disagreed about a case, one saying it was typhus fever, the other pronouncing it hydrocephalus internus. Either might with propriety have confessed, "Brother, brother, we are both in the wrong;" for the fact is, that typhus fever is not incompatible with what is called hydrocephalus internus.

LECTURE XX.

COMMON INFLAMMATORY FEVER.

DELIRIUM.—SYMPTOMS, DIAGNOSIS, AND MORBID ANATOMY OF THE BRAIN FEVER OF DRUNKENNESS.—DIAGNOSIS OF INFLAMMATION OF THE BRAIN AND ITS MEMBRANES.—SYMPTOMS AND DIAGNOSIS OF INFLAMMATION OF THE SPINAL CORD AND ITS MEMBRANES.

I SHALL in this lecture mention the diagnosis of acute and subacute inflammation of the brain and its membranes, and of some affections which are liable to be mistaken for it; and shall describe the symptoms of the brain fever of drunkenness, and of inflammation of the spinal cord and its membranes.

There are several cases in which—

DELIRIUM

occurs, and therefore you must not infer that when it exists it is necessarily a symptom or a concomitant of inflammation of the brain.

1. *HYSTERIA*

is one of these complaints.

You would distinguish the delirium of hysteria from inflammation of the brain, by observing that the attack of hysteria comes on very suddenly, and its character, chameleon-like, is constantly changing. The patient, for example, is delirious for one moment, and the next moment sits with her eyes wide open and fixed on a point; then laughs; shortly afterwards lies torpid, as if asleep; then falls down apparently in a state of insensibility; then starts up and screams, and has an attack of choking; and winds up by crying. So that in the course of a few hours a remarkable variety of external characters occurs.

Fever is absent in hysteria while the delirium exists. In the delirium of inflammation of the brain, fever is present.

2. *MERCURY*

produces delirium in some individuals; and under two different states; for example—

1st. One individual shall take small doses of blue pill every night, for a supposed (which by the way is far the more frequent case) or a real liver complaint, till the mouth becomes affected. It is then that it generally happens that in those individuals who have peculiarities the effects of mercury are most remarkably displayed. This individual will then become collapsed, with a cold skin, a feeble pulse, a weak respiration, and remarkably confused in his head. Called to such an individual, you will find him stretched out on his sofa or bed, with a cold and pale face, with a feeble respiration, with an idiotic expression of countenance, and wandering of the mind.

2nd. Another individual at the same period, from the effects of mercury, will be delirious, and yet there will be symptoms different to those of the last case. You will be called, for example, to a patient in whom mercury has produced excitement. The skin will be hotter than natural, and the pulse quicker than natural; and then the patient generally has high delirium.

I have seen two gentlemen affected with this form of delirium; and in one it occurred with a state of collapse, in the other with a state of excitement. The former became excessively prostrate, with a blanched eye, with a dilated pupil, with an idiotic expression of the countenance, with a cold skin, with a feeble respiration, and with a fluttering pulse. The delirium was a sort of slow incompetency; so that if a question were put to the patient, he was a long time first in selecting and afterwards in delivering an answer.

The other gentleman whom I saw was a brother of a pupil of mine. He was in a state of excitement and animation, with a skin hotter than natural and a pulse quicker than natural, and constantly joking. If you see a patient delirious, always examine the gums, and endeavour to ascertain whether he has been taking any preparation of mercury, because you must regulate the treatment accordingly.

Sometimes the excitement thus produced passes on to inflammation of the brain, but generally it does not.

Nervousness is a frequent consequence of the exhibition of mercury. The patient often becomes remarkably sensible to impressions produced by surrounding objects and circumstances; often becomes desponding in his mind, and passes sleepless nights.

Patients often call on me in the morning in a state of nervousness or despondency; and, upon investigation of these cases, I generally find that the blue pill has been taken for some time. Mercury is exhibited quite at random; and for every so-called disorder of the liver, dyspepsia, disorder of the digestive organs, indigestion, &c., blue pill is given either twice or three times a-day, or in five grain doses every night. The patient under this treatment often becomes nervous and emaciated, and recovers rapidly when the mercury is omitted.

Other poisons or medicines often affect the brain.

3. *OPIUM*

is one of these.

I have known very small doses of opium throw an individual into a state of complete delirium. It is important to ascertain the existence of such idiosyncrasies, that you may avoid the administration of such remedies, unless urged to it by some very powerful reason.

In the milder cases opium produces slight turgescence in the vessels of the brain; but sometimes it produces perfect inflammation of the brain. I have known this to be the case in several instances.

One rule which I advise you to adopt is this:—if possible to do no harm in your intercourse with families. I mention this, and would have you to recollect it, because there exists amongst medical men a general tendency to do too much. By far too much efficacy is attributed to physic, and by far too much importance attached to it; to the exclusion of principles dictated by common sense, such as the regulation of the diet and general management. A medical man should consider the immense responsibility of his situation, and should recollect that, in the present state of medical legislation, there is no education sanctioned by laws which at all fit him for the practice of his profession. He may have passed an examination at the College of Surgeons or at the College of Physicians; but I appeal to any honest man whether ninety-nine medical men of a hundred do not begin to practise their profession at the risk of the health and lives of those who employ them. This is the necessary consequence of the defective education which is sanctioned by colleges of physic and surgery in this country. A medical man should above all things endeavour to know himself. All his wisdom will centre in this. He must recollect that he is not an indifferent person, but that wherever he goes he influences the happiness of some and the health of others: he is either a blessing or a bane in every house which he enters; and he is

bound not to take up certain prescribed forms which have been passively adopted from past ages, and are unthinkingly pursued in this, but to deliberate upon any opinion which may be offered to him before he receives it and acts upon it as truth.

To return from this digression:—

4. *ANTIMONY*

often produces delirium or death.

Antimony is so called because it slew certain monks, and so far not much can be raised in objection to it; indeed, if it should kill a few hundred more monks, there would perhaps be not much harm in that, because they are a useless body of men. But it is really quite an important matter to avoid doing harm to other individuals. Antimonial medicines are, I believe, far more destructive now than they were formerly. A man of a wise head and a good heart will avoid much of the folly that he sees in the world, and do all the good that he can. The evils inflicted by the indiscriminate use of antimony are far more extensive now than formerly; but they are not known. And why?—Because there are more doctors than formerly. Let us take an illustration. A man finds in his own home a train of affections and friendship which elsewhere he meets not with; and at a certain hour he shuts the gates against the business, the turmoils, and the vexations of the world, retiring as it were to a pleasant spot where troubles are excluded, and with the comfort and the happiness of which the splendours of the most magnificent palace are not to be compared. It happens that a child is attacked with hooping cough, but runs about, being in other respects perfectly well. A neighbouring practitioner is sent for. He prescribes tartrate of antimony, and sickens the child every four or six hours. It becomes pale and prostrate, and lies in its mother's lap. She watches over its increasing illness. The mucous membrane of the stomach becomes excited; general irritation takes place; the bowels and the brain become soon implicated in the affection; and in a fit of convulsions it dies. And then, for the first time, is the point brought home to its parents, that in the midst of life there is death; and thus care, like a serpent, enters into their house and spoils their earthly paradise!

This is an example of a few particulars of such dismal tragedies as I have witnessed again and again, with feelings of dissatisfaction and horror. It is, therefore, I assure you, a point of the utmost importance to be upon your guard against poisons under the name of medicines.

Mercury, opium, and antimony, are in reality poisons supplied

by the apothecary, and are far too frequently prescribed. I have seen slight delirium again and again produced by antimonial preparations, given so as to excite the mucous membrane of the stomach and intestinal canal in very young children.

It is a most notorious fact that hooping-cough is far more fatal in London than in the country; and I believe that this arises from the very free use of antimonials in London. No man can investigate carefully and attentively the pathology of the mucous membrane of the stomach and intestinal canal, without being convinced of the great importance of avoiding all those remote occasions which are likely to offend it.

Sometimes delirium will be produced by—

5. *EXTREME EXHAUSTION.*

An individual walks a long way in the sun, and at length becomes exhausted, confused, and drops down. In this state he will be found with a feeble pulse, a cold skin, and delirium. Sometimes what is called cholera morbus produces these symptoms, from exhaustion, and then it is best relieved by opium. When it arises from walking or other exercise on a hot day, the patient if put to bed will recover rapidly by the aid of a little brandy.

Delirium sometimes arises from long abstinence or fasting; and then sometimes it will be removed by the cautious exhibition of food. It is important to recollect that it also sometimes arises from an individual cramming himself with food after long abstinence. You may destroy a person's life very easily by allowing him after long fasting to take a large quantity of food at once. The change in these cases should always be made gradually.

Delirium attends mania, or—

6. *MADNESS.*

And how do you distinguish this from the delirium of inflammation of the brain?—The simple rule of diagnosis is, that in mania the heat of the surface and the frequency of the pulse are natural. On the contrary, in the delirium of inflammation of the brain fever is present. You find a patient with a cool skin and tranquil pulse labouring under delirium: this is mania; and this is the only fair ground of distinction. In the first instance mania generally sets in with inflammation of the brain. And the expression of the countenance under these two states is generally very different. In mania there is generally a peculiar side-look of suspicion; and, in fact, madmen are mostly filled with suspicion. The patient looks askance, and his manner is altogether altered.

These symptoms come on when, the inflammation of the brain having subsided, the patient should be getting well.

Another extremely important state to distinguish is the delirium which attends the

7. *BRAIN FEVER OF DRUNKENNESS,*

or what has been commonly known by the name of Delirium Tremens. In this affection there is always delirium; it is the most constant symptom. But there is not always tremor, and therefore the adjective, tremens, is improper. I shall therefore distinguish this affection by the designation of

THE BRAIN FEVER OF DRUNKENNESS.

In the North of England this affection is termed Brain Fever. Dr. Pearson, of Newcastle-upon-Tyne, first wrote upon it. I then published two papers on the same subject. After this Dr. Sutton wrote an excellent book, in which he gave it the name of delirium tremens.

It is very requisite to distinguish this affection from inflammation of the brain. The brain fever of drunkenness is, as far as I have observed (with an exception which I shall presently make), always arising from the inordinate use of ardent spirits, wine, or strong malt liquors. I have met with only one exception, and in that case it arose from the use of opium. My friend, Dr. Ayre, has seen several cases arising from lead. This fever is very often connected with mental anxiety, night-watching, or copious evacuation. I once saw a patient who at the onset had laboured under inflammation of the tonsils and adjacent mucous membrane, for which he was bled, purged, and kept on a low diet; and in the state of exhaustion thus produced the attack of brain fever came on. In drunkards the brain fever generally comes on in the state of exhaustion from leaving off, either in part or entirely, the accustomed stimulus. In fact, to a confirmed drunkard, wine, spirits, and ale, are as food: he lives by a sort of suction. As we live on flesh and bread, so he lives by drink; and if you abstract his food you will very likely induce this peculiar condition of the nervous system. I have known the fumes of spirits produce this affection. I saw a case of brain fever once occur in an individual of remarkably temperate habits, but he had been for some days previous to the attack exposed to the fumes of ardent spirits, which affected him very much. He was at first exceedingly excited by them, and in the subsequent exhaustion the attack of brain fever came on.

A person having been much addicted to the use of considerable potations, omits his accustomed stimulus, and the approach of an attack of brain fever is almost invariably announced by the patient being remarkably irritable, with fretfulness of the mind, and mobility of the body. Watchfulness next occurs, and the patient takes little or no sleep. He has frightful dreams, sees remarkable sights, or hears extraordinary sounds. He then begins to fancy that some conspiracy is forming against him, entertains suspicions about certain persons or things, and imagines that some mischief is intended towards him. Then he is perpetually busied about his affairs, and so on.

I saw a case of this kind last week, and I found the individual fitting out his gig for a journey which he fancied he must take.

A butcher who laboured under this affection to a slight extent had certain strange fancies about a cow which he kept for the use of his family, and he daily sent his customers to his wife for the milk; which circumstance first announced to her that he was out of health.

Some patients in this affection are very much alarmed, and fancy that a person in the next room is waiting to assassinate them.

An innkeeper laboured so strongly under this delirium that he would have jumped out of the window had he not been prevented, fearing that a person was in the next room intending to shoot him with a pistol.

Sometimes the delirium turns on some matter of business, such as settling of accounts, or telling of money.

I recollect I saw a pilot who imagined that he was engaged to pilot a vessel, and he would walk down to the pier for that purpose; which, though it was a considerable distance, I allowed him to do.

The patient generally is in a perpetual bustle; his hands are constantly full; in short, he becomes a perfect man of business. The skin is damp and relaxed, and there is a variable active expression of the eye, and almost always tremor of the hands. The pulse is soft, compressible, and seldom above one hundred, except under great bodily exertions.

But, to be minute, the following are, numerically, the

SYMPTOMS OF THE BRAIN FEVER OF DRUNKENNESS.

If any of you be tired of my minuteness, and wish to practise medicine boldly, the best way is to carry a plaster about with you in your waistcoat pocket, and whenever a patient is com-

plaining you have nothing to do, but, without asking any questions, to clap this plaster on the ailing part, and prescribe fried eggs and bacon.

Sangrado engaged to give Gil Blas the whole art and mystery of surgery in one lesson; and really if you do not attend to minutiæ the probability is that your practice, provided you use the plaster and prescription I have just mentioned, will be as simple and about as successful as that of the celebrated Sangrado. Being, however, fully convinced of the advantage of being minute, I must draw your attention to the following particulars as the most characteristic of the brain fever of drunkenness.

1. This affection comes on in a state of weakness, and almost always after hard drinking.

Indeed, it occurs always after the excessive use of spirits, &c., as far as my observations have gone, with only the one exception which I have mentioned.

2. It is preceded and attended by irritability of mind and mobility of body.

There is a remarkable sensibility of the body, an incessant tendency to move from one place to another; and the patient is prone to be irritated by very slight circumstances.

3. It is preceded and attended by watchfulness during the day and night,—

Compared with the natural habits as to the sleep.

4. An incessantly active bustling delirium supervenes, when the disease is fully developed.

And the illusions which attend this delirium, however vague and unfounded, operate on the patient with all the force of realities till he becomes furiously mad. He has extraordinary activity of mind, and is busied in enumerating his misfortunes or in counting his wealth.

5. The countenance is quick, variable, and wild at times.

No single description will apply to the expression of the countenance in these cases; for it varies with the predominant impression on the mind of the individual.

6. The skin is damp and relaxed, especially on any exertion.

7. The hands are generally tremulous.

I have seen some cases in which the tremor was entirely absent. When it exists it is most obvious when the patient's hand is held out. It is like the tremor which you may see in the hands of a drunkard in the morning before taking his accustomed dram.

I used to dine with an individual in the north of England whose hand was so tremulous that he could scarcely get the glass

to his mouth, and notwithstanding the expedient of taking both hands he would generally spill some of his wine. But after he had taken five or six glasses his hand became perfectly steady.

8. The patient would be in constant motion.

And he generally is so unless he is tied down. There is activity, not only of the mind, but of the body also. The whole mind is put constantly in action, and the whole body in motion. The individual is perpetually changing his place, and displays considerable power both of body and mind.

9. The face is pale, and the conjunctiva generally blanched.

10. The surface is rarely hotter than natural.

It is almost always damp.

11. The tongue is but slightly furred and very moist.

12. The appetite is good.

The patient will take what is offered him; except in those cases where he labours under an illusion, and suspects that some person is about to poison him; for then he will often refuse every thing.

13. The pulse is soft and compressible.

It is soft and compressible, I mean, compared with the pulse which occurs in inflammation of the brain and its membranes. It is seldom above one hundred, if the individual be quiet; but if he use much exertion it is sometimes excessively rapid and small. In some cases there are convulsions; sometimes they are very dangerous, but often they are not fatal if the patient be properly managed.

DIAGNOSIS OF THE BRAIN FEVER OF DRUNKENNESS.

I. FROM INFLAMMATION OF THE BRAIN AND ITS MEMBRANES.

If you remember, then, these combined symptoms, you will, in general, easily distinguish this affection from inflammation of the brain. Attend particularly to the contrast in the following points under the two different affections.

1. In inflammation of the brain and its membranes there is a peculiar mixed expression of the eye, made up of a combination of physical brightness with intellectual dulness.

In the brain fever of drunkenness the expression of the eye is generally remarkably vivid and intelligent, except when the patient labours under an apprehension of the approach of some great mischief to himself.

In inflammation of the brain the look is wearied, anxious, and oppressed, except when there is high delirium, and then it is wild.

In brain fever the look is rolling and restless, exceedingly variable according to the present impression.

2. In inflammation of the brain there is dropping of one or both eyelids; in the first stage the pupil is contracted; and in the last stage, if effusion have taken place, it is dilated.

But in the brain fever the pupil is not contracted; nor is it dilated except under great exertion.

3. In inflammation of the brain the conjunctiva is ferrety.

In the brain fever the conjunctiva is blanched.

4. In inflammation of the brain the heat is very high on the surface, especially over the head, neck, and face.

This is not the case in brain fever; in which the skin is sometimes warm, but often cool and even chilly, from the excessive perspiration and consequent evaporation from the surface of the body. Sometimes, however, the surface is hotter than natural from great exertion.

5. In brain fever, too, the pulse continues remarkably soft in comparison with the pulse which occurs in inflammation of the brain; and is slow except when the patient makes violent exertions.

6. The skin is remarkably relaxed in brain fever; but it is not so in inflammation of the brain.

7. In brain fever the hands are generally tremulous from the commencement.

In inflammation of the brain the hands are tremulous only in the last stage.

8. In inflammation of the brain the strength fails from the beginning, and the patient staggers when he attempts to walk.

But in brain fever at the beginning, and during the progress, the patient manifests very great muscular power. He looks, speaks, moves, and does every thing with very great rapidity and energy. With respect to this, however, exhaustion often comes on very rapidly after great exertion, and the patient falls down from fatigue.

9. In inflammation of the brain the appetite is prostrate.

In brain fever the appetite is good, except when the patient refuses food from a suspicion of an intention to poison him.

10. Brain fever is mostly the consequence of hard drinking.

Inflammation of the brain can, on the contrary, generally be referred to other remote occasions.

11. In brain fever the patient is first irritable, then watchful, then fanciful, and, lastly, furiously mad.

In inflammation of the brain the patient is first complaining of pain in the head, with general debility of mind and body.

12. In brain fever the patient is constantly changing his place. He is in the state called jactitation.

In inflammation of the brain he lies on his back, with but little muscular power, except in occasional fits of delirium, in which his strength is remarkable.

13. In brain fever the patient does not often complain of pain in the head; but in inflammation of the brain he almost always complains of acute pain in the first stage.

14. Brain fever comes on and goes off suddenly; but inflammation of the brain comes on and goes off for the most part gradually, though to this there are some exceptions, especially in hot climates.

II. FROM MADNESS.

It is important to distinguish the brain fever of drunkards from madness, because, as far as I have observed, the strait-waistcoat is fatal in almost all cases of brain fever where the patient struggles violently, which, by the way, he generally does.

Suppose the patient in brain fever has an illusion upon his mind that some person is waiting to assassinate him; if he be confined he will struggle with very great violence to rescue himself from the supposed danger; and in one of these struggles he will, in all probability, die.

Now as to the distinction between the brain fever of drunkenness and madness, there is none morally speaking. The patient in brain fever labours under an illusion, and is not morally responsible for his actions.

Again, it is of consequence to distinguish these two affections; for if patients be largely or repeatedly bled in brain fever, they generally die. Almost all the individuals I have heard of who have been especially and repeatedly bled have died.

These little things are very important in pathology and practice. On them we found our opinions, and on our opinions we found our practice; and in order that you may be distinct in your opinions and successful in your practice, you must investigate the symptoms of all cases very minutely, and contrast them with the symptoms of other affections with which they are liable to be confounded.

The patient in the brain fever of drunkenness generally dies in convulsions; and most frequently after some violent exertion both of mind and body. The individual is put into a state of alarm;

he is perhaps subjected to some restraint; he struggles with very great violence; and suddenly sinking down exhausted, becomes convulsed, and dies.

It is of very great importance to avoid putting the patient into a passion. It is better not to confine him, but to watch and take great care of him.

MORBID ANATOMY OF THE BRAIN FEVER OF DRUNKENNESS.

When, however, the patient does die, you generally, upon examination of the body, find very little morbid anatomy to account for his death. Turgescence of the veins, and slight preternatural fulness of the arteries of the pia mater and arachnoid, are most frequently found; and of these there are evidences during life. Effusion of serum into the ventricles of the brain, or between the pia mater and the tunica arachnoides, will also be seen, and mostly congestion in the liver.

The appearances on dissection, then, do not explain the phenomena of this affection; and, for want of a better name, we call it a nervous affection. And what is a nervous affection?—We know nothing at all about it, and the name amounts to a confession of our ignorance. It is one of those names, the meaning of which is sometimes, nay, almost always, very hypothetical; hypothetical, because the condition of the system under which these phenomena occur, with the effects of remedies under these conditions, are not noticed. Names of this kind, in many instances, are but mere assumptions. And we need not be surprised, nor need it excite our wonder, that a few men should in their imaginations frame fables and fallacies to account for such conditions. But it really is very remarkable that so many individuals should believe them so implicitly: that is the wonder! It is sufficient almost to make us believe that one of Burns's "Twa Dogs," was right when he said—

> "But human bodies are sic fools,
> "For a' their colleges and schools!"

It has been said that old moons are clipped up to make stars, which in progress of time will be so numerous, that gas-light will be unnecessary. One cannot help laughing at such nonsense as this; but in physic there are some conjectures afloat which are quite as vague. Men will follow similar absurd notions through thick and thin, and stick at nothing in the way of explanation. But you must form your own opinions and practice from close observation, taking my remarks merely as materials for thinking.

INFLAMMATION OF THE SPINAL CORD AND ITS MEMBRANES.

This arises as any other inflammation does; sometimes from injuries received over the spine; and very often from peculiar remote occasions. One of the most frequent peculiar poisons producing this inflammation is, perhaps, malaria or marsh effluvia. The spinal cord and its membranes are generally inflamed together; and when acute or sub-acute, this is indicated by five

SYMPTOMS.

When it occurs on a sudden the first symptom is—

1. Pain in the cervical, dorsal, or lumbar portion of the spinal column.

The pain is generally increased by pressure with the fingers, or by bending the body backward or forward, or by twisting the body from side to side.

2. Pain, numbness, or tingling, in the upper or lower extremities, or in the trunk.

If the cervical portion of the spinal cord and its membranes be inflamed, the pain, numbness, or tingling, will be in the upper extremities. If the dorsal portion be inflamed, the same symptoms will be in the upper extremities, and generally in the trunk of the body. And if the lumbar portion be inflamed, these uneasy sensations will be found in the lower extremities. Sometimes the inflammation extends throughout the three portions, and then you will have the pain, numbness, or tingling, extensive in proportion.

3. More or less diminution in the power of moving certain parts.

The patient, for example, cannot grasp any thing in his hand so firmly as before.

4. More or less obtuseness in the sense of touch.

This is especially displayed in the fingers and toes, when the cervical or the lumbar portions are respectively inflamed.

5. More or less tenderness on the surface of the body.

This is sometimes over the whole body, but sometimes confined to particular parts.

In this, as in other inflammations of an acute or sub-acute form, the heat is higher and the pulse quicker than natural. Sometimes the respiration is very much disturbed. Sometimes the stomach is a good deal disturbed, and especially there is a loss of appetite. Sometimes the bowels are very torpid. Occasionally the urine is retained too long, or is constantly dribbling away, from the bladder not properly performing its functions. When the spinal

cord is inflamed the patient often complains of the pit of the stomach, in consequence of some irregular action of the diaphragm. The pulse is quick and small, and soft.

This inflammation is generally of the sub-acute kind; but sometimes it is more strongly marked, and when it assumes the acute character it is generally fatal.

There is no difficulty in detecting it when it exists separately; and when it occurs in conjunction with inflammation of the brain you have the combined symptoms of the two affections.

DIAGNOSIS OF INFLAMMATION OF THE SPINAL CORD.

There are only two affections which you can confound with inflammation of the spinal cord and its membranes. The one is rheumatism, and the other is inflammation of the bowels. If you attend to the following observations you will easily distinguish it—

I. FROM RHEUMATISM.

In rheumatic inflammation pain, redness, and swelling about the joints are present, and pain in the course of the spinal cord is absent. In inflammation of the spinal cord and its membranes there is pain in the course of the spinal cord, but there is no pain, redness, and swelling about the joints. You must attend to this point very particularly, because the pain sometimes is as acute in the lower extremities as in rheumatism. Always investigate the state of the head and of the spine in cases of chronic pains of the extremities and trunk. There are many cases which pass under the name of chronic rheumatism, but which are in reality connected with some chronic inflammation of the spinal cord or brain.

II. FROM ENTERITIS.

With respect to mistaking this affection for inflammation of the bowels you must be on your guard. I have been called by students to see cases which they have supposed to be peritoneal inflammation, because the whole surface of the belly has been tender. It is extremely common to find the surface so tender (except the fingers and toes) that pressure cannot be borne, and hence you might suppose the case to be one of abdominal inflammation. In these cases you will invariably find that the tenderness exists elsewhere besides over the belly, and generally over the whole surface. If the tenderness be merely symptomatic of inflammation of the spinal cord, all the symptoms of inflammation of the bowels, except the tender-

ness, are absent. The tongue does not indicate any inflammation of the mucous membrane, nor are there any signs of inflammation of the serous membrane of the intestinal canal. The bowels are not constipated, there is no vomiting, and the breathing is good; in short, it is in the absence of symptoms that the diagnosis lies.

LECTURE XXI.

COMMON INFLAMMATORY FEVER.

SYMPTOMS AND DIAGNOSIS OF INFLAMMATION OF THE FAUCES AND AIR-PASSAGES, LUNGS, PLEURA, AND PERICARDIUM.

THE French have arranged the parts of the body liable to disease into tissues, and in describing the various internal inflammations they proceed from one tissue to another which is most like the last. Thus we might divide the subject into inflammation of the serous, mucous, and other membranes: but it appears to me better to take into consideration those parts which are adjacent, though different in their structure; for by observing them thus we obtain the opportunity of contrasting them one with the other; we have the advantage which, as in Plutarch's Lives, is derived from comparison, by which each is rendered more clear.

With regard to inflammation of the fauces and air-passages, these terms are very comprehensive, including the tonsils, the soft palate, the lining of the nostrils, the Eustachian tube, the pharynx, the larynx, the trachea, and the bronchia. The mucous membranes of these parts is a continuous structure, and hence inflammation may readily extend from one portion to another.

THE PREDISPOSITION

to inflammation in these parts is, as elsewhere, natural or acquired.

1. It is natural as connected with age. Children are extremely liable to affections of these parts, which are very delicate in their structure at an early age. Many old persons are predisposed, partly perhaps on account of the disordered state of the skin,

which has an intimate connexion with the internal mucous membranes.

Something depends too in these cases upon hereditary predisposition. Those who have a soft skin which may be compared to kid's leather, are very much predisposed to affections of these parts; as are also those who have very harsh skin, such as may be compared to dog's leather. In the first case the patient is fair and of a spare habit; in the second of a lax fibre, but of a coarse and full habit.

2. Predispositions to these affections are also acquired. When the strength becomes broken up the skin becomes blanched in comparison with its healthy state, and the mucous membranes by sympathy become delicate. Bad air; bad food; too spare or too complex a diet; stimulating drinks, as spirits; and excess of study, especially if combined with night-watching; are other occasions of acquired predisposition to affections of these parts. If night-watching be combined with anxiety of mind an additional tendency is acquired.

The study of medicine is one which is extremely arduous, and it is a common thing for students to grasp at too much at one time. It should be recollected that great mental exertion, as well as violent bodily exercise, produces exhaustion of the vital powers, and that it is an object to preserve both the body and the mind in a state of vigour, so that the student may be enabled to overcome the consequences of an accident in the dissecting-room, which, on a system already predisposed by muscular exertion, mental anxiety, and night-watching, would perhaps produce the most serious effects. A student of medicine should not attend more than two, or at most three, classes in a day.

A convent of very strict monks were accustomed to spend each day as follows: eight hours were allowed for amusement, four hours for dinner and four more for its proper digestion, eight hours for sleep and the duties of the convent, and the *remaining* time was devoted to study!

Now, though not exactly in the foregoing way, yet I would advise a pupil studying medicine to divide his time regularly. Night-watching and being too long at one time in the tainted air of a dissecting-room should be scrupulously avoided. He should have his meals regularly, never fasting too long nor hurrying himself at his meals, and he should carefully masticate his food. He should take regular moderate exercise in the open air, and occasionally use a tepid bath. He should also be so clothed as to keep

the skin in action, and for this purpose flannel should be worn. Lastly, but by no means of least importance, he should on no occasion, except under very peculiar circumstances, sit up later than eleven o'clock at night. These rules should be strictly attended to.

REMOTE OCCASIONS OF INFLAMMATION OF THE FAUCES AND AIR-PASSAGES.

These are—

I. COMMON.

1. Cold; which operates as a direct irritant, or as a depressant, according as it is applied: in a strong current of cold air to the nostrils, for example; or as a person becomes universally chilled by exposure on a cold day.

2. Heat operates *locally* by directly stimulating the air-passages; hence persons coming from a cold to a hot atmosphere are in danger of affections of these organs: and also *generally* as an universal stimulant, the weak parts being most affected when general excitement is produced.

Inflammatory affections of the mucous membranes are most prevalent in a damp cold atmosphere, or in a damp warm atmosphere; in each of which states there is a considerable quantity of electric fluid. In a cold dry atmosphere affections of the serous membranes are more prevalent. But to these rules, though they obtain generally, there are of course some exceptions.

3. Mercury in some individuals excites inflammation of the mucous membranes; therefore you should never forget to be cautious in producing ptyalism in delicate persons. I have seen two instances where inflammation of the air-passages was excited by taking mercury.

One case was that of a child to which small doses of mercury were given night after night. It had a cold skin; ptyalism came on, and produced such irritation that the throat was inflamed and ulcerated, and the child died.

I saw similar effects follow the use of mercury in the case of an old broken-up drunkard; and in these cases ptyalism is always very likely to occur.

4. Another remote occasion of these affections may be called sympathy.

Some persons have congestion of the brain, evidently occasioned by disorder of the liver. A person has a disordered stomach, flatulence, furred tongue, and uneasiness in the epigastrium: and

this person shall become liable to inflammatory affections of the throat; and if you trace inflammation from this source, you will find that it attacks all parts of the body in turn in different individuals.

One most common inflammatory affection of the fauces is inflammation seated about the tonsils and adjacent mucous membrane, or, as it is commonly called, cynanche tonsillaris.

THE SYMPTOMS OF CYNANCHE TONSILLARIS,

(the C being pronounced like K by the Scotch and like S by the English), or, as it is sometimes termed, quinsy, are the following:—

1. A sense of soreness, heat, and pain, about the tonsils and adjacent mucous membrane.

2. A sense of fulness in the same situation.

This varies in degree with the degree of inflammation.

3. More or less uneasiness in the act of deglutition.

4. Some thickness or nasal twang in the sound of the voice.

This thickness or nasal twang is very peculiar. Sometimes the voice resembles the noise which is made by Punch in puppet shows.

5. The patient breathes more audibly and evidently than natural through the nostrils.

6. Redness and swelling about the tonsils and adjacent mucous membrane may be seen on examination.

The best way to see this is by means of a strong light, as that of the sun when the sky is clear. Direct the patient to open his mouth, and at the same time to take a deep inspiration, while with a spatula you press the tongue so as to prevent it from interrupting your view of the parts inflamed. If the sky be cloudy you may succeed by using a small mirror and throwing the reflection of a candle on the throat; and in this way the appearance of redness, injection, and swelling, will be evident.

7. An increased secretion of mucus and saliva.

This is the product of inflammation; and occurs partly from the tonsils, and partly from the salivary glands.

The fever varies according to the degree of the inflammation. If the inflammation be acute the fever is generally very ardent: that is, the heat is very high on the surface of the body, and the pulse is very quick; I have known the pulse one hundred, one hundred and thirty, one hundred and forty, one hundred and fifty,—or even one hundred and sixty in very sensitive subjects. If the inflammation be sub-acute the fever will be less strongly marked.

But recollect that the inflammation may be apparently slight, and yet the fever may be very ardent; and then you will generally find that some other part is consentaneously inflamed, and that the inflammation of the tonsils and adjacent mucous membrane is but a small part of an extensive inflammation. Never presume that one part only is the seat of inflammation, especially if that part be evident. For in cynanche tonsillaris it often happens that other parts are simultaneously inflamed.

Sometimes the inflammation extends along the Eustachian tube to the membrane lining the internal ear; sometimes the brain is simultaneously inflamed; sometimes the additional seat of inflammation is the mucous membrane either of the stomach or intestinal canal: this is very common in weak broken-up subjects.

Sometimes cynanche tonsillaris is a part of erysipelas.

A man, for example, receives a blow on the head, which is followed by erysipelas, and the inflammation extends over the face, spreads along the mucous membrane of the nostrils to that of the fauces, air-passages, and even intestinal canal. All this occurs from the blow having been received when the individual was in what is called a bad habit of body.

You should take an extended view of the subject, and satisfy yourself of the nature and seat of the affection, and whether it be simple or complicated.

Cynanche tonsillaris, when it exists simply, has three modes of termination.

1. It terminates by what is commonly called resolution; by which is meant a termination of inflammation without any apparent change in the part inflamed. But, strictly speaking, there is no such thing as resolution: but the inflammation in these cases terminates by an increased secretion of mucus and saliva, which increased secretion is sometimes the cause of the removal of the inflammation.

2. It terminates by suppuration, which occurs in the tonsils. One or both (mostly both) tonsils are enlarged, the swelling increases, the breathing becomes more thick and nasal, the voice very indistinct, the difficulty of deglutition very great. In short, the patient often appears in danger of suffocation, perhaps from pressure about the larynx or epiglottis; the tonsils become more and more swollen, and fluctuate, till, under the effort of coughing, they are burst, and the matter being discharged, relief is obtained.

Occasionally only one tonsil suppurates, and having healed, the other then suppurates. The patient very often becomes worried

and emaciated by this slow and alternate process of suppuration, first of one and then of the other tonsil, which breaks in upon the sleep, and the patient sinks under the disturbance which it produces, and dies.

A pupil of mine last year had suppuration alternately in each tonsil; and he passed delirious nights in consequence.

Suppuration of the tonsils generally takes place in individuals of considerable strength.

3. But if the individual be very weak and of a lax fibre, it more frequently happens that ulceration takes place; and in that case you will invariably find that the patient labours under more or less irritation, either amounting to local simple excitement or to actual inflammation, of the mucous membrane of the stomach or intestinal canal.

When ulceration thus occurs it is very common to observe the glands of the neck enlarged.

The mesenteric glands are often diseased secondarily from irritation of the mucous membrane of the intestines; and, on the same principle, any irritation of the parts in the neighbourhood of the glands of the neck may irritate those glands.

A local irritation in one part will often produce an irritation seated in a different part.

A carious tooth will sometimes be found to be the cause of enlarged glands about the neck.

So also it is not uncommon to find in children a discharge behind the ears accompanied by enlarged glands.

Upon the same principle, perhaps, the glands of the groin become enlarged from the local irritation of a chancre: perhaps more than from the absorption of syphilitic virus.

Upon the same principle the glands of the axilla become enlarged from some irritation about the fingers.

I know a gentleman who suffered extremely from irritation, enlargement, and suppuration of the glands of the groin, in consequence of rudely tearing out a portion of the nail of one of his toes.

Suppuration and ulceration are the most common terminations of cynanche tonsillaris.

Sometimes in children the tonsils remain very large, either permanently or for a very long time; and this enlargement is sometimes the cause of a very troublesome cough.

An intelligent friend of mine went to a gentleman's house whose daughter, he was told, laboured under consumption; and two

physicians had been daily consulted about her. The sound of her voice led my friend to look at her tonsils; and he found them so much enlarged, that they were obviously the cause of what the doctors had conceived to be a consumptive cough.

I mention this case to show you how necessary it is that, instead of taking anything for granted, you should in every case use your own eyes and other senses, and never draw hasty conclusions. Make out for yourselves the evidence which exists, and draw from it such inferences as it seems to warrant.

Inflammation may be confined to the tonsils, and sometimes in this case the pulse is very quick; and if the other organs be sound, they will not be inflamed; but if they be weak, they will.

A variety of this form of inflammation extends along the Eustachian tube; and hence frequently deafness occurs, accompanied by muco-purulent secretion from the ear.

Sometimes inflammation extends from the fauces to the larynx.

I shall next speak of—

THE SYMPTOMS OF CYNANCHE LARYNGEA,

Laryngitis, or inflammation of the mucous membrane of the larynx.

It sometimes happens that this is a part of inflammation about the tonsils, which spreads down the pharynx, and at last invades even the larynx.

Sometimes it attacks the larynx at first.

The larynx is the organ of voice. If an opening be made into the trachea below the cricoid cartilage, the voice is destroyed. The voice is the consequence of vibration communicated to the external air; and when a person is in health it is quite clear and distinct.

The first thing which is characteristic of 'acute' or sub-acute inflammation of the larynx is the following:—

1. The sound of the voice.

The sound of the voice is either suppressed, or it is a whisper, or it is a hoarseness, or it is a rough, hollow, grumbling sound; one of these four conditions of the voice exists. The moment the patient gives you an answer, the case is easily distinguished as far as the sound is concerned. When the inflammation is seated about the epiglottis, the patient speaks most indistinctly, and in a mere whisper.

About a fortnight ago an old gentleman fell down as he was walking out, and it happened that he fell on his head. When I

saw him he laboured under inflammation of the mucous membrane of the intestinal canal; erysipelas spread over his face, and the inflammation extended along the mucous membrane of the nostrils, the fauces, and the larynx. In this state his voice was not suppressed, nor a whisper, nor a hoarseness, but a rough, hollow, grumbling sort of noise; and he died of ulceration of the larynx. The next point to be attended to as a symptom of this inflammation is—

2. The sound in breathing.

It is not the noisy breathing which attends croup: but the patient in breathing makes a noise as if he were breathing through a small wooden aperture. There is a peculiar hollow narrow sort of noise, but so slight that, unless you were very attentive, it would probably fail to strike you.

About ten days ago I was sent for into the country by a lady who was very much alarmed about her child. She had lost two children from laryngitis, and this was the third in which the affection commenced as in the others. She heard this small noise, which alarmed her, especially when she observed the chest heaving up and down, and that the hands and fingers were constantly in motion, as had been the case with the other two children. The child, when I saw it, distinctly laboured under laryngitis, but it was saved.

In more intense cases this peculiar sound on breathing is more distinct: and there is generally a flapping noise, as if the epiglottis were falling up and down. This flapping noise perhaps never occurs except when the epiglottis itself is inflamed; and it generally is a fatal symptom. Attend likewise to—

3. The kind of cough.

The cough in cynanche laryngea is of two kinds.

In the most concentrated forms of this inflammation the patient cannot cough fully out; but the attempt to cough ends in a low, grumbling, grunting, suffocating noise about the epiglottis.

But it happens in the less intense cases that the patient does cough out; and in doing this you will hear a harsh, reverberating, clanging noise within the larynx.

When the epiglottis is much inflamed the patient cannot swallow liquids well without being occasionally choked, from the epiglottis not performing its functions properly. The patient has—

4. An occasional hem, as if to remove something from his throat.

There is in acute or sub-acute laryngitis—

5. Little, and sometimes even no, expectoration.

But this does not apply to chronic inflammation of the larynx, for the expectoration then is copious and even purulent.

In acute and sub-acute inflammation of the larynx generally there is added to these symptoms—

6. Tenderness on pressure about the larynx.

7. The respiration is quicker and more obviously performed than natural, and more or less difficult, according as the affection is acute or sub-acute.

Hence you see the chest heaving up and down more than natural; the alæ nasi moving to and fro with very great rapidity; the larynx too is drawn first in, and then out, with a preternatural effort; and all the auxiliary muscles of respiration are called into action. The patient seems to draw the breath inward, as if he were breathing through a smaller aperture than natural. The rima glottidis in this affection is lessened, and occasions difficulty of breathing, which is increased by fits of spasm.

8. The countenance has an anxious, a suspicious, or an alarmed expression; the eyes being in general more prominent than natural.

9. The patient moves his arms and fingers very much.

This is especially the case in children.

10. The pulse is small and frequent.

The pulse grows quicker and quicker as the affection advances.

11. The heat generally is not remarkably high on the surface. The skin is not so hot as the state of the pulse would indicate. When the epiglottis is affected simultaneously with the glottis—

12. The patient is afraid to drink.

The epiglottis when inflamed and swollen does not perform its office properly, and the patient fears lest the water should get into the larynx: a drop of water getting within the glottis produces spasmodic cough, and when the patient swallows he generally coughs.

The breathing becomes more and more affected, and the prostration of strength is greater and greater.

When the inflammation is mainly seated lower down, the patient is able to cough out, but the voice is hoarse or a whisper. The symptoms in this case are not so pressing: there is the same combination of circumstances except that the patient has the power of coughing fully, though with a peculiar sound in the larynx.

Cynanche laryngea is an affection which not unfrequently attacks individuals accustomed to great mental efforts.

It proved fatal to Washington, who was one of the most distinguished individuals in the world, and, as far as history goes, one of the purest patriots that ever existed: certainly the man amongst all warriors upon whose actions the philosopher and the philanthropist may rest with the greatest satisfaction and pleasure.

Sir J. Macnamara Hayes, also, a distinguished physician; and Dr. Pitcairn, an individual still more talented, lost their lives by this affection.

I have known several individuals in the Fever Hospital die of this affection: and I was led to ascertain the source of its frequent occurrence in persons convalescent from other affections. It obviously arose from the neck being exposed to the draughts from the windows in the convalescent ward, instead of being covered with a neckcloth.

Sometimes this affection is brought on by drinking hot water, which inflames the mucous membrane of the fauces, of the pharynx, and of the larynx, which parts are in these cases always simultaneously inflamed.

Mercury occasionally excites laryngitis by inflaming the mucous membrane of the fauces which is reflected downwards and lines the larynx, trachea, and bronchia.

This inflammation in its most acute form is perhaps the most formidable and most dangerous inflammation that attacks the human body.

The duration is decided by its degree. If it be acute it generally runs its course with dreadful rapidity.

I have seen it in one case terminate fatally in seven hours from its commencement. In another case it ran its course in eight hours. In other cases I have seen it terminate in twenty-four hours; and in others in forty-eight hours.

If you convert it into chronic inflammation it will go on many weeks.

It very often terminates in chronic inflammation and ulceration unless it be nicely managed. This ulceration will destroy life, either by keeping up excitement accompanied by gradual emaciation and expectoration of pus, or by exciting an attack of acute inflammation.

DIAGNOSIS OF CYNANCHE LARYNGEA.

There are two cases which you might confound with inflammation of the larynx; and both are of a spasmodic character.

1. Infants without any fever are, occasionally, suddenly attacked

with great difficulty of breathing; and sometimes die almost instantly. It occurs for the most part under dentition; but I have seen it occur at a later period of life. A child is suddenly seized with a difficulty of breathing; and its parent, becoming alarmed, sends for a medical man. On his arrival the child is sometimes found to be dead; but sometimes it happens that the attack is quite gone off. It is usually relieved spontaneously by an attack of coughing and expectoration of mucus or lymph.

The anxieties of mothers, it is true, are sometimes without foundation, but generally they are not so; on the contrary, their observations on their children are very correct.

These attacks are almost invariably connected with some irritation about the mucous membrane of the stomach or intestinal canal.

One friend of mine, on examination of these cases, has universally found inflammation about the lower part of the ilium.

2. The brain has a remarkable influence on the larynx; and sometimes in affections of the head, as in epilepsy or in hysteria, the patient is suddenly seized with difficulty of breathing.

In this case the difficulty of breathing comes on rapidly, and goes off suddenly; and there is no fever. In epilepsy or hysteria, for instance, it occurs before the fit—that the patient suddenly has great difficulty of breathing, with a suppressed voice, so that he gasps as it were for breath. It gives way to æther, or especially to emetics.

No doubt the larynx is sometimes closed suddenly by spasm.

I saw one individual who died suddenly while the surgeon was preparing to perform the operation of tracheotomy.

I saw another patient who died while I was deliberating whether to perform the operation or not. The death generally occurs very unexpectedly, in consequence of the rima glottidis being suddenly spasmodically closed. I may add that—

3. An abscess in the tonsil is sometimes so large as to press on the epiglottis, and almost to produce suffocation, with all the symptoms of inflammation of the larynx. This is suddenly relieved by the discharge of a large quantity of matter from the tonsil. This may be detected by examination.

SYMPTOMS OF CYNANCHE TRACHEALIS.

Croup, cynanche trachealis, or inflammation of the mucous membrane of the trachea, is only a modification of cynanche laryngea; for in all the cases of croup which I have seen the larynx has

been more or less inflamed. It is only a less intense degree of cynanche laryngea, combined with more or less inflammation of the trachea. The inflammation is less in the larynx and more in the trachea; and hence it has some apparently peculiar characters.

Children are more liable to this inflammation than adults: the larynx undergoes a very great change about the age of puberty. It sometimes, however, attacks adults as well as infants. It is extremely common in Scotland, where the weather is subject to sudden and considerable variations.

The following are the symptoms which mark common croup:—

1. A shrill, loud noise during inspiration.

This may be heard to a great distance from the patient's chamber.

2. A crowing, barking, or hoarse croaking raven sort of noise on coughing.

The patient likewise breathes and coughs as if through a brazen, reverberating tube. This shrill, harsh noise occurs both under inspiration and expiration.

Sometimes the cough resembles the barking of a dog; sometimes it is more like the crowing of a cock. These comparisons are necessarily imperfect, but they will give you a better idea of the sound than any other with which I am acquainted.

3. The respiration is frequent and laborious.

4. The cough is frequent and sometimes severe.

5. There is an expectoration of mucus, generally mixed up with patches of lymph.

These have the appearance of threads in form, or are like pieces of membrane moulded to the form of the trachea. The expectoration is generally plentiful.

6. The fever is generally very openly developed.

The heat on the surface is higher, and the pulse is stronger and more expanded, than in cynanche laryngea.

7. The patient has a hoarse and rough voice.

As the disease advances the heat fails, the heart's action becomes feeble, the respiration weak, and the child sinks with a livid face and symptoms like those attendant upon cynanche laryngea.

It has been said by Cullen that the deglutition is not difficult. This sometimes is certainly true; but in other examples it is not true.

I was once attending a gentleman and his wife who laboured under cynanche tonsillaris, and I was not at all alarmed about it: but in both of these cynanche laryngea came on. This was the consequence of my reliance on the accuracy of Cullen's definitions.

I beg therefore that you will be upon your guard against all big-wigs, and appeal to nature, and to nature only, for a correct account of the symptoms. If you do so you will find that croup sometimes happens to be joined with cynanche tonsillaris; and then there is difficulty of deglutition.

Now inflammation in this case is always to be found in the larynx and trachea, and sometimes extending down the bronchial lining.

SYMPTOMS OF BRONCHITIS.

Inflammation of the mucous membrane of the bronchia, the peripneumonia notha of the older writers, and what is called by modern authors bronchitis, is designated by the following symptoms :—

1. The breathing is more quick, more uneasy, and more laborious than natural.

When the respiration is difficult the circulation of the blood is retarded, as I have before mentioned. Many a case commences as a head affection, and finishes in bronchitis ; and many a case commences in bronchitis and terminates in an affection of the head.

2. The breathing is mostly attended by a purring, rattling, or wheezing noise.

This might be passed over without notice if you were not careful in your observations; but you will almost invariably hear it by applying your ear to the patient's mouth. It is generally present, though sometimes it is slight, or even entirely absent, especially if there be copious expectoration of the mucus which is effused. There is mostly—

3. A frequent cough, with a loose, diffused, deep, stuffing noise.

This is sometimes absent in the excessively severe cases, where an effusion of serum takes place into the bronchial passages, and then the patient dies very rapidly; but it is generally present. There is mostly, too—

4. A copious expectoration of a mucous kind.

In the slighter cases the expectoration is glairy and frothy ; in more severe cases it is opaque ; and in the still more severe cases it is puriform, and spit up generally in large patches, which run together in the vessel, forming one mass.

These patches look like the yolk and white of an egg mixed up together, or like mucilage of acacia beaten up with a spoon. In the early stages the sputa are opaque, but very nearly transparent as the disease advances.

The expectoration is sometimes mixed with blood. This is one

of the most common causes of expectoration of blood; and does not at all aggravate the case, but generally relieves it. A copious effusion of blood, however, will sometimes produce suffocation.

5. A deep inspiration gives no pain.

6. There is a purple or leaden colour of the lips.

Sometimes the lip is pale; sometimes a deep purple, like the plum or the grape; or of a leaden or violet tinge.

7. There is a purple colour, or pale livor of the cheeks.

The reason why I mention the purple colour, and the paleness with livor, of the cheeks is this. The cheeks of individuals ruddy in a state of health become in this affection purple, as in ruddy adults; while in children who have in health a pale hue of the cheeks, the colour of the cheeks in this affection is altered to a pallidity which is mixed up with livor; from carbonaceous blood circulating in the capillaries of the cheeks.

An example of the first of these hues of the cheeks is often seen in old adults. Infants on the other hand often have a paleness and livor of the cheeks, which is usually remarkable if you stand at some little distance from the child's bedside. It is especially observable in the wards of an hospital; if you compare the cheeks with those of another child, in an adjoining bed, labouring under some other affection. In the progress of the affection—

8. There is generally more or less heaviness of the head.

This arises from the interruption to the natural change which the blood undergoes in its passage through the lungs in a state of health. The blood ought to produce a certain healthy action in the brain; but this is not the case when a venous blood circulates in the arterial system; and the consequence is—

9. Generally, considerable prostration of muscular power.

10. The pulse is generally soft and compressible.

11. The heat is generally moderate upon the surface.

To these last two remarks there are some exceptions. In slight cases, both in children and adults, the heat may be high and the pulse quick.

Some cases of bronchitis terminate very rapidly. An old man exposed to the cold is chilled, and dies of an effusion of mucus or of a muco-purulent fluid in the bronchia.

This affection is most common in old persons or infants, though perhaps at some colleges they would be surprised to hear it said (though it really is the case) that peripneumonia notha is common in infants and children.

The great point to attend to is the relation between the quantity

secreted and the quantity expectorated. Take this into account, and from it you may draw the balance in favour of or against the safety of the patient. If the quantity secreted exceed the quantity expectorated; if the purring, rattling, or clanging noise increase, while the expectoration becomes less copious, the danger of the patient is often excessively great.

In the special bronchitis there is an exception to this. The danger then is not to be apprehended from the quantity secreted so much as from the kind of secretion. The secretion then is far more sticky, like varnish smeared over the bronchial lining, so as far more effectually to exclude the air from contact with the blood than is the case with the less sticky but more copious secretion in common bronchitis. And all those fevers which are called typhous, typhoid, putrid, low, or malignant fevers, owe their characters to this special bronchitis, as I shall have occasion more fully to explain in speaking of typhus fever.

It happens occasionally that a certain state of atmosphere produces what is called Influenza, or sometimes Catarrh. It is nothing but an inflammatory affection of the mucous membrane of the air passages. Malaria, which produces typhus fever, affects the mucous membranes very peculiarly. I have never seen a case of typhus fever in which there was not inflammation of the mucous membrane of the air-passages and ulceration of the intestines. Measles affect the skin, and the mucous membranes, especially of the air-passages. The same may be said of small-pox, hooping-cough, and scarlet fever. Extensive burns and erysipelas destroy the skin, and the mucous membrane of the air-passages and bowels become inflamed.

No part of modern pathology is, upon the whole, so difficult as that of inflammatory affections of the mucous membranes of the air-passages and intestines, arising from common and peculiar occasions; and there is no part of my professional life which I can review with so much satisfaction as that which I have spent in watching the symptoms and results of, together with the effects of remedies upon, these forms of inflammatory fever.

There is something in the very structure of the chest which predisposes the pleura, lungs, and pericardium, to inflammation. The anastomosis of the vessels within and without the chest is very considerable; and hence the great changes of temperature which occur so suddenly in this country, operate very readily, especially if the chest be not clothed. All inflammatory affections

of the chest are more likely to occur in a variable temperature than in a steady low temperature.

With respect to—

THE SYMPTOMS OF PNEUMONIA,

or inflammation of the lungs, you must remember that peripneumonia and pneumonia are synonymous terms. But peripneumonia, united with the epithet notha (peripneumonia notha) is used by the older writers to designate the bronchitis of modern authors.

Pleuro-peripneumonia denotes inflammation existing at the same time in the lungs and in the pleura. I shall use the term pneumonia, as signifying inflammation of the substance of the lungs. This inflammation is marked by the following symptoms :—

1. A sense of confinement or stricture in one or both sides of the chest.

One lung only may be inflamed; but in other cases both lungs may be inflamed.

2. A deep and dull pain on the lungs.

This pain is generally seated in the middle or lower part of the lung, and is increased by coughing or by making a deep inspiration. The upper part of the lung is rarely the seat of acute or sub-acute inflammation, which is usually confined to the middle and lower parts of the lungs; but tubercles are more likely to be found in the upper part of the lungs in the first instance.

3. A frequent cough, with a limited, harsh, hard, grating noise.

It is very peculiar, and sounds as if it were confined to a portion of the lungs.

4. A scanty, viscid, and remarkably dense expectoration, in greenish or yellowish patches.

This expectoration is got up with great difficulty; resembles small patches of glue; and the expectorated matter will still adhere to the bottom if you turn the vessel which contains it upside down. Most frequently it is of a yellow colour; but sometimes it is of a greenish cast.

Difficult breathing is common to other affections of the chest; but the peculiar pain and expectoration are very characteristic of inflammation of the substance of the lungs.

5. The breathing is short, heavy, and laborious.

The number of respirations in a healthy adult varies from sixteen to twenty in a minute; but in inflammation of the sub-

stance of the lungs the frequency of the respirations increases to thirty, forty, or even more in bad cases. Each inspiration and each expiration are made with a laborious effort; this is called "frequent and laborious respiration."

6. The pulse is sluggish, struggling, and oppressed.

It is not so hard and cordy as in pleuritis, and the fever generally is not so much developed. Be careful in these cases about the number of the pulse; sometimes its frequency is sixty, seventy, eighty, or sometimes above one hundred in the minute. I have known some of the most severe cases of inflammation of the substance of the lungs, in which the frequency of the pulse has not been above seventy in a minute.

7. The heat on the surface is seldom very high.

There are exceptions, however, to this.

In some cases the patient can, in others he cannot, lie on the affected side. And this observation applies to abscess of the lungs.

A very remarkable circumstance, which should make you cautious in pronouncing that the inflammation is removed, is that apparently a cure takes place, and there is a remission of the urgent symptoms for a day or two, and the patient appears to be getting well. But during this period of convalescence the lungs are sometimes gorged with blood, which may again produce pneumonia; and suddenly all the symptoms become aggravated. This gorged state of the lungs may be detected by the stethoscope.

In all the various forms of inflammation seated in the chest the tongue is generally moist, and is seldom furred, except where the stomach or the liver are disturbed.

In typhoid or typhus fevers the serous membranes are very rarely inflamed, if you except the arachnoid which I suppose we must consider as a serous membrane. But in Pneumonia Typhoides (as it is called) the pleura generally becomes at the same time inflamed, and the tongue is glazed, brown, and as dry as a stick; the pulse is small, soft, and slow, and the heat on the surface is smothered.

SYMPTOMS OF PLEURITIS.

Inflammation of the pleura may exist with or without fever; but it is oftener acute or sub-acute than chronic.

Acute or sub-acute pleuritis, or inflammation of the pleura, is known by the following signs:—

1. There is a pain or stitch in the side, more or less acute.

The pain is more acute than in pneumonia, and is increased by a deep inspiration.

2. There is a frequent hard cough, or an occasional catch in the breath, or both.

It is worthy of notice, that in some most intense forms of inflammation of the pleura the cough is entirely absent; but then you have a catch in attempting to take a deep inspiration. If when you tell the patient to draw down his breath suddenly you find that he has a catch, you may consider it as certain a diagnostic of pleuritis as the cough itself. Sometimes both the cough and the catch in the breathing are present.

3. The breathing is hurried and more or less difficult.

4. The pulse is quick and hard.

5. The skin is hotter than natural.

The heat of the surface is higher and the fever more fully developed than in pneumonia; and there is a higher degree of heat over the inflamed part, that is, over the integuments of the chest, than elsewhere.

As to the sputa, in most cases, in the beginning there is no expectoration at all; but in the progress of the disease it consists of a transparent, frothy, glairy mucus.

The tongue undergoes but little change either in pneumonia or pleuritis till towards the close of the disease, and then it is of a purple colour: it is generally moist throughout.

In both these affections the urine is scanty and turbid, like the white and yolk of an egg blended together and mixed with water. When this turbid urine occurs you may generally bleed with freedom. There are, however, some exceptions to this.

In almost all cases of inflammation of serous membranes the urine is scanty and high coloured.

Acute inflammation of the lungs generally terminates in a week; sub-acute inflammation not till the second or third week. But in weak subjects sub-acute inflammation may run its course rapidly.

A pupil of Mr. Grainger's had sub-acute inflammation of the pleura, which began and terminated in twenty-four hours; and this is frequently the case.

I once thought it was impossible to distinguish inflammation of the lungs from inflammation of the pleura, but I am now convinced that you can generally distinguish them.

DIAGNOSIS OF BRONCHITIS, PNEUMONIA, AND PLEURITIS.

If you attend to the following points you will be at no loss for a satisfactory distinction between these affections in structures so closely seated. Take, *first*, the kind of—

COUGH.

1. In bronchitis it is loose, deep, and diffused.

2. In pneumonia it is limited, harsh, and grating: a metallic sort of noise compared with the cough in bronchitis; it is deep within the chest, limited as it were to the inflamed portion of the lung.

3. In pleuritis it is hard, dry, and short, with neither the loose diffused sound of the cough in bronchitis, nor the harsh grating sound of that of pneumonia, so that you must be struck with the difference.

I could in any case say from the sound of the cough in which of these parts the inflammation was seated.

Attend, in the *second* place, to the—

EXPECTORATION.

1. In bronchitis it is copious, spit up in large, broad, loose, mucilaginous patches, which run together into one mass. It varies in the progress of the disease, being at first thick and mucilaginous, and towards the close more and more loose and transparent, till it ceases.

2. In pneumonia it is scanty; got up with great difficulty, in greenish or yellowish patches, very small, and so tenacious that when the vessel is turned upside down they adhere to its sides like glue.

3. In pleuritis it is entirely different; there is no expectoration in the beginning, and in the progress it consists only of a little frothy transparent mucus.

The *third* point to attend to in the diagnosis is the—

PAIN.

1. In bronchitis there is generally no pain. A deep inspiration and a full expiration can be made without producing any pain.

2. In pneumonia a dull pain is felt on inspiration, and often on making a forcible expiration.

3. In pleuritis there is an acute pain on inspiration or coughing, or making a full expiration.

The *fourth* point requiring attention in the diagnosis is the—

PULSE.

1. In bronchitis,—with some exceptions, as in children,—the pulse is soft and compressible compared with the pulse in pneumonia and pleuritis.

2. In pneumonia the pulse is struggling, as if the heart were labouring to throw off some superincumbent load.

3. In pleuritis the pulse is hard, very contracted, and resisting.

These are the four points mainly to be relied upon in the diagnosis between these inflammations of the chest; especially the cough, the expectoration, and the kind of pain.

The head is more apt to be affected in bronchitis than in either pneumonia or pleuritis. I have seen very few patients recover where the brain has been embarrassed in pneumonia, but I have seen a great many recover after the brain has been embarrassed in bronchitis.

The duration of bronchitis is generally much longer than that of inflammation of the lungs, especially if there be expectoration; unless it be a very sudden case of bronchitis.

There are also some other guides in these affections, which are of service in the diagnosis, if they be nicely observed.

It very often may be noticed that when any individual makes an important discovery, he is very apt to abuse it, and disregard every other guide. This is the case with Laennec, who holds the common modes of distinguishing affections of the chest from each other in absolute contempt. He is too sceptic as to the symptoms, and uses the stethoscope with all the enthusiasm of a man who has made a discovery. No author I know of seems to be on the whole more honest than Laennec; but he holds in too much contempt those individuals who investigate these affections in the ordinary way. But the truth is that it is the business of a medical man to take the symptoms as they occur; and with these he may take the use of Laennec's instrument, which is also a very good guide with the rest. In fact, in the diagnosis of disease he should take every help he can procure.

PERCUSSION

is a good guide taken in conjunction with the symptoms.

If you take a perfectly healthy chest, and strike your hand on the upper and middle part of it, a sound will be emitted somewhat like that of an empty cask when struck. In the diseased chest the sound upon percussion is comparatively dull.

My friend, Dr. James Johnson, met with a case of a medical man, who was labouring under a slow inflammation of the substance of the lungs, as was quite distinct by percussion. Over the inflamed part the sound was very dull or entirely absent; and all the other symptoms showed that the substance of the lungs was the seat of inflammation.

The natural sound in percussion of the chest is absent to a certain extent in bronchitis, in pneumonia, and in pleuritis: you have a dull dead sound.

THE CYLINDER

is an instrument the use of which may serve us as another guide in these cases. You may derive great assistance in the diagnosis by contrasting the morbid sounds with the sounds which are naturally emitted. And if you also ascertain by dissection after death the condition which exists, so as to connect the condition with the morbid sounds, you will be enabled to arrive at a remarkable preciseness of opinion. This instrument requires the strictest attention to the natural sounds; I have been entirely deceived by it, because I had not sufficiently educated my ear to the natural sound. Laennec is hardly ever mistaken in the opinion which he gives from the use of this instrument.

1. In bronchitis you have a soft, loose, diffused sound, which has been called by Laennec the mucous guggle, on application of the cylinder over the chest. This sound is variable, being slight or lost after a copious expectoration; but returning or becoming more distinct as the quantity of secretion increases. Sometimes you will find it on one side, sometimes on both sides.

2. When pneumonia exists, and you apply the cylinder over the chest, you hear a harsh, metallic, grating noise, especially when the patient coughs. What Laennec calls the crepitous rattle is heard over a certain space of the lung. It is not the natural sound, but a harsh noise, resembling that which you may suppose to arise from the rustling of the wind through the leaves of a tree, if those leaves were of metal. It is a kind of metallic sound. As the inflammation increases this becomes more and more apparent; but as the inflammation subsides the natural sound is heard again. In the second, and especially in the third, stages of pneumonia, the natural respiratory murmur is lost altogether.

3. When the pleura is inflamed, and a copious effusion has taken place into the chest, from a loss of time at the onset of the attack, there is a loss of the natural murmur in the breathing, which is so peculiar as easily to be recognised. There is a more sudden and more extensive loss of the natural murmur, which also returns much more slowly when the patient recovers, than in pneumonia. Or if the natural murmur be not entirely lost, you may have what Laennec calls hegophony, from the fluid compressing the lung. It almost resembles the bleating of a goat,

and is a certain diagnostic of effusion into the chest: and when it is combined with a hot skin and quick pulse, there can be no doubt about the case.

This instrument may guide you, too, in cases of effusion of blood into the bag of the pleura from accident. Baron Larrey mentions many cases of this kind.

You must be very cautious in the application of this instrument. I am quite confident that a great many children are lost from carelessly exposing the chest, as for the purpose of applying leeches. Never expose the chest in any case, unless in an apartment the temperature of which is regulated; and with regard to applying the cylinder, you can generally do it as well when the chest is covered with flannel or cotton smoothly, as you can when the chest is exposed.

Sometimes by the treatment, or spontaneously, the acute form of pleuritis or pneumonia is converted into the sub-acute form. Sometimes by accident or mismanagement the sub-acute is converted into the acute form. And either of these forms may lead to the chronic form.

The pleura pulmonalis being inflamed, the inflammation is very likely to spread to the substance of the lungs; but the lungs being first affected, the inflammation is not so likely to spread to the pleura.

Sometimes you have pneumonia simultaneously with bronchitis.

A medical man, a friend of mine, has repeatedly had concurrent symptoms of inflammation of the pleura and lungs. Whether inflammation be seated in the pleura or in the lungs, if it be advancing it will be marked by the following circumstances:—

1. The dyspnœa increases.

2. If you attend to the patient for a minute, you will observe that he draws in and gives out less air than before.

3. The cough becomes weaker and the expectoration less.

4. The rattling noise which takes place in the advanced stages from effusion of mucus into the lungs becomes nearer and nearer.

5. The alæ nasi are in constant motion; and the muscles of the neck, the muscles of the abdomen, and the diaphragm, are called into increased action.

6. The number of respirations become higher and higher, till a little before death, when the respiration becomes slower. Immediately before death it becomes quicker and quicker, but weaker.

7. The pulse is quicker and weaker. In pneumonia it is sometimes exceedingly oppressed, and not more than sixty.

8. The skin is more relaxed and damp, and the heat less.

9. The lips and face become more and more livid; and, lastly,

10. A general collapse of the whole system succeeds.

With regard to the appearance of the blood, sometimes in the most intense inflammation there is no buff at all upon it. Buffy blood may be produced by simple excitement. I have often been remarkably struck with the buff on blood in cases where there was no inflammation. On the other hand, a patient in the Fever Hospital had distinct inflammation of the liver, but no buff appeared on the blood. In typhus fever, and all bronchial affections, when the breathing is much oppressed, there is no buff on the blood. Bronchitis which arises from a common occasion often shows more buff on the blood than bronchitis which arises from the peculiar occasion of typhus fever. Individuals who have flabby muscles seldom have firm buff on the blood, unless the inflammation be very intense; but it resembles jelly. In persons who have firm muscles there is a firm buff on the blood under inflammation.

SYMPTOMS OF PERICARDITIS.

There is yet another form of inflammation of which I have to speak, namely, pericarditis.

All those remote occasions which produce pneumonia and pleuritis, produce also pericarditis; but those who are hereditarily prone to inflammation of the pericardium are remarkably liable to attacks of rheumatism.

Pericarditis or acute or sub-acute inflammation of the pericardium is designated by the six following symptoms:—

1. More or less pain in the region of the heart.

This is increased by deep inspiration; or by turning, especially on the left side; or by motion of the body, especially by bending the chest backwards.

2. Irregularity of the pulse on motion.

Almost all writers state the pulse in pericarditis to be irregular; but in many of the cases which I have seen it has been regular. The pulse is generally regular while the patient is still, and is disturbed by motion. When the patient is in the erect posture the pulse is irregular, and a tendency to syncope occurs. Cullen has set this down as a symptom of carditis.

3. A dread of motion, or a tendency to syncope during motion.

4. A slight cough frequently occurs, but only comes on occasionally, and the patient seems to dread it.

5. Anxious, irregular breathing.

The patient breathes sometimes quicker and sometimes slower: it is not the peculiar difficult breathing which attends pleuritis or pneumonia. The breathing is generally short, but not difficult; it is anxious and irregular.

6. Irregularity between the heart's stroke and the pulse.

Irregularity, I mean, between the stroke of the heart as perceived in its own proper region, and the pulsation in the radial artery. The pulse at the wrist is generally small, while in the proper region of the heart there is a strong and bounding stroke to be felt.

In enteritis it sometimes happens that you have a hard small pulse at the wrist; but if you put your hand on the region of the heart, you will feel it pulsating powerfully. This is the case in pericarditis; and generally this indicates the necessity of abstracting blood.

Throughout pericarditis there are, generally, anxiety, dread of motion, and a solicitous and alarmed expression of countenance. It is very frequently complicated with pleuritis.

The term Carditis, used by Cullen, is intended to designate inflammation of the substance of the heart; but such inflammation is exceedingly rare; while pericarditis or inflammation of the pericardium is by no means so uncommon, especially in individuals subject to attacks of acute rheumatism.

LECTURE XXII.

COMMON INFLAMMATORY FEVER.

SYMPTOMS AND DIAGNOSIS OF INFLAMMATION OF THE STOMACH, BOWELS, AND PERITONEUM.

IN this lecture I shall consider the symptoms of inflammation of the serous and mucous membranes of the stomach and intestinal canal.

I am inclined to adopt the common mode of lecturing on inflammation,—beginning with the head, and proceeding thence to the

chest and abdomen—in preference to that method in which the structures are considered according to their similarity to each other; for I consider, as I have before stated, that by contrasting diseases of different structures the peculiarities of each will be more evident, and a tact of distinguishing them will be more readily acquired.

It is of considerable consequence to bear in mind that the mucous membrane of the stomach and intestines, or of the urinary bladder, is very often inflamed at the same time with the mucous membrane of the air-passages; and that a patient labouring under pleuritis very often at the same time has an attack of peritoneal inflammation. These are very important pathological facts.

I am now attending some cases the contemplation of which has given me great pain. Last week I saw a family which lately consisted of four children, each of whom became the subject of hooping cough, and in all of them the lining membrane of the large and small intestines became inflamed. The first and the second died of ulceration, the third is now dying of ulceration, and in the fourth there are strong reasons for suspicion of the existence of ulceration.

If you fix your attention on one seat of inflammation alone you have in these cases no chance of success.

Another important point to be remembered is, that a chronic disease often precedes an attack of acute or sub-acute inflammation of the stomach and intestines. What is called the marasmus of children and the dyspepsia of adults is generally connected with some slight irritation of the mucous membrane of the small intestines. It is generally associated also with a defective or an irregular secretion of bile, or a torpid state of the colon, and generally with a dry husky state or a faded and withered appearance of the skin. From the works of some authors you might be led to infer that it came suddenly; but it is almost invariably preceded by distinct symptoms of disorder. The attack of acute or sub-acute inflammation is generally brought on by some irregularity of diet after this state has existed. Sometimes it is brought on from the administration of physic—from the irritation of antimony or drastic purgatives, especially in children. And in all cases, before you prescribe such harsh medicines either to children or adults, it behoves you to ascertain whether any such irritation of the mucous membrane of the stomach or intestines exists, and to recollect that these irritant occasions are the more apt to take effect under certain conditions of the atmosphere, especially when the atmosphere is cold and damp, or even warm and damp.

Now dyspepsia and marasmus, as well as indigestion and disorder of the digestive organs, are very vague terms. Attempt to analyze them, and you will readily perceive that they cannot be referred to any single principle of pathology; and yet the symptoms depending upon so many essentially opposite pathological principles, various in their nature and seat, are included, forsooth, under the sweeping term dyspepsia.

At certain ages, as in infancy and childhood, the mucous membrane of the intestinal canal is very likely to become inflamed. A low degree of irritation from peculiar drinks or diet will predispose to it; but a higher degree of irritation from the same source will actually excite it. Hence such affections prevail constantly in children whose diet and clothing are at the same time neglected.

It prevails also among adults; and the French, who drink brandy and sour wines and eat chiefly made dishes, and who live in a temperature which predisposes them to it, are more liable than the English to muco-enteritis.

Individuals who live in an extremely variable temperature are very prone to this affection; hence it is very common, and prevails in the acute, sub-acute, and chronic forms, in the United States of America.

The weakest individuals are the most prone to inflammation of the mucous membranes, while the strongest and most robust are more liable to inflammation of the serous membranes.

Individuals cooped up in a crowded district are remarkably prone to muco-enteritis; hence it is very common in London. And a certain class of persons are much more liable to inflammation of the mucous membranes in London than in the country. I was remarkably struck with this when I came to town and first observed the febrile affections of the metropolis. Children who are badly clothed and fed, and confined to an impure atmosphere, and adults who drink tea and spirits, are very liable to the affection to which I am alluding. Persons in the higher situations of life, too, use a very mixed diet, sit up late at night, and spend their lives in the observance of absurd forms and customs; and hence their diseases approach in a remarkable degree to those of the lower classes.

Constipation predisposes powerfully to serous inflammation: it is most frequently the occasion of sero-enteritis, or what is commonly called by nosologists, inflammation of the bowels. It is, however, very important to distinguish inflammation of the serous from inflammation of the mucous membranes. For this purpose I

shall adhere to the old names, gastritis and enteritis—speaking separately of the symptoms of sero-gastritis, muco-gastritis, sero-enteritis, and muco-enteritis.

To begin with the stomach:—the

SYMPTOMS OF MUCO-GASTRITIS,

or inflammation of the mucous membrane of the stomach are—

1. Pain in the region of the stomach.

If the inflammation be acute the pain is very distinct; if it be sub-acute the pain is generally obscure.

Recollect, then, that the pain in this form of inflammation is not always distinct, as is set down by nosological writers. You must, therefore, have recourse to pressure: and it is only upon pressure that the pain can be distinguished when the inflammation is sub-acute. If you make pressure upon the epigastrium, and tell the patient at the same time to take a deep inspiration, the pain will be produced. Take care, however, lest you be deceived about the pain, for hard pressure in the epigastrium will seldom be borne by any individual, even in health. You are not to thrust your fingers into the epigastrium of the patient; for you or any one would flinch from such treatment. You must make moderate pressure in these cases in order to get any precise notion of the condition which exists.

You must take into account the fact that, if a bronchial affection exist, the most destructive inflammation of the mucous membrane of the stomach may be going on without any pain being felt in the inflamed part, because the patient is muddled with the effects of the bronchial affection; or, when the brain itself is disordered, the pain is generally absent.

2. A sense of heat internally, referred to the stomach.

This heat is very distinctly felt by the patient when the inflammation is acute, and is so ardent, that the patient will often have an incessant desire to be sprinkled with cold water, even when he is dying. But when the inflammation is sub-acute, it is, in many instances, entirely absent.

3. An intense and insatiable desire for cold drinks.

This is more distinct when the inflammation is acute; but is far less urgent in sub-acute cases, though it attends even that degree of the inflammation, more or less; and it attends even those cases where the tongue is very moist.

4. Nausea, retching, vomiting, or loathing of food.

When the inflammation is acute, nausea, retching, or vomiting, almost invariably attend; but very often, indeed, they are absent when the inflammation is sub-acute.

Vomiting is said by nosological writers always to attend inflammation of the stomach: but this is not true; for sometimes the inflammation is sub-acute, and then it generally happens that there is loathing of food, though this is not always present; and then the vividly red tip and edges of the tongue, and pain in the epigastrium on pressure, are the only indications you have of the inflammation, with a pulse somewhat quicker and a skin somewhat hotter than natural.

You must be very cautious about the state of the tongue; for, when vomiting occurs, the tongue is moister than natural from the more copious secretion than natural of saliva. This should not be suffered to deceive you.

5. A red tongue.

This redness is generally most evident at the tip of the tongue, and a short way round the edges. And if you examine the tongue minutely, you will observe that the papillæ are more raised and more red than natural: they are raised through the fur upon the tongue, like the points of a strawberry. Sometimes the redness extends like a fiery streak down the middle of the tongue. In the worst cases, where there is no fur upon the tongue, it is over the whole surface vividly red. And when the patient in these cases protrudes his tongue, the tip is turned a little upwards; why, I know not. So, also, when the patient protrudes his tongue a long way, and presses it together, so as to make it, as it were, a pointed wedge, then its surface is redder than otherwise; and this may be seen in the tongue of a person in perfect health. The redness extends to the fauces, sometimes in a considerable degree.

This redness of the tongue indicates inflammation of the stomach and small intestines alone.

If you examine the surface and round the edges of the tongue, little aphthæ, or small ulcers, will sometimes be apparent. In other instances there are little effusions of coagulable lymph from inflammation of the tongue. These are most apt to occur in delicate and emaciated individuals, whether children or adults.

6. A concentration of heat about the epigastrium externally.

This is so great that, in laying your hand over the epigastrium, a pungency of heat is felt there.

7. A hurried or anxious respiration.

This is especially the case if the inflammation be acute. The respiration is sometimes very little disturbed if the inflammation be sub-acute.

8. The pulse is soft and compressible.

Compared with the pulse in inflammation of the serous membranes it is soft, resistless, and far more oppressed.

9. The general heat of the surface is higher than natural.

But when the inflammation is suddenly and intensely set up sometimes it happens that the heat over the whole surface is not higher than natural.

All acute and sub-acute inflammations, generally speaking, have two stages. The one is a stage of excitement, in which the pulse is frequent, in which the heat is high, and in which the strength of the patient appears unsubdued. Then comes the stage of collapse, in which the heat of the surface falls, in which the pulse becomes quicker and weaker, and in which the strength of the patient is obviously subdued.

There is greater prostration of strength in muco-gastritis than in sero-gastritis.

If the inflammation be acute it runs a very rapid course, terminating in twenty-four or forty-eight hours sometimes, and generally in three days, if it be seated in the serous or mucous membrane of the stomach.

Sub-acute muco-gastritis is a very insidious disease. I have no doubt that the account given of gastritis by our systematic writers has occasioned the death of many persons. They have set down only the most palpable symptoms, and have disregarded the nicer shades of distinction between inflammation of the mucous and that of the peritoneal coats of the stomach. They have not been in the habit, it would seem, of comparing symptoms with the appearances on dissection.

There is one other more rapidly fatal form of inflammation, especially of the mucous membrane of the stomach, and of a portion of the mucous membrane of the intestines; sometimes occurring in the one only, sometimes in both. It is set up suddenly, and arises from peculiar occasions, which are the exhibition of an animal, vegetable, or mineral poison. I believe that colchicum, when it destroys life, acts in this manner; and I have seen the same effects from digitalis. The same effect is also produced by prussic acid and by tartarized antimony in over-doses. The same applies to large quantities of ardent spirit suddenly taken; and in some cases to oxymuriate of mercury and arsenic.

They all seem to produce death by suddenly setting up inflammation; and not only is there a local inflammation induced, but also a most profound relaxation. It is what I call a congesto-inflammatory form of disorder: the skin is cold, the pulse is feeble, the respiration weak, and the countenance ghastly. I have seen four cases of poisoning by colchicum since I have been in London. In three cases the patients recovered. The following, however, was fatal:—A dram of the wine of the seeds of colchicum was given three times a-day, and continued after it had produced vomiting; gastritis was produced, and the patient died.

Never give colchicum, oxymuriate of mercury, or arsenic, unless absolutely necessary; and when you do, always inquire into the previous habits and idiosyncrasies of the patient.

I was asked to see an old lady who had gout; and I thought of giving her colchicum; I inquired of the medical man who had previously attended her, whether he had ever given her colchicum, and whether it had produced any sensible effect. He told me that he once gave her five grains of colchicum, and that it nearly killed her. Now, if I had not made this inquiry, she probably might have lost her life, from the exhibition of what I should have intended to be a remedy for the gout.

There is an old adage which says, that "experience is a dear school, and fools are made wise by it." To the truth of this I do not assent. In the medical profession experience is a dear school; but I believe that a certain degree of wisdom is necessary to make a man wise.

What is usually in medicine called observation should be directed to the apparent symptoms of affections during the life of the patient, and to diligent examination of the morbid appearances after death.

Experience should be directed to the effects of remedies on the conditions of which the symptoms are indications.

Both observation and experience are necessary for a medical man. He should observe and reflect at the bedside of the inhabitant of the hut, as well as at that of the peer. Having myself had an imperfect education, according to the principles of the old school, I have been in the habit of educating myself; and I can conscientiously declare that I feel every day the necessity of attending more and more to the parts of medicine which have been neglected, as well as to those which have been comparatively well understood. I am convinced that the life of a medical man in particular should be a life of study; that a physician should let

no day pass over his head without acquiring some addition to his general stock of information; that by reflection he should digest and arrange his knowledge, and make a good use of it when opportunity offers. To do good to his fellow-creatures should be his object; and I repeat that a man who is not deeply sensible of the importance of the medical profession, and powerfully interested in the welfare of his fellow-creatures, had better quit the profession entirely.

I have stated that gastritis, and the same observation applies to enteritis, is seated in two structures: in the peritoneal or in the mucous coat. It generally happens that these tunics are separately, though sometimes they are conjointly, inflamed. It is important to decide between inflammation in these different structures; and the following six are the—

SYMPTOMS OF SERO-GASTRITIS,

or inflammation of the serous or peritoneal coat of the stomach:—

1. Pain.

The pain is very distinct and severe if the inflammation be acute; but less distinct and less severe if it be sub-acute.

2. Nausea, retching, and vomiting.

This symptom is always present, especially vomiting on taking liquids, in the acute form of the inflammation; but is less severe, and in many cases absent, when the inflammation is sub-acute.

If you were to adopt Cullen's definition of this inflammation you would be led to adopt very serious mistakes of opinion, and hence to commit very serious errors of practice.

3. More or less whitish fur about the tongue.

Generally there is a slightly furred and pallid tongue. All the symptoms are less oppressive when the inflammation is sub-acute; yet then you have the comparatively pale tongue.

4. More or less disturbance of the breathing.

The respiration is hurried; and may be best compared to that of a person who has been running very fast: it is more hurried when the inflammation is acute than when it is sub-acute.

5. The pulse is small and hard.

The pulse is at the same time contracted and very hard, so as to feel under the finger like a wire pulsating. It is rapid, small, and cordy or wiry; and if you press on it you will find that it offers very considerable resistance.

6. The heat of the skin is higher than natural.

This is the case over the whole surface of the body, but especially about the epigastrium.

I shall next speak of the—

SYMPTOMS OF MUCO-ENTERITIS OF THE SMALL INTESTINES,

or inflammation of the mucous membrane of the small intestines.

There are four symptoms which are especially characteristic of it.

1. Pain.

If the inflammation be acute, the pain is very distinct; if subacute, the pain is mostly obscure, and is only made distinct by pressure. The pressure should be made moderately with the ends of the fingers, while at the same time the patient takes a deep inspiration.

The pain is sometimes absent. I have seen many cases where inflammation of the mucous membrane of the small intestines has been associated with a bronchial affection; and even ulceration of the intestines has occurred without any pain.

But even if the pain be absent you will be at no loss for a correct opinion if you attend to the indications afforded by the concurrence of the symptoms.

Recollect, too, that sometimes persons are afraid to confess that they have pain lest you should bleed them, from having observed that you have abstracted blood in other cases where pain has existed. Therefore, in making pressure always look at the patient's face; and if there be pain you will see an evident distress marked in the countenance. I attended several cases of puerperal fever, (as it is called,) in which all the women told falsehoods on this point. You will observe, too, if the pressure give pain, that the patient's hand will be suddenly put down to seize yours. The other symptoms are—

2. The red tongue.

The tongue is red in the centre, round the edges, at the tip; and the papillæ are red and raised, as in muco-gastritis.

3. The concentration of heat externally, over the inflamed portion of the intestine.

4. The mucous stools.

The stools which are passed contain mucus. I do not mean to say that the bowels are lax—for they are hardly ever lax if the small intestines alone be inflamed—but they are very easily moved, and there is a very large quantity of mucus passed; so that the stool moves in the vessel like thin white paint, being of a mucila-

ginous or oleaginous consistence. Sometimes the mucus is in patches; but this is rarely the case.

As to the nausea, retching, or vomiting, you can hardly rely on this symptom.

If the inflammation be acute and extending over a large surface of the intestines, nausea, retching, or vomiting, generally occurs. But if it be confined to the lower part of the ilium, even a tolerably good appetite may remain; and it is to be remembered that the lower part of the ilium is the part of the small intestines which is most commonly inflamed.

Again, the respiration is uncertain.

If the inflammation be sub-acute the breathing is very little affected in many cases. If the inflammation be acute the breathing is sometimes hurried.

The pulse is generally quicker than natural.

If the inflammation be acute it is generally above one hundred and twenty. But if the inflammation be sub-acute the pulse will be under one hundred and twenty, till towards the last stage; and I have known several cases go on with a very slow pulse where a bronchial affection has occurred.

In inflammation of the mucous membrane of the intestines the belly is almost invariably flat. To this exceptions may occur, but they are very rare; and when they do happen, there is mostly a conjunction of muco-enteritis and sero-enteritis.

The duration of muco-enteritis of the small intestines is influenced, like that of muco-gastritis, by the degree of the inflammation.

If it be acute it runs a rapid course, generally terminating in the first five days. If it be sub-acute and limited in its extent, it usually runs a course of two or three weeks, and terminates by ulceration with enlargement of the mesenteric glands.

But very often an attack of inflammation which was acute in the onset becomes sub-acute in its progress, either from the effect of remedies or from a copious effusion of mucus.

SYMPTOMS OF MUCO-ENTERITIS OF THE LARGE INTESTINES.

The symptoms of inflammation in the mucous membrane of the large intestines differ very much, according as the upper, the middle, or the lower portion is inflamed.

If the *upper* portion be inflamed, as the mucous membrane of the caput coli, it puts on the characters of common

DIARRHŒA

and the following symptoms exist:—

1. Diarrhœa.

When diarrhœa exists with fever you may hold it as an axiom that the mucous membrane of the intestinal canal is inflamed, and generally the upper part of the large intestines.

2. Dark, loose, and offensive stools.

3. Pain.

If the inflammation be acute the pain is distinct; if sub-acute there will be a sort of grumbling, aching, uneasiness in the region of the caput coli.

4. A concentration of heat over the inflamed part.

5. Fever.

The pulse will be quicker and the skin hotter than natural if the inflammation be acute or sub-acute; and the fever is generally in the direct ratio of the local inflammation.

Besides these symptoms there will be flatulence, and a more frequent desire to make water than natural.

The inflammation, though acute in its onset, will generally put on the sub-acute character in its progress.

When inflammation occurs in the mucous membrane of the *middle* portion of the large intestines it is generally called—

DYSENTERY.

But the term 'dysentery' is one which has been, and is, very vaguely used, without any precise meaning being attached to it. The part most frequently affected in what is called dysentery is the upper part of the rectum and the sigmoid flexure of the colon. Sometimes the inflammation extends over the whole course of the colon, and is sometimes even associated with inflammation of the mucous membrane of the small intestines.

Dysentery proceeds from alternation of heat and cold; for instance, from being chilled by a cold evening after a hot day. In our armies in different parts of Spain when the soldiers slept on the ground and were exposed to great vicissitudes of temperature, it was very prevalent. Thus, also, it occurs in very hot countries, and it also arises very often in this country in summer. It sometimes proceeds from bad food, sometimes from bad water, sometimes from unripe fruits; and in most of these cases there is first a cold stage and pain in the lower part of the abdomen, which pain is generally attended by tenderness, especially in the last stage.

The symptoms of dysentery are—

1. Tormina.

Tormina denotes a painful, twisting sensation in the bowels, generally about the navel and adjacent parts. It comes on suddenly and severely, and feels as if the intestines had a separate existence, and were writhing within the abdomen of the patient, and communicating intolerable agony to himself. The tormina is very rapidly followed by—

2. Tenesmus,

or an irresistible desire to go to stool; so that the patient instinctively leaps out of bed, careless of the presence of any one who may be with him.

3. Straining at stool.

Sometimes a little flatus passes, and at last, with great difficulty, an evacuation.

4. Mucous or bloody stools.

If you examine the evacuations you will find them mucous, or bloody, or both; in some cases mixed with fæces in small knots, but in the worst cases without any fæces at all; consisting of something like jelly, mixed with streaks of blood. Perhaps you will find coagulable lymph.

Sometimes common diarrhœa precedes the attack of dysentery; and sometimes the discharge of mucus tinged with blood precedes it as well as attends its progress.

5. Throbbing within the belly.

The abdomen at first is not much distended; and if you press it with a moderate force throbbing will be felt in the mesenteric arteries. This may in part arise from some degree of impediment to the return of venous blood.

6. Flatulence.

7. Concentration of heat about the belly externally.

In inflammation the temperature of the surface over the inflamed part is higher than natural; and it may be so with the internal parts, so that the volume of the blood and consequently the capacity of the arteries leading to the inflamed part will be increased.

8. The urine is generally scanty and high-coloured.

The patient generally passes his urine after his evacuations, which is a very curious circumstance.

9. The tongue is generally furred.

If the small intestines be not inflamed, the tongue is not red. But frequently the tongue in dysentery is red from the simultaneous existence of inflammation of the mucous membrane of the small intestines.

With regard to the fever in dysentery,—in some instances it is very intense; but more frequently the inflammation is sub-acute, and the pulse is not very quick, nor is the heat very high upon the surface except over the belly; the stomach, also, generally remains undisturbed after the first day or two if the large intestines be alone inflamed, and the patient craves for all sorts of improper diets. These cravings you should never indulge.

In dysentery there is always an unpleasant smell about the patient; partly from a frequent discharge of offensive matter, which, in however small in quantity, adheres to the patient, and communicates a peculiar, loathsome, sickly odour.

Dysentery passes on to ulceration if it be not arrested; and patches or streaks of pus are passed with the stools.

Recollect that ulceration of the small intestines may occur to a great extent without any pus or streaks of blood in the stools. But if ulceration take place in the large intestines, you invariably can detect pus in the stools, which is a sure indication of ulceration.

The patient becomes more and more emaciated; the abdomen is drawn towards the spine, a wasting fever comes on, the mind continues calm and collected, and the patient may die in three or four weeks, or in three or four months.

When the patient dies, ulceration will generally be found to have begun about the upper part of the rectum, and to extend upward, and to appear to be concentrated at the sigmoid flexure of the colon, the coats of the intestine about which will be found to be thickened and contracted. The ulceration sometimes extends as far as the cœcum; and the mucous membrane of the small intestines occasionally becomes inflamed. In most cases you will find the mesenteric glands redder than natural. With regard to the liver there has been a difference of opinion: one set of practitioners contending that the liver is always implicated in dysentery, others that it is not affected at all. Notwithstanding this contradiction, both may be right—both sets speak from observation, but they have observed this disease under entirely different circumstances.

In Spain the liver was found not at all affected. In hot countries, I have been informed by intelligent friends of mine who have had ample opportunities of observing, the liver has been almost always found affected.

Another circumstance requires to be taken into account. If the dysentery occur from a common occasion, frequently the liver is not at all affected; but if it arise from a peculiar occasion, as malaria or marsh effluvia, the liver will I believe always be affected,

at least during the progress of the disease. I never saw a case of dysentery arising from malaria, in the progress of which the functions of the liver were not disturbed; and yet frequently no organic disease is found after death.

Sometimes dysentery does not assume an open inflammatory character; but in this country it sometimes puts on a masked or congesto-inflammatory character. The heat is not universally higher than natural, but only about the abdomen: in the extremities it is not higher, but sometimes lower, than natural. The pulse is not expanded and cordy, but soft and subdued: it is soft from the beginning, and is generally under a hundred in a minute. The respiration is feeble when it is complicated with a bronchial affection. The strength and spirits are very much depressed from the beginning. A sensation of weight and fulness rather than of pain occurs at first; but afterwards pain is felt, especially in passing a motion.

There was an epidemic at Nottingham having this character some time since: and almost all the patients died who were bled, and almost all the patients recovered to whom calomel and opium were given. There is considerable congestion about the liver, by which the blood is impeded in its return through that organ.

Some authors state that dysentery is contagious. With regard to that form which occurred in Spain it was the opinion of the medical men that it was not contagious; that is, that there was no well-proved case of its being communicated from one man to another by contact. All the individuals were exposed to the same predisposing and to the same exciting agents. Some of the medical men afterwards graduated at Edinburgh, and mentioned in their inaugural dissertations their opinion that it was not contagious, and the professors were inclined to dispute it.

When a man gets a professorial gown he sometimes seems disposed to think that his opinions are to be necessarily taken as facts; but at the present day there are a few individuals who are inclined to dispute not only their authority, but that of those who preceded them, although hitherto it has been so passively received.

If dysentery arise from a common occasion, it is not contagious. When it arises from a peculiar occasion, as malaria or marsh effluvia, I will not positively assert that it is not contagious. I feel that I require to pay far closer attention to it than I have hitherto done before I can take upon me unhesitatingly to say that it is or is not contagious. A common opinion is that, if a number

of individuals be affected in the same way, one after another, the affection must necessarily be communicated by contagion; but this is not always correct. Whilst, however, a doubt remains on the subject a medical man should be cautious to prevent its progress to other individuals. Whenever the human secretions are collected even when in health, but especially when the evacuations are morbid, a state of air is generated which is confined to a certain distance and which is productive of very bad effects. Great care therefore should be taken that the secretions be removed immediately after their evacuation. Neglect of this, as I shall hereafter show, is the whole occasion of the erysipelas which occurs in the London hospitals, and affords an explanation why operations there are not so successful as they otherwise would be. It is an occasion which may be easily remedied.

Dysentery, then, is an inflammatory affection; and the inflammation may have an acute character, and the patient may die in a week or ten days from the commencement of the attack before it advances to ulceration. The inflammation sometimes puts on the sub-acute character, and proceeding a little longer assumes the chronic character (which is the most common form), and goes on to ulceration of the parts I have already mentioned. The pain, heat, and tenderness, are continued, and the tenesmus is increased as the disease is protracted: the tormina also remains. The stools have the smell of water in which putrid flesh has been washed; and sometimes, as I have already stated, it puts on a congesto-inflammatory character.

Inflammation passing on to ulceration whether of the large or small intestines sometimes winds up by an attack of acute inflammation of the peritoneum; and these attacks are generally fatal within twenty-four hours. Inflammation of the mucous membrane about the lower part of the ilium and the upper part of the colon is not attended by tenesmus.

Sometimes it happens that when the mucous membrane of the small and large intestines is inflamed, you have a bronchial affection, which if severe smothers the fever, with great general depression, and a disordered condition of the liver, the secretions of which are locked up.

With regard to the *lower* portion of the large intestines—the rectum sometimes has its mucous membrane the seat of inflammation. This is sometimes the consequence of injections used in gonorrhœa; and the most characteristic symptoms are—

1. Pain in the rectum.

The pain is increased and sometimes becomes excruciating on

passing the stools, and is generally attended by the two next symptoms :—

2. Heat.

3. Throbbing.

The inflammation is accompanied by fever.

It rarely proves fatal in the acute form, but becomes sub-acute, and then chronic, and then is succeeded by abscess, and then by fistula.

The following are the—

SYMPTOMS OF SERO-ENTERITIS,

or acute and sub-acute inflammation of the serous or peritoneal coat of the small and large intestines.

1. Pain.

The pain over the region of the inflamed portion of bowel is distinct when the inflammation is acute, but more obscure when it is sub-acute. It is limited to a certain extent, so that with a pen and ink you might mark out the part which is inflamed; and it is invariably increased on pressure.

2. Nausea, retching, or vomiting.

One of these states is generally present if the inflammation be acute and extensive; but they are generally absent at the onset of sub-acute inflammation, though one or other of them always comes on in the progress of the affection if it be not subdued.

3. A furred tongue, which is comparatively pale.

4. Flatulence.

Flatulence always attends sero-enteritis. It occurs also in muco-enteritis of the large, though seldom in muco-enteritis of the small, intestines.

5. The breathing is short and quick.

6. The pulse is quick, small, and hard.

The pulse is contracted, small, hard, and quicker than natural, but not weak.

7. The skin is hotter than natural.

The abdomen is full and round; and in nine cases out of ten there is constipation. This is very remarkable. In muco-enteritis generally there is some irregular action of the muscular coat of the intestines, which usually leads to diarrhœa; but in inflammation of the peritoneal coat of the bowels there is a contrary state, leading generally to constipation.

There is greater oppression of the whole system when the small than when the large intestines are inflamed, especially when the serous membrane is inflamed.

Remember in cases which have the symptoms of enteritis, always to examine the groin, especially in females. I have seen several cases during my practice in which patients, who have positively denied the existence of any swelling in the groin, have been found after death to have died of strangulated hernia.

SYMPTOMS OF PERITONITIS.

Inflammation of the proper peritoneum—that is, the peritoneum investing the abdominal muscles—has three positive symptoms, and one negative symptom.

1. Diffused pain.

The pain is diffused over the whole belly; whereas in sero-enteritis it is circumscribed.

2. The pulse is harder, more expanded, and more round than in sero-enteritis.

If the peritoneum be the sole seat of the inflammation—

3. The heat of the surface is higher than in sero-enteritis.

The negative symptom refers to—

4. The state of the stomach.

The vomiting is absent at the onset, and does not come on until towards the close of the inflammation. If you have vomiting in the beginning you are sure to have inflammation of the intestines; and peritonitis soon extends to that portion of the serous membrane which is reflected over the intestines.

The acute and sub-acute forms of these affections are distinguished by the degree of local uneasiness and constitutional disturbance.

In all these forms of inflammation there is superficial tenderness of the whole, or of a part of the belly, a symptom which I have not enumerated with the rest. You must infer from the combination of the symptoms whether the bowels or the peritoneum be inflamed.

Superficial tenderness of the belly sometimes occurs from inflammation of the spinal cord; and then it is present with the absence of all the other symptoms of inflammation of the bowels or peritoneum.

Sometimes peritonitis arises from ulceration of the bowels. The mucous membranes of the intestines becomes the seat of inflammation, and then the patient usually appears nearly well, but with a hot skin, a quick pulse, and a red tongue. Then comes on pain over the whole abdomen; the patient vomits, pants, and heaves the chest, and dies. Upon examination of the body you find

ulceration in some portion of the small intestines, which has begun on the mucous membrane, and reaching to the serous membrane, has inflamed the whole peritoneum.

A celebrated surgeon, to whom the profession is very much indebted, the late Mr. Hey, of Leeds, died of inflammation of the mucous coat of the intestines, which proceeded to ulceration through the peritoneal coat; and after death the fæces are found to have escaped into the cavity of the abdomen.

Gastritis, Enteritis, and Peritonitis have two stages.

In the first, which is a stage of excitement, there is pain on pressure, with a pulse not only quicker but harder than natural, with a hot skin, with a respiration hurried but not weak, and the stomach will not be so much irritated as in the last stage.

After a time the pain entirely ceases; and in these cases if you do not pay attention, you might be led to suppose that the patient was recovering; but if you watch the patient you will have no difficulty in perceiving that the case is hopeless. This is the stage of collapse.

In this state, in which the patient has a cessation of pain, there is a passive gulping from the stomach, in consequence of the intestines being over-distended with gas which makes its way through the stomach and œsophagus. This passive gulping is always a fatal symptom. I never knew a case in which after it had occurred the patient recovered. The countenance falls, and the eyes are much sunk; the skin is cold and clammy, at first in the extremities, and then over the whole trunk; the breathing is gasping; the belly becomes tighter and tighter; and the patient lies on his back with his legs drawn up, which is generally the case in all examples of abdominal inflammation. In these cases it is usually said that the patient dies of mortification of the intestines; but mortification of the intestines is a very rare occurrence. The patient dies of the irritation conveyed to the nervous system, and through it to the heart, brain, and lungs, in a way which you will find admirably described in Bichat, in his work "Sur la Vie et la Mort." In some cases I have known the pulse sink to sixty in a minute before death; but it generally becomes quicker and quicker, and is faint and faltering compared with the first stage.

The diagnosis of these affections is commonly very easy to one who has previously watched them at the bedside of the sick. Now, with respect to the—

DIAGNOSIS BETWEEN MUCO-GASTRITIS AND SERO-GASTRITIS,

you must attend to the following points:—

1. The tongue.

In muco-gastritis the tongue is vividly red at the tip and a short distance round the edges, or it has a fiery streak down the middle; the colour is of a vermilion or a cherry hue, compared with the natural colour. In sero-gastritis the tongue is pale, and only covered with a slight whitish fur.

2. Sense of internal heat.

In muco-gastritis, when the inflammation is acute, this sense of internal heat is distinct; and is present though in a slighter degree in sub-acute inflammation. But in sero-gastritis it is absent.

3. Desire for cold drinks.

This desire is far more urgent in muco-gastritis than in sero-gastritis.

4. The pulse.

In muco-gastritis the pulse is soft and compressible, sinking under the finger like soft silk. In sero-gastritis the pulse is small and hard.

Hence, then, you will be at no loss for a diagnosis between these two affections, of which the other symptoms are mostly common to both. With respect to the—

DIAGNOSIS BETWEEN MUCO-ENTERITIS AND SERO-ENTERITIS,

you must attend, according to its seat, to the following points:—

In inflammation of the

SMALL INTESTINES,

attend to—

1. The tongue.

In muco-enteritis the tongue is red at the tip and round the edges, or down its centre, as in muco-gastritis; but not so when sero-enteritis occurs.

2. The pulse.

In muco-enteritis the pulse is soft and compressible. In sero-enteritis it is small and hard.

3. The condition of the bowels.

When the mucous membrane of the small intestines is inflamed, the bowels are easily moved by the mildest purgatives. In sero-enteritis of the small intestines the constipation requires the use of harsh purgatives, if you use any at all; for which, in fact, there is no need, and it ought not to be done.

4. The state of the abdomen.

This is a very remarkable circumstance. In the progress of muco-enteritis the abdomen gets flatter and flatter: the navel is drawn inward towards the spine, and the integuments are dry, tense, and withered, somewhat like parchment. In the progress of sero-enteritis the belly becomes more and more round.

5. The breathing is less disturbed in muco-enteritis than in sero-enteritis.

Again, inflammation of the mucous membrane of the—

LARGE INTESTINES

is easily distinguished. If the upper part of the colon be inflamed you have a diarrhœa, the stools being fæcal, loose, and frequent, with fever.

When the sigmoid flexure of the colon and the upper part of the rectum are inflamed, it puts on the characters of dysentery; and you have tormina, tenesmus, and straining at stool, with mucous, slimy, and bloody evacuations.

When the rectum alone is the seat of the inflammation you have excruciating pain referred to the rectum; with heat, and throbbing, especially on passing the evacuations.

DIAGNOSIS OF PERITONITIS.

You will distinguish it by the—

1. Pain, which in peritonitis is universally diffused, while in enteritis it is limited. You will have—

2. The fever, too, in peritonitis present in a higher degree than in enteritis; and in the onset—

3. The stomach is quiet in peritonitis.

But suppose the peritoneum investing the abdominal muscles were inflamed together with the intestines, then you would have vomiting occurring in the onset, with pain over the whole surface of the abdomen.

LECTURE XXIII.

COMMON INFLAMMATORY FEVER.

SYMPTOMS AND MORBID ANATOMY OF INFANTILE REMITTENT FEVER.—PATHOLOGY OF DIARRHŒA.—SYMPTOMS AND PATHOLOGY OF CHOLERA MORBUS.—SYMPTOMS AND DIAGNOSIS OF INFLAMMATION OF THE LIVER, KIDNEYS, AND URINARY BLADDER.

In this lecture I shall first call your attention to the—

SYMPTOMS OF INFANTILE REMITTENT FEVER.

This term is in the mouths of many modern physicians, because it is written by many old authors, who have put down in many old books that certain pills, boluses, draughts, and mixtures, therein ordered, are to be given. And these remedies are given for no better reason than that there is a precedent for such practice. Can anything be more absurd? Men have been roasted alive sufficiently often to form a precedent which we have no inclination to follow in these days. What are precedents? They are either true or false; and it is the business of modern philosophy to despise from the bottom of her soul all falsehood, to get rid of the *speculative*, because they involve *practical*, errors; and only to follow precedents when they are true and useful. We have precedents enough to be guided by in courts of law; but there is no reason why we should be so guided in physic. We are ourselves the legislators, and must draw the rules of our conduct from a legitimate observation of nature; and when we find that systematic writers are wrong, it is our business to protest strongly against their errors. Let us then follow common sense, and reject arbitrary rules, and we shall find that what is called infantile remittent fever is nothing more than inflammation of some portion of the intestinal canal, with, generally, some torpor of the liver. This affection has also been called in England the worm fever, in Wales the leek fever, in Scotland the bun fever, and in Ireland, of course, the potato fever. Upon the whole the three latter terms are

better than the term infantile fever, because there is something precise in a leek, in a bun, and in a potatoe. Seriously, I would that such absurd names were entirely erased from the works of modern writers; for the term infantile remittent fever means nothing more than that this disease sometimes has remission: the term worm fever merely indicates that it may be implicated with worms; and the bun fever of Edinburgh is supposed to occur from eating a rich cake which is sold at that time of the year when these diseases most commonly prevail.

This term, infantile remittent fever, is one of those abstract phrases under which mental creations of different individuals are classed. The truth is, that there is a medical mythology as well as there was a heathen mythology at Rome of old; and there is no reason why modern nosologists might not have certain figures in statuary so as to embody their notions in the shape of something tangible and visible.

This mere external pathology, if it deserve even that name, is perfectly absurd and highly dangerous, because it implies a conjecture—a something which is neither tangible, visible, nor perceptible by any of the senses—is supposed, and is called by a certain name; for which name certain treatment is prescribed. You may have seen a dog in a wheel turning a spit on which a leg of mutton is roasting. Now the nosological practitioners and writers exactly resemble this dog. No one has done so much mischief with respect to the profession of physic as Cullen has; and it is my amazement to know that his absurd system yet obtains in medical examinations. No man at all versed in modern pathology attends to such a system of crudities and errors. It obtains only in the shades of men's closets or in the cloistered walls of schools and colleges. But the rising generation will, I trust, put an end to all such lingo and legerdemain.

If you investigate the history of cases of what is called infantile remittent fever, you will generally find that they are preceded by what are equally vaguely and absurdly called, in children marasmus, and in adults dyspepsia.

For instance, in children you will find that before the attack the tongue was furred, the belly was round, the bowels were irregular, the skin was pale, and the child was frequently picking its nostrils. In one case there is irritation of the mucous membrane of the stomach; in another irritation of the mucous membrane of the small intestines, generally associated with a deficient or a depraved secretion of bile and a torpid state of the colon. The child has

become fevered, and the fever has distinct exacerbations; and hence, though erroneously, it has been called the infantile remittent fever.

In truth, this remittent fever may be either simple or inflammatory. If it be simple, though there is increased action in every part, yet the most diligent examination will not enable you to detect inflammation in any one part.

Sometimes the irritation is created by scybala in the colon, amounting to what I call local simple excitement. Far more frequently you find some traces of inflammation, which in most cases is sub-acute: in some instances in the mucous membrane of the stomach: in most instances in the mucous membrane of the ilium, at the lower part; and in some cases both the ilium and the colon are inflamed. You must look, then, generally speaking, to the condition of the mucous membrane of the alimentary canal for the pathology of that affection which has been called the infantile remittent fever.

Sometimes the liver is affected, but generally it is disordered secondarily.

In some cases there is inflammation of the mucous membrane of the air-passages; generally at the same time with inflammation of the mucous membrane of the intestinal canal.

It is extremely common in this affection to find that in the progress of it, especially in very young children, convulsions occur from disorder of the brain.

I lately saw three cases (to which I referred in the last lecture) in one family, in which there were distinct symptoms of ulceration of the intestines; but when I visited them, there was no indication of any disease in the brain, nor did any such symptom occur till twenty-four hours before death. At that period it was announced by restlessness, by great distress depicted in the face, by inconsistency of character, by slight contraction, by twinkling of the eyes, by general convulsions, by dilated pupil, by a noise in the breathing, and by the other symptoms which commonly attend an attack of convulsions.

You will find that these affections sometimes take place suddenly; but sometimes they arise more insidiously. You must, therefore, investigate carefully and minutely the progress of each case.

The stomach being the seat of the affection, the inflammation, which is generally of the sub-acute kind, is denoted by pain on pressure in the epigastric region; by a remarkably vivid redness on

the tip of the tongue, and extending some way round its edges. These are two of the most remarkable circumstances attending this disease. Generally there is a loathing of food; and nausea, retching, or vomiting, are sometimes observed.

If the inflammation exist in the mucous membrane of the small intestines, it is, in the great majority of cases, seated in the lower part of the ilium; and then you have the same vivid redness of the tip of the tongue, extending round the edges; the papillæ are more distinct than natural. You will observe that there is pain on pressure lower down than when the inflammation is seated in the stomach. If you examine the stools you will find they contain more mucus than natural, so that they resemble thin oily paint in appearance. Sometimes you discover mucus in patches. In this form of the disease nausea, retching, or vomiting, rarely occur; if they do, not only the ilium, but the stomach and the small intestines adjacent to it are affected.

When the inflammation is situated in the large intestines, almost always the upper part of the colon and the lower part of the ilium are the portions especially affected. Here you have the same peculiar appearance of the tongue and the same pain as in inflammation of the small intestines; and you have likewise a discharge of muddy, loose, offensive, feculent matter from the bowels. Offensive discharges occurring in what is called the marasmus of children generally depend upon this condition.

Sometimes it happens in these cases that the colon is very much obstructed; and hence may arise the fever. In this case the bowels are hard and distended; and the patient perhaps passes scybalous motions: so that if they be poured from one vessel to another, part appears loose, but now and then hard lumps are rolling with the fluid into the receiving vessel.

The only certain symptom of inflammation of the liver is pain on pressure in the region of that viscus. Many other symptoms have been mentioned as diagnostic of it; but this is the only one on which any reliance ought to be placed. This inflammation is usually accompanied by a pulse quicker and a skin hotter than natural. The stools will show a deficiency or a depravity of the bile, while the urine exhibits a tinge of the bile.

When the intestinal canal is inflamed, the liver getting torpid secretes either too little, or vitiated bile; and in some cases it is actually inflamed simultaneously with intestinal inflammation.

This fever generally abates towards morning, and from thence increases towards night; whence the name infantile *remittent*

fever. You will almost invariably find the pulse quicker than natural throughout the twenty-four hours. From four to eight in the morning it will be rather slower, but increases in frequency toward the evening: the skin then becomes hot and the face flushed.

From the sympathy which exists between the skin and the mucous membranes of the intestines the child picks its nose and other parts of the face; sometimes so much as to pick holes in the skin.

The urine is sometimes scanty and turbid, but often copious and pale.

This disease is occasionally, but very rarely, complicated with peritoneal inflammation. Sometimes it comes on after a child has been previously much wasting, and then it is mostly complicated with organic disease, and the peritoneum after death is found studded with tubercles: but not if the child have only complained for a few days.

In the progress of this disease the child becomes more emaciated; the skin becomes more and more withered, dry, and husky; the belly is tightly drawn towards the spine, and becomes flatter and flatter, with this exception, that if the peritoneum covering the parietes of the abdomen be inflamed, the belly becomes more and more round; the stools become more and more offensive, and smell like the washings of putrid meat, which they resemble also in appearance. The child is liable to discharges of blood from the intestines, or of pus mixed up with the stools. The eyes, the temples, and the cheeks, become remarkably hollow, and the cheek bones prominent; and at length the child dies under a state of extreme emaciation. The hollow eyes and hollow cheeks may exist independently of ulceration; but taken in conjunction with the state of the pulse, of the skin, and of the stools, it is a most alarming appearance.

MORBID ANATOMY OF INFANTILE REMITTENT FEVER.

On examining the body you will generally find, first, the mucous glands enlarged; then the mucous membrane puckered; and then ulceration. You will frequently find the liver gorged with blood, and a venous or arterial tree in the mesentery. You will also, perhaps, find the mesenteric glands redder and larger than natural. When the disease was preceded by much emaciation, you will generally find the glands filled with cur-dlike pus. Of this, after a time, the child would generally have died. You find the pleura

and also the peritoneum studded with tubercles, and the lungs likewise filled with tubercles. Children who have a tuberculated condition of the peritoneum generally die with a distended belly; and on rubbing your finger over the abdomen you may feel these small knots externally. I have seen a case in which there were hundreds of tubercles very universally disposed on the peritoneum. Sometimes they are formed independently of inflammation; hence, in the case which I have just alluded to, in many parts the peritoneum on which the tubercles were situated was quite transparent, while in other parts of it each tubercle was surrounded by an areola, the tubercle being thus, as it were, the centre of inflammation.

It sometimes happens that in this affection you find effusion into the ventricles of the brain; and if you learn the history of the case, you will find that the head had been affected in its progress. The head may be affected in the onset, or in the middle, or at the close of the disease. Systematic writers say that infantile remittent fever is similar to hydrocephalus internus. This is very absurd, and shows a want of thought. You will find adults attacked with the same sort of fever, attended by the same symptoms as in children. In one individual you will find the mucous membrane of the stomach affected, in another the small intestines, in another the large intestines, &c.

There are some other important affections of the intestinal canal of which I shall speak. The first of these which I shall mention bears in its pathology a very close resemblance to infantile remittent fever; it is what is vaguely termed diarrhœa. With regard to the—

PATHOLOGY OF DIARRHŒA,

or looseness, or laxness as old women call it. Now there are five different conditions upon which diarrhœa depends; and they are the following:—

1. Retention of scybala in the colon.

If retention of scybala, and a consequently overloaded state of the colon, occur in children or delicate females, or even in male adut of sedentary habits, it is very liable to bring on diarrhœa; therefore always investigate the history of the cases of diarrhœa to which you may be called. On examining the abdomen, if it be not much loaded with fat a hard irregular feel may be distinguished in the course of the colon, with an indistinct uneasiness. The stools if examined will be found to be loose and watery, and to contain lumps of scybala which settle to the bottom on pouring

off the fluid from one vessel to another. If an individual neglect to have the bowels relieved daily this overloaded state of the colon may go on for a great length of time; and the irritation may extend to the small intestines, unless, at last, the peculiar diarrhœa I have described comes on.

2. Offending ingesta.

Some offending food or drinks, for example, may produce it; or some fruits containing indigestible seeds, skins, or husks. This is a very common form of diarrhœa, especially in the summer: the sensibility of the mucous membrane of the stomach being then increased by the increase of temperature, and rendered more susceptible of the operation of stimulant or irritant substances. It is frequently produced in children by certain medicines, such as saline and antimonial mixtures. I have frequently seen these medicines create diarrhœa; they produce a condition of the mucous membrane of the intestines, which is what I call local simple excitement, and which verges on inflammation; and yet these medicines are often prescribed and administered without either rhyme or reason.

3. Congestion of the liver and mucous membrane of the intestinal canal.

This is most common in cold weather. An individual goes into the cold air from a warm room, and suddenly feels chilled; his skin is contracted, putting on the appearance of what is called cutis anserina; the pulse is feeble; rumbling in the bowels occurs, with a desire to go to stool; and then the patient passes a copious evacuation. This arises from the loss of balance in the circulation; the blood retiring from the surface becomes collected about the internal parts, more especially about the liver, so that the vessels which go to form the vena portæ are greatly distended, and the diarrhœa is the natural effort to relieve the internal congestion. Upon the same principle diarrhœa sometimes arises from depressing mental emotions, as fear. It is very well known that sailors, in many instances, before a sea-fight, are liable to this sort of diarrhœa.

4. A superabundant secretion of bile.

This is what may strictly be called a bilious diarrhœa. It is commonly met with in summer, and then the stools are yellow, like gamboge; but sometimes, from the effects of acids, the stools are not yellow, but green. Sometimes it arises in this way from mental emotions, as anger, which seems to operate almost like electricity. This probably depends upon an inequality of the

distribution of the nervous fluid; for observe how bright are the eyes, and what energy of body and of mind is expressed, compared with the unexerted condition of the mind and body. These bilious stools, when acrid, are sometimes the cause of inflammation.

Diarrhœa sometimes arises from—

5. Inflammation.

Whichever of the above-named conditions or causes diarrhœa may arise from, you should investigate it carefully, to ascertain whether it has, as is very often the case, become complicated with inflammation in its progress.

Sometimes diarrhœa will go on for a very long time, and in this case inflammation generally is at the bottom of it.

I saw a man who for a long time had been troubled with diarrhœa, which went on to extreme emaciation, but he afterwards recovered. This was a case of mere simple excitement.

A man who was very stout had a diarrhœa for months, to the extent of five or six stools a-day, like scraped slate and water, so that he became much emaciated, and was the mere skeleton of his former self. This occurred from the colon being plugged up with scybala.

In another case, in the stools of a patient who had long had diarrhœa I found pus, the consequence of ulceration from inflammation.

I have never met with but one case of inflammation of the caput coli in which diarrhœa did not exist. Diarrhœa does not attend inflammation of the mucous membrane of the small intestines unless the large intestines are affected also.

What old nurses commonly call in children the watery gripes, is generally extensive inflammation of the mucous membrane of the intestinal canal, with considerable collapse.

The colliquative diarrhœa occurring in the last stage of consumption is, as far as I have observed, invariably an inflammatory form of diarrhœa. There is always inflammation, and generally ulceration, in the ilium; or rather, both inflammation and ulceration in the lower part of the ilium and in the upper part of the colon.

You will perceive then how important it is to draw distinctions as to the different origins of apparently the same effects, because the treatment may require to be very different according to the condition which gives rise to the symptoms.

It frequently happens that diarrhœa precedes an attack of inflammation: this is very often the case with respect to dysentery.

This points out an important inference, which is, that whenever diarrhœa occurs it should be attended to in the onset. I would have you to be not only medical practitioners but medical philosophers. Unless you have distinct evidence of the causes of symptoms you ought not to prescribe for them; for if you order remedies for the symptoms without investigating the conditions upon which they depend you prescribe at random, and your practice is nothing more or less than downright quackery.

SYMPTOMS OF CHOLERA MORBUS.

Another affection connected with certain morbid conditions of the mucous membrane of the intestinal canal is what is called cholera morbus.

This is a perfectly absurd abstract word; and yet in the books of nosological writers a distinct and regular plan of treatment is adopted for that word. But it is not invariably the same condition. The patient has vomiting and purging at the same time, accompanied by griping pains in the bowels, and very often by spasms in the gastrocnemic muscles, and in very severe cases by spasms in other parts. These are all the symptoms which denote cholera morbus.

But these symptoms arise from different remote occasions.

They are more especially connected with climate. It is far more common in hot countries, as in India, than in temperate climates. It is far more common in this country in the summer and autumn than in winter. Like dysentery, it often proceeds from alternations of heat and cold, sometimes from heat alone.

You may generally trace the attack to something taken into the stomach, such as milk, sour drinks, porter, hard water, damaged bread, melons, mushrooms, oysters, lobsters, veal, pork, pickles, or the like.

According to the nature of the remote occasion it arises with a cold or a hot stage.

Sometimes, though not universally, it arises from peculiar agents, as for example, in India. It will travel as it were down one side of a river, and then crossing over will return up the other side of the river, passing over one village and almost depopulating the next. The probability is, that this is connected with malaria; or perhaps with some other condition of the air which is not yet cognizable to our senses.

The army under the command of the Marquis of Hastings, in India, was encamped in a low situation, and a great many of the

soldiers were attacked with cholera morbus. It struck the Marquis that it arose from some noxious emanation from the ground where the army was situated. A consultation was held, and, though opposed by the medical men's opinions, the army was removed to a higher situation, and then the cholera morbus ceased to make its ravages among the soldiers.

A friend of mine, in command of a vessel, was remarkably distinguished for common sense, and on reaching Ceylon he inquired naturally about the health of the place. He found that on board a ship lying near him the effects of cholera morbus were frightful; the men were every day (as he expressed it) dying like dogs. My friend cast his eye about and observed that not far distant there was a marsh, and that the wind was blowing in the direction from that marsh to the ship. He therefore altered the situation of the ship; did not allow his men to be upon deck very early, and none but himself was there very late at night, nor did he allow his men to get intoxicated. He paid also strict attention to the diet, and the result of his caution was, that while in the next ship nearly all the men lost their lives, he had not a sick individual on board. In pursuing the—

PATHOLOGY OF CHOLERA MORBUS,

I shall prove that it occurs under various conditions, and consequently requires different treatment; and I may observe that whether it arises from common or peculiar occasions, there are three different pathological conditions upon which the symptoms which constitute the so-called cholera morbus depend. One form might be called—

1. The congestive; or congesto-inflammatory.

This is the most formidable kind of cholera, which has been so fatal in India, and it is a form of the affection which sometimes occurs in this country. There are all the symptoms which I have enumerated in this form of cholera. The two most usual circumstances are vomiting and purging of a watery mucous fluid; and there is considerable thirst, with tormina, tenesmus, and spasms, mostly seated in the calf of each leg, sometimes in the thighs or arms, and sometimes, though very rarely, over the whole body. The evacuations are more like rice-water, or thin gruel, than any thing else, and are passed in great quantities, even as much as a gallon at once. There is no bile in the stools; and there is a purple or leaden colour, indicating a bronchial affection. In the congestive form of cholera morbus these symptoms occur with an

universally cold skin, with a feeble pulse, and with a weak respiration: and will any one say that this is like the other form of cholera? In this state, in India, the patient has died in a few hours. From the symptoms I infer that there is a congestion, principally about the liver and the mucous membrane of the intestines; and I believe that an affection of the mucous membrane of the air-passages is almost always complicated with it. It is influenced very remarkably by the condition of the stomach, of the bronchia, of the heart, &c. A reaction or excitement occasionally takes place in these cases a few hours before death; and then you have not only signs of congestion in the liver, but signs of inflammation of the mucous membrane of the bowels on examination of the body. If excitement take place about the abdomen, and the limbs continue cold, the case puts on a congesto-inflammatory character. But sometimes an entire state of excitement is set up.

Another form might be called—

2. The simple excitive: or the cholera morbus of simple excitement.

In this form there is a copious secretion with vomiting and purging of bile. The liver and the mucous membrane of the intestines are preternaturally excited. If you give incautiously antimonial emetics, with harsh purges, &c., you will frequently induce an attack of this kind. It is denoted by a copious secretion of bile, with no fever. This is the most common form of the affection in this country: there is a gush of bile from the liver, or there is a gush of mucus from the bowels.

Dr. Johnson, the author of a valuable work on the affections to which Europeans resident in tropical climates are subject, and editor of the Medico-Chirurgical Journal, first pointed out that there is a deficiency of bile in the cold stage of cholera morbus.

Those cases which are attended by a copious efflux of gall from the liver are far less dangerous than others.

The next form of cholera morbus is—

3. The inflammatory.

The inflammation is seated either in the liver or in the mucous membrane of the bowels, and very often in both. I have seen a great many cases of cholera morbus in this country where inflammation of the mucous membranes has been distinctly traced, either in the stomach or in the large or small intestines. Such inflammation you would easily detect by attending to the symptoms which I mentioned in my last lecture.

If we consider that these three forms of disease have been treated

as one affection, can we be surprised at the mortality which has attended it? When men prescribe for a mere name, for a nonentity, can we wonder that their practice is not successful? But the truth is, that a most terrible fatality follows the nosological method of investigating disorders; and a strong objection which I have to the Nosology of Dr. Cullen is, that in compiling it he has not sufficiently attended to the pathological conditions on which disorders and diseases depend. No physician should be at a loss when he is called to a patient to say, after due inquiry, what organ is affected, and, as it were, to lay his finger over the part which is the seat of the complaint.

The next affection of which I have to speak is sometimes connected with the affections to which I have already alluded; but sometimes it exists separately, and then the—

SYMPTOMS OF HEPATITIS,

or acute and sub-acute inflammation of the liver are the following. The most correct diagnostic symptom is—

1. Pain on pressure.

Pain will be felt on pressure in the region of the large or of the small lobe of the liver. Recollect that you should always be sure to make pressure in the region of the small lobe, which is sometimes the sole seat of the inflammation. Most frequently it happens that the inflammation is sub-acute, and the patient will very often tell you that he has no pain; and only by pressure will the presence of pain be detected. You should apply moderate pressure, telling the patient at the same time to take a deep inspiration; and if there be inflammation you will find that he winces.

Acute or sub-acute hepatitis is denoted by—

2. Some degree of fever.

The fever is less developed than might be expected: it is very often but slight, the skin not very hot, and the pulse not very quick; and entirely absent when the inflammation is chronic. The patient very often has alternate indistinct heats and chills, which may occur when there is no suppuration. And when suppuration does arise the patient generally has hectic fever with great emaciation. Frequently before an abscess forms there are distinct chills, succeeded by hot fits, and these by copious perspirations. Sometimes the patient, especially an old person, dies before abscess forms, and then you discover the common appearances of inflammation. In this country the peritoneal coat of the liver is more

frequently attacked than its substance; in the one case the pain is more acute, in the other more obscure.

These two symptoms concurring are certain indications of acute or sub-acute inflammation of the liver. Other symptoms are not certain; yet there are certain circumstances which may be taken into account as collateral evidence.

3. The stools are generally deficient in bile, or indicate a depravity of the secretion of bile; being lighter than natural, like clay, or darker than natural, or like tar or spinach in appearance.

Another guide you may sometimes have is—

4. The urine; which most frequently is scanty and contains bile.

The urine has the deep yellow colour of an infusion of saffron when the quantity of bile in it is slight; but if the bile be in large quantity then the colour of the urine is like that of London porter; linen dipped in it and dried retains a deep yellow stain.

5. There is a dirty, yellowish-white fur upon tongue; and that—

6. The skin is of a dirty hue, or of a slightly bilious hue. So, too, the colour of—

7. The conjunctiva generally is bilious or of a dirty hue.

8. Vomiting sometimes attends inflammation of the liver, and then the patient generally vomits a greenish or yellowish matter; but sometimes it is absent.

And when it happens that the patient vomits you should investigate the cause of that symptom. It generally proceeds as it was, except, of course, when it arises from the operation of medicines, and when it arises from pure exhaustion,—and is symptomatic of, some disorder either in the head, in the stomach, in the bowels, or in the liver.

9. Hiccup sometimes attends inflammation of the liver, but it sometimes is absent.

Hiccup arises, too, from other causes beside hepatitis: sometimes from an affection of the brain, of the stomach, or some morbid condition of the liver not amounting to acute or sub-acute inflammation.

10. Pain at the top of the shoulder is sometimes present, sometimes absent; but is more frequent in chronic than acute inflammation; and sometimes also there may be—

11. Pain about the scapula. A more constant symptom of this affection is that—

12. The patient cannot lie on the left side from a dragging pain which that position produces.

This is not always the case, but it is a very common occurrence. The patient generally lies upon his back.

13. Pain, or weight, or other uneasiness in the forehead is sometimes present, sometimes absent.

14. Cough and uneasy and disturbed respiration are sometimes present, especially when the convex surface of the liver is inflamed; and they generally arise from an affection of the pleura existing at the same time. Sometimes the breathing is perfectly natural. If the hepatitis be not complicated with some bronchial affection the cough is dry.

15. Depression of spirits almost invariably occurs in this affection.

Sometimes spontaneously or by the action of remedies acute or sub-acute hepatitis is subdued, and a state of chronic inflammation of the liver is left; and persons who have suffered two or three attacks of the acute form are very likely to have chronic hepatitis if they do not pay very strict attention to the diet. A good rule in internal inflammation is to bleed the patient, if possible, till the inflammation is entirely, or very nearly, removed. Recollect to give strict injunctions as to diet, &c. during, and for a considerable time after, convalescence.

A high temperature may occasion a return of hepatitis; and the same effect may be produced if the patient be chilled by neglect of clothing, or in any other way. So from taking a long walk, or sustaining any great mental anxiety, a relapse may occur: but, above all, I repeat that if the patient be careless with regard to the diet, he is very liable to have chronic inflammation of the liver, which may go on to disorganization of its structure.

It very often happens that the liver is inflamed at the same time with the mucous membrane of the bowels; and not only are these parts very often thus inflamed in combination, but when the liver is affected it very often influences the mucous membrane of the bowels; and, *vice versâ*, when the mucous membrane of the bowels is inflamed it very often influences the liver; for the vena portæ, when the liver is inflamed, being in such condition that the blood circulating through it is retarded in its course, it necessarily happens that the veins of the intestines are over-gorged.

DIAGNOSIS OF HEPATITIS.

There are only two affections which can be confounded with hepatitis, namely, pleuritis and gastritis.

I. FROM PLEURITIS.

I cannot think how it is possible to mistake hepatitis for pleuritis, although by systematic writers the diagnosis is said to be difficult. In hepatitis you have no difficulty of breathing, although you have irregular and anxious breathing. The seat of the pain in the two affections is different. Press in the region of the liver, and you feel at once that the pain is there.

When the peritoneal coat of the liver is inflamed the pleura is sometimes inflamed also; and then you will have symptoms of the two affections conjoined.

II. FROM GASTRITIS.

In gastritis you have sometimes vomiting, and when it does occur it is continual; and there is pain in the region of the stomach. The vomiting in hepatitis occurs only occasionally. The pulse under gastritis is small and rapid; in hepatitis it is generally under one hundred in a minute, and never small and contracted.

OCCASIONS OF NEPHRITIS AND CYSTITIS.

The predisposition to inflammation of the urinary organs is often hereditary. It is not uncommon in gouty subjects, in persons with a delicate state of the skin and mucous membranes, and in persons with very irritable minds. In the irritability which is induced by night-watching there is often uneasiness in the region of the bladder, and frequent desire to make water.

The predisposition to these affections is also sometimes acquired by errors in diet and drinks, as by the exhibition of acids and strong drinks of various kinds. So likewise from an overloaded state of the colon the functions of the urinary organs are very often deranged.

The remote occasions which I have already described produce acute or sub-acute inflammation of these as well as of other organs which are predisposed. One of the offices of the kidney is to guard the body from the ill effects of internal congestion.

Inflammation of the kidney is often produced by cold applied to the body, and by heat especially when combined with exercise. I have known many cases of nephritis arising from a long walk on a hot day. Errors of diet, the abuse of spirits, &c. sometimes lead to nephritis, and turpentine given in large doses will almost always induce an attack of it. Cantharides generally operate in the same way. A blister applied in the region of the kidney will sometimes induce nephritis at once. Saline aperients in large and repeated doses may produce, or at any rate predispose to it.

I have seen a case in which I think it is probable that it arose from a habit of taking a dose of salts daily. Blows in the region of the kidney produce nephritis, frequently chronic in the first instance, but winding up in acute or sub-acute inflammation. A difficult labour may occasion cystitis. A stone in the kidney or bladder is no uncommon occasion of inflammation in either of these situations. The kidney and bladder may both be inflamed by that sympathy with disorder of the stomach, liver, or bowels, which I have before mentioned; and then, with obscure pain in the back, the urine is scanty, and generally deposits a pink sediment. This occurs, for instance, in delicate females, with a furred tongue, a fretful temper, and depressed spirits; and if neglected proceeds until chronic inflammation is established; upon which acute attacks may supervene, or the structure of the kidney may be insidiously undermined. Gonorrhœa may produce inflammation of the kidney and bladder. It mostly affects the mucous, but sometimes the peritoneal, coat of the bladder; and sometimes the inflammation extends to the adjoining parts, as the rectum, &c. I have seen a case in which gonorrhœa distinctly induced an attack of inflammation of the peritoneum. Too long retention of the urine may produce cystitis; and a stricture in the urethra may lead to the same effect. Tumors pressing on the kidneys or bladder, or an overloaded colon by its pressure, or enlargement of the prostate gland, or a stone sticking in the urethra, or the introduction of a bougie or other instrument, may all occasion either cystitis or nephritis.

SYMPTOMS OF NEPHRITIS.

Acute or sub-acute inflammation of the kidneys is denoted by the following symptoms:—

1. Pain in the region of one or both kidneys.

Generally only one kidney is inflamed. Sometimes the pain first attacks one kidney, and then, leaving that, attacks the other. You must, in order to detect the tenderness, make pressure at the same time from the loins and from the abdomen, the patient being desired while you do so to take a deep inspiration. The pain is increased by coughing or sneezing.

2. Fever.

The pulse is quicker and the skin hotter than natural.

The pain generally follows the course of the ureter, or shoots to the testicle, or more or less down the thigh; or there is retraction of one of the testicles.

Retraction of the testicles also attends irritation of the prostate gland. I saw a case in which the patient complained of occasional attacks of pain in the back, accompanied by retraction of one testicle.

There very often is numbness of the thigh on the affected side.

If the inflammation be acute the pain and fever are acute; if sub-acute they are not very urgent, and sometimes there is a remission in the morning.

Sometimes the pain of the back suddenly subsides; and then on examining the urine a large quantity of pus is found in it, and continues to be discharged for some days. The patient frequently recovers; and after death the kidney is found reduced to a mere capsule.

Always examine the urine by filtering it, and in it you will sometimes detect small stones.

These, then, are the usual diagnostic symptoms of nephritis, together with one other, which is—

3. A more frequent desire to make water than natural.

Usually the urine is scanty and high coloured, depositing a pink sediment. Sometimes it is copious and of a natural colour, especially in relaxed habits.

Sickness is sometimes present, but far more frequently it is absent. Sometimes there is loathing of food, or nausea.

DIAGNOSIS OF NEPHRITIS.

I. FROM LUMBAGO.

In nephritis when it becomes chronic it generally happens that fever is absent, and in lumbago there generally is no fever. But in very rare cases lumbago is a part of rheumatism, attended by fever and pain in other parts of the body.

In lumbago the pain is an aching or numbness, excessively severe on motion, as on rising up or on lying down. Besides which, all the other peculiar symptoms of inflammation of the kidneys are absent.

Lumbago is the only affection you could easily confound with inflammation of the kidneys; but as other affections are said to be capable of being confounded with nephritis, I shall point out the diagnosis of them.

II. FROM HEPATITIS.

This inflammation might be taken for nephritis, for the liver is sometimes inflamed at its root. Trace the large lobe of the liver

from the sternum back to the spine, and then you will easily ascertain whether any part of the liver is inflamed. The urine and the stools also will lead to a correct diagnosis.

III. FROM OVERLOADED COLON.

An affection far more likely to be mistaken for inflammation of the kidney is an overloaded colon, in which spasmodic affections of the bladder and violent pains of the back often occur. The overloaded state of the colon is generally relieved by a spontaneous diarrhœa; the stools are usually mud-coloured, and in pouring them from one vessel to another you will observe that they are divided into a solid and a fluid portion. There is also a hard uneven feel in the abdomen, accompanied by fever. Sometimes, however, this state exists simultaneously with nephritis.

With regard to acute or sub-acute inflammation of the bladder or cystitis, it may occur in, and be confined to, either the serous or mucous membrane of the bladder.

SYMPTOMS OF SERO-CYSTITIS.

If the serous membrane of the bladder be inflamed it is generally denoted by strangury; by the urine not being clouded, nor containing any mucus; by pain in the region of the bladder; and by fever.

SYMPTOMS OF MUCO-CYSTITIS.

When the mucous membrane of the bladder is inflamed a burning smarting pain generally occurs, and the urine contains first mucus, and then blood. There is frequent and painful desire to make water, with or without ability to pass the water. The bladder is distended, but sometimes the urine dribbles away. Sometimes it is accompanied by tenesmus.

I saw a lady labouring under acute inflammation of the bladder, and the urine at first contained a large quantity of mucus, and then blood. She was unable to pass the urine, and from distention of the bladder the pain became excessive, so that she was obliged to have the water drawn off by the catheter twice or three times a day. When inflammation is confined to the mucous coat of the bladder it sometimes puts on a chronic character, and mucus is secreted; and sometimes pus is secreted, and in that case there is ulceration.

When a patient moans in great general distress in cases of fever lay your hand on the abdomen to feel if the bladder be distended;

for the distress very often arises from a retention of urine in consequence of the head being affected. And if the retention be neglected or overlooked, the urine undergoes certain chemical changes, becomes an acid fluid, irritates and inflames the mucous membrane of the bladder; and thus the patient's life is destroyed.

Sometimes in inflammation of the bladder the patient has anomalous shiverings, sometimes indistinct, in other cases as distinct as those in ague. This occurs in various forms of irritation of the urinary organs. Sometimes a retention of urine is the cause of these shiverings. A shivering fit may occur, and be succeeded by a hot fit, which, having passed away, may give place to a sweating fit. These fits are very irregular in their return, and the sweating stage is generally much longer than that which attends ague.

Palpitation of the heart sometimes attends stricture, without shivering; and sometimes a cold, hot, and sweating stage succeeding each other will point out the existence of a stricture when it would not otherwise be suspected.

It will be right to consider whether the symptoms of cystitis arise merely from the over-distention of the bladder, for the pain is sometimes then as severe as that from inflammation ; but it is not increased by pressure, it is relieved by the introduction of the catheter, and there is no fever.

Peritonitis sometimes occurs in that portion of the serous membrane which covers the bladder, and spreads very rapidly over the whole abdomen. It is accompanied by strangury and other symptoms of peritoneal inflammation.

Irritable women are liable to an affection of the mucous membrane of the urethra. There is external tenderness and pain in making water, becoming very violent on passing the last few drops.

Sometimes the symptoms of cystitis may arise from the presence of a stone in the ureter.

DIAGNOSIS OF CYSTITIS FROM HYSTERITIS.

The only affection which you can confound with inflammation of the bladder is inflammation of the uterus, which almost invariably occurs, if at all, after delivery. It is extremely rare at any other period.

The tumour in the two diseases is different, and a practised hand could easily distinguish one from the other. The inflamed uterus is firmer and not so large as the distended bladder. If you have any doubt as to the nature of the tumour, always make a point of introducing the catheter, and if it be the over-distended

bladder, those doubts will be removed by drawing off the urine. Always attend to the condition of the bladder in every case of fever where the head is concerned.

Foresight is second sight. No species of knowledge is so important as that foresight of practitioners which enables them to prevent diseases. But another kind of foresight which a medical man should daily endeavour to acquire, consists of a power of foretelling events; a power equal to that which our poet gives to the wizard, who exclaims—

> " 'Tis the sunset of life gives me mystical lore,
> " And coming events cast their shadows before."

It is allowable in a poet to speak of " mystical lore," but it will not do in physic. We have enough of art and mystery and so on in an act of Parliament; but common sense despises and rejects all the mummery which exists about art and mystery in schools and colleges and articles of apprenticeship. No species of human knowledge is mystical: we ought to have no mystical lore; for knowledge is only mystical in order to conceal something wrong. Johnson has said, " No man can be great without great labour;" and no man can be a good practitioner of physic without great labour. A physician should be a man of perfect simplicity and perfect sincerity; for no man need in the present day be ashamed to acknowledge his ignorance upon some points. A knowledge of the extent of our ignorance is far preferable to an assumption of nowledge which we do not possess: a species of affectation which has greatly tended to degrade and disgrace the science of physic. Nothing is more painful to my mind than to see men in the practice of medicine led away by the conjectures of nosological writers, and daily prescribing saline and antimonial mixtures and black draughts, without any distinct reason for such a practice, or any distinct notion of pathology. This is not the fault of the individuals, but it is the fault of the system of medical education and legislation in this country, which is as bad as any thing can be.

LECTURE XXIV.

COMMON INFLAMMATORY FEVER.

TREATMENT.

BLOOD-LETTING.

In considering the treatment of common inflammatory fever, I shall first mention the principal remedies, and describe generally their effects and the circumstances which should guide us in their particular application. I shall then advert separately to the treatment of acute and sub-acute internal inflammation according to its various seats.

There are a few simple and powerful remedies which we apply for the purpose of the removal of all inflammatory affections. The first and most valuable of these is, unquestionably, the use of—

BLOOD-LETTING.

The spontaneous or accidental discharge of blood in the earliest ages must have suggested the application of blood-letting for the removal of diseases. A spontaneous flow of blood from the nose will sometimes relieve inflammation of the brain, and hemorrhage by some accident will occasionally remove a chronic inflammation. Hence we find that the most savage nations have rude instruments, such as pointed bones or sharp pieces of flint, for the abstraction of blood artificially. It has been said that the greatest discovery man has made is that of the use of iron and its application to various purposes: and perhaps it is the most important discovery when that knowledge is applied, not to war and destruction, but to benevolent and philanthropic purposes.

The application of sucking by cupping-glasses was perhaps suggested by the practice of sucking the poison from wounds, as was done in the earlier ages.

Boerhaave says with great truth, that there is no efficiency in any treatment, except what is to be found in its precise application. This is so true that a man may make a complete diagnosis, and

form a precise opinion as to the pathology of any case, and yet be a very bad practitioner; because, in order to be a successful practitioner, he must minute every circumstance which exists at the time of the application of his remedies, and he must also carefully note the effects produced by the remedies under those circumstances. In fact, unless a medical man observe these things minutely, he becomes a mere empiric; and is just about as precise in his practice as Dr. Sangrado was in the application of blood-letting: he may use it in some cases, but mostly he will abuse it.

The effects of blood-letting are so powerful that we should in every case have a distinct and satisfactory reason why we use it.

There are several different modes of abstracting blood: but the main thing is the effect produced, in comparison with which the method is of trifling importance. This effect is dependant upon the quantity of blood abstracted; modified, perhaps, by the slowness or rapidity with which this is accomplished, except in the case of leeching. One of the most fashionable in London is—

CUPPING.

This has become fashionable on account of the time which is saved by it. It is much less frequently resorted to in the country. It is the most barbarous way of abstracting blood, and one which I very much dislike except in particular cases. Every medical man who intends to practise as a general practitioner, should be taught to cup properly, that he may be enabled to get a sufficient quantity of blood when the lancet fails. A fat adult or a fat child may be met with in whom you cannot abstract blood from a vein, and cupping becomes indispensable. In these cases, and in these only, I would recommend the employment of cupping; the effects of which are the same as those of drawing blood from a vein, except that bleeding from the arm produces its effects generally far more rapidly than cupping, and puts the patient to far less pain. In London you have a great many opportunities of learning to cup with very great dexterity. Sometimes, especially in inflammation of the integuments,—

INCISIONS

by the scalpel are made; and occasionally they are extremely beneficial: for example, for some chronic pains in the head incisions made through the integuments and healed by the first intention, are very useful. Freind, in his "History of Physic," mentions that they used frequently to be made for the purpose of relieving erysipelas; and Mr. Hutchinson says that this plan is very bene-

ficial in the erysipelas of the extremities which occurs among sailors.

I have said that the effects of cupping are precisely those of drawing blood from a vein; but this observation does not apply to—

LEECHING.

There seems to be something peculiar in the effects of leeches, especially when the heat on the surface is not very high, and the heart's action not very much increased. My attention was drawn to this peculiarity of effect accidentally:—

I ordered a gentleman to be bled for a pulsating pain in the head, corresponding in frequency to the pulsations of the radial artery. He was bled repeatedly for it without relief. I then ordered twelve leeches to the temple, and accidentally putting my finger on the radial artery. I found that the pulse had fallen twenty beats; though it had not fallen before under repeated large bleedings from the arm. The leeches completely relieved the pain in his head. I could not account for this, but I have observed it repeatedly since.

In all sub-acute and chronic inflammations leeching is useful; but in acute affections general blood-letting is preferable.

Some patients become faint from the loss of a very small quantity of blood by leeches; and if you wish for that effect, you will in those individuals have the advantage of knowing how to obtain it. But upon the same account you should never leave a patient, especially a child, till the bleeding from the punctures has been stopped. Some travellers mention that in a certain place is to be found a bat or vampire, which attacks people when they are asleep at night. This vampire combines, it would seem, the properties of a leech and of a bat, for while it sucks the blood it fans the victim with its wings. This is said to be true; and of course the individual feels excessively faint in waking in the morning. A similar effect is sometimes produced by leeching.

A friend of mine, a medical man, saw an individual who went to sleep while some leech-bites were bleeding, and when he awoke in the morning he was so exhausted and so sunk that he never rallied from the effects, and died.

Another medical friend of mine lost a brother in the same way, from the bleeding during the night, after the application of leeches.

Leeches seem to have a far more powerful effect in relieving inflammation of the mucous membranes than either cupping or the lancet. They seem to have some specific influence on the heart's

action, and through it on the circulation. This was remarkably displayed in my own case when I had an attack of dysentery; I was passing slimy and bloody evacuations every half hour; but after the first three applications of leeches, I passed no blood at all in the stools. We have many similar examples of certain effects produced by the operation of certain medicines or remedies on certain parts of the body; thus, when the female breast is distended after delivery the milk will disappear in a great measure if you give a purgative.

If you apply leeches to an infant, always place them over some bone where you can make pressure, as on the sternum or temple. On the abdomen you will find it difficult to stop the bleeding; and I may observe that they never do any good unless they produce a decided effect upon the heart. Mothers will dip pieces of cotton or lint in brandy, and after applying it to the part for a short time keep removing it, so that the bleeding is kept up. But if steady pressure be made with the point of the finger, the bleeding will almost invariably stop. If simple pressure fail, lint or the felt of hat dipped in brandy or alcohol or a little rectified oil of turpentine will stop the bleeding generally. If these fail, sulphate of zinc will often answer. One friend of mine uses Ruspini's styptic, and speaks highly of it. A very good styptic is made of equal parts of sulphate of iron and superacetate of lead. It makes a stain, and is therefore not to be used on any part which is exposed. If all these means fail, the lunar caustic will generally succeed.

A friend of mine applied a leech to his gum, and became alarmed by the quantity of blood lost by it. The application of lunar caustic stopped the hemorrhage immediately.

An old physician was once called to a lady who had applied a leech to her gums, and it had slipped down her throat. He found her lying in convulsions, with the medical men standing about her, doing nothing to relieve her. He gave her what common sense dictated,—a little salt and water, and the convulsions immediately ceased.

Supposing the lunar caustic to fail, a very fine gold or silver needle armed with a twisted silk passed through the puncture will invariably stop the bleeding.

These circumstances may appear trifling, but they really are very important. A great many infants are lost, after the application of leeches, from a neglect of the rule which I again recommend you to adopt, namely, never to leave a child till the bleeding from the leeches has been stopped.

One objection to leeches is the uncertain quantity of blood which is drawn by them. The quantity is sometimes far too great. It is surprising how much blood exudes from the punctures in some instances; and therefore when it is your object to be precise as to the quantity of blood drawn, it is far better to have recourse to the lancet. By leeches you can, under certain circumstances, by the abstraction of a very small quantity of blood affect the heart more than by a large quantity drawn by the lancet.

When the excitement is very high you will seldom find it much affected by leeches, except a very large quantity of blood be drawn by them.

In apartments where the air is tainted from filth and defective ventilation, erysipelas may often follow the application of leeches and sometimes also the use of the lancet.

THE LANCET

is the third and the most common mode by which blood is abstracted. We bleed by the lancet in various places where the veins are distinct.

One of the most common places is at the bend of the arm, and therefore the anatomy of that part should be well understood.

The external jugular vein is another and very excellent place for abstracting blood in many of the complaints of children.

In children too the veins of the hands and feet may sometimes be opened with advantage.

The anterior branch of the temporal artery is another part where blood is sometimes drawn by the lancet. I believe that the abstraction of blood from an artery is no more beneficial than bleeding from a vein.

Many young men may be seen running after operations in an hospital, while at the same time they strangely neglect the acquainting themselves with the best manner of performing this simple though important operation of venæsection. Blood-letting is an operation that every general practitioner should be able to perform with very great dexterity. As to its efficacy it may be considered as a capital operation; one which we are daily called upon to perform in cases of vital importance.

There are a few points connected with blood-letting to which I may here allude.

One of them is the application of the ligature, to interrupt the return of venous blood and make the vein swell. In bleeding from a vein at the bend of the arm the ligature should be applied an inch or so above the elbow, just so tight that when the

veins are obviously swelled the pulse may remain tolerably strong at the wrist. You should be very careful to feel the course of the brachial artery, the distribution of the branches of which is sometimes irregular. I need scarcely observe, that every person who performs the operation of bleeding should be exactly acquainted with the anatomy of the parts about the elbow joint. The best vein upon the whole is the median. The ligature should be rather broader than common tape, and when applied the patient's arm should be held steadily out.

The lancet should be in perfect order: in fact, a medical man should never have any thing out of order or place, so as to have to hunt after it when he wants it. The form of the lancet is important. It should be broad shouldered if you want to draw a large quantity of blood rapidly; but spear-pointed if you wish to draw a small quantity, or to draw it slowly. On the whole the broad shouldered lancet is the best. The arm should be held steadily out, and while the lancet is plunged into the vein, pressure should be made below to prevent the gush of blood. The external opening should be of considerable extent, otherwise the cellular membrane is apt to obtude itself before the opening in the vein and produce ecchymosis. The vein should be punctured in a slightly oblique direction, and then the arm should be retained precisely in the same direction as when the puncture was made, that the integuments or cellular membrane may not retard the flow of blood. And if the blood does not flow freely you must tell the patient to move his fingers, or give him your lancet case to turn in his hand, or he may grasp a large stick. At this period it will be proper to examine whether the ligature is too tight or too loose.

The next point relates to the cup, which, to ascertain the appearance of the blood, should be held at no great distance from the arm; otherwise the whole surface of the blood will be covered with air-bubbles. If the stream of blood be twisted spirally like a corkscrew, it is a certain sign that something obstructs the orifice; and this obstruction may often be removed by changing a little the position of the arm. The form of the cup is important. If it be a large shallow vessel it will often show no buff at all upon the surface, because so large a surface is exposed to the air that it will cool very rapidly. But if the blood be drawn into a narrow deep vessel, the buffy coat is often more distinct. If you draw blood into a metallic vessel it sometimes prevents the appearance of buff upon the surface. This may often be observed when patien

are bled into tin or pewter vessels at an hospital. They are the worst vessels for the purpose, especially if they be broad and shallow, because they are good conductors of caloric. Earthenware is better for bleeding basins. The inside of the vessel should be very smooth, or the crassamentum of the blood will become so much attached to any point or roughness which it may contain, as to prevent you ascertaining correctly whether it is cupped.

But a point of far more importance than these is to watch the approaching syncope. There is sometimes merely a step between syncope and death. When syncope is coming on, lay the patient down at once; and while the blood is flowing, before syncope is threatened, you should be quite sure that the patient's head is not so high as to endanger its striking against the top of the bed in case you should lay him down rapidly. The patient should be gently, but suddenly, laid down flat; for if you were to lose time in laying him flat, the syncope might be complete while he was erect, and he might die in that position almost instantaneously, especially after losing a large quantity of blood. I have known several cases where patients have actually died from want of presence of mind in the operator.

A man in a fit of insanity cut his throat; but though the attempt to destroy his life was ineffectual, yet he lost a very large quantity of blood. As often occurs in these cases, the shock of the operation, or the loss of blood, or both, restored him to some degree of reason, so that he expressed his regret at having committed such an act, and was extremely anxious to know if the wound was mortal. He was assured that it was not mortal; but being suffered to remain in the erect position he fainted. The medical man then losing his presence of mind, the syncope was instantaneously succeeded by death.

A friend of mine, a general practitioner, extirpated a small tumor from the breast of a female. After the operation, which was extremely well performed, the patient fainted, and a surgeon and physician who were present became alarmed; and, without offering any assistance, kept her erect. My friend immediately laid her flat, but it was too late, for in that short interval she was irrecoverably dead.

As soon as ever syncope approaches, especially when a large quantity of blood has been drawn, lay the patient perfectly flat.

If the patient roll about much, or toss the limbs and head first one and then the other way; having arrested the hemorrhage, an

assistant should lay the hand gently on the patient's head and keep him perfectly still for some time.

I once had to watch a patient in this state for several hours to prevent his dying, for upon the least motion the syncope was renewed.

A basin of cold water, a smelling-bottle, and a little wine or brandy, should be at hand in perfect readiness; because sometimes by dipping the hand in cold water, and sprinkling the patient's face, you may produce a deep inspiration, and in that way the circulation will be kept up. A little wine or brandy taken into the stomach will produce the same effect.

After sufficient blood is abstracted, the next thing to be attended to is the cleaning and tying up the arm. You should have a little tepid water in a basin—for cold water sometimes produces a chill—and wash the arm carefully with soft linen, which is better than sponge which is commonly used. You should be very careful of this part of the operation, lest by irritating the wound erysipelas should be produced. Life often depends on a proper attention to this point. If you use a dirty sponge or a rough towel, the arm may become inflamed and the patient may die. If you employ a sponge, let it be excessively soft and perfectly clean. The blood should be completely cleansed from the part. Your object is to heal the wound by the first intention; and therefore you should put the edges of the wound closely together; and the best way of doing this is by using two compresses. You should apply a thin one first, and then another more firm compress over it; and lastly apply a bandage neatly around the part. The bandage should be sufficiently broad, and not be tied in a knot, but stitched or pinned. A knot over the orifice may be painful; and you should mind where you place the pin. Of course you should consult the patient's feelings, after the application of the bandage, that it be not too tightly applied. If the patient complain of any uneasiness about the hand or arm, and especially if the vessels swell, you may be quite certain that the bandage is too tight: the patient should be perfectly comfortable, and should be directed not to use the hand or arm for some time afterwards.

In some cases I have known persons who imagined a patient would require bleeding again in an hour or two, insert one or two drops of oil of almonds between the lips of the wound to prevent union. If the first wound will not answer again, make another opening in another vein, or in the same vein below the original orifice.

A patient was bled in the arm; a large lump of round linen was applied, and covered by a twisted tape. Inflammation occurred at the orifice, spread to the adjacent cellular membrane, and erysipelas was the consequence. Fever occurred, with violent inflammation of the brain, and the patient sunk and died. On examination after death marks of intense inflammation were found in the pia mater and tunica arachnoides, and in the cellular membrane near the wound, though not in the vein.

I have seen many serious consequences from using a coarse cloth, a rough sponge, &c. Erysipelas from this cause is terribly fatal. You should, in short, perform the operation well in all its parts; for by this you will not only confer upon the patient a positive benefit, but will prevent many future evil effects.

There is often a very material error in bleeding. I ordered a lady to be bled a small quantity. The medical man made a tremendous wound in the arm, and applied a bandage carelessly over a large compress. The next day, when the arm was dressed, there was a gaping wound. A large compress very often prevents the union of the wound; they should be very small and made of fine old soft linen.

When a boy at school I recollect reading Rollin's Antient History, and being very much struck with his remark that it is a glorious thing for a man so to turn his errors to account as to make them serve his interests. But the glories of life are in reality the vanities of life. And you must remember that a far better thing for a physician to do is to avoid the commission of errors to learn by the mistakes of others: to shrink from the repetition of them, lest they be fatal.

The external jugular vein is another part from which blood is often abstracted with great advantage, especially in convulsions, whether they occur in children or in adults. The operation here is very easy. You may make pressure on the vein below with your thumb, or by means of a ligature. Suppose you wish to bleed from the right external jugular vein, you may pass a ligature over the lower part of the vein and under the left axilla; but the pressure of the thumb will generally answer as well. The incision should be made with a slight obliquity; and when a sufficient quantity of blood has been drawn, always apply a piece of lint over the puncture, and over the lint adhesive plaster; for otherwise, on any exertion, or especially if the patient have any difficulty of respiration, the blood may flow again from the puncture, and the hemorrhage may be fatal.

When you have occasion to bleed from the veins of the hand or foot, it is best to apply a bandage around the limb, and immerse it in warm water.

Very few persons, however, who are dexterous, will fail in bleeding at the bend of the arm, which is certainly the best place.

In many affections of the head the French think it preferable to bleed at some distant part; and facts certainly countenance the correctness of such an opinion.

Leeches applied to a distant part will produce an effect upon the vessels of the head, provided they produce an effect on the heart's action. I have known the head to be very much relieved by the application of leeches to the foot or stomach. It appears that the old doctrine of derivation of blood, or derivation of the nervous influence, is still believed to some extent by the French. And no doubt blood is derived to the part; as when a few leeches are applied to an inflamed testicle, for they will evidently draw a flow of blood to the part.

The temporal artery is sometimes a very convenient place for bleeding, especially in convulsions or excessive congestion of the brain.

I saw a patient in convulsions, with evident distention of the temporal artery, from which thirty ounces of blood were removed with very great benefit.

The artery should be pierced in a slightly oblique direction.

When sufficient blood has been drawn the hemorrhage may be arrested by pressure made with a sixpence. If pressure fail, you must cut the artery entirely across.

If you do not divide the artery be careful to apply sufficient pressure, or a small aneurism will arise.

I have seen several cases of aneurism, occurring after opening the temporal artery, cured by pressure by means of a sixpence and a bandage.

Euripides has observed that one wise head is worth a great many hands. And this would be a capital motto for most Colleges of Surgeons. Nothing can be more absurd than the examinations at the London College of Surgeons, where surgery and physic are separated from each other. I never pass that building but I shrug my shoulders to think of the fact, that in those examinations nothing should ever be asked of the principles or practice of physic. Can any thing be more absurd or more dangerous than this? But so it is.

With respect to the cases in which blood-letting is beneficial

or prejudicial;—in all cases in which the surface is pale and cold, the pulse feeble and fluttering, the respiration excessively weak, and the strength excessively prostrate, avoid bleeding.

Inflammatory fever is that form of disease in which blood-letting is one of the main remedies; but it is on the precise application of blood-letting that its efficacy exists; and in order to this a number of circumstances must be taken into account.

One point to be attended to in the application of blood-letting to internal inflammation is—

1. The degree of the inflammation.

It may be in the highest degree, or acute; or it may be sub-acute; or it may be chronic. If the inflammation be acute, the local embarrassment is greatest and the fever highest, and it runs a much more rapid course than if it be sub-acute; and therefore as less time is allowed for the application of remedies, more prompt and plentiful evacuations of blood generally are required in acute than in sub-acute inflammation, in which both the local affection and the excitement are less urgent.

There are, however, some exceptions to this.

1st. One exception occurs in inflammation of the brain: in one form of which the heat is not higher than natural; the pulse is not quick, hard, nor full; and there is oppression of the brain, and, through its influence, of the whole system. In these cases moderate blood-letting is borne best; but you must be guided by the effects. If the pulse rise under the abstraction of blood, it is a good sign; but if the pulse sink under the bleeding it is a bad sign, and you must stop.

2nd. Another exception occurs in bronchitis: and the more intense is the inflammation of the bronchial lining, the more dangerous is copious and repeated blood-letting; for the structure of these parts is peculiar. The blood in all these cases is changed, and oppresses the whole body; and if the patient be bled copiously and repeatedly, he generally sinks and dies. But if the patient be mildly treated he recovers.

3rd. Another exception occurs in inflammation of the mucous membrane of the stomach and intestinal canal, when it is set up suddenly and extensively, attended by a shock of the whole system, by a feeble pulse, by a cold skin, and by an oppressed respiration. And while these symptoms, together with universal prostration of muscular power, continue, so long should you avoid blood-letting.

In chronic inflammation fever is sometimes entirely absent; and, if present, it never runs so high as in acute inflammation.

Chronic inflammation can seldom be cured by one, two, or three bleedings; it is established by habit, and requires to be slowly subdued.

Another point to be attended to in order to the precise application of blood-letting, is—

2. The seat of the inflammation.

If it be in an internal organ, it generally is of far more consequence than in an external part, inasmuch as internal parts are of more vital importance. Erysipelas in London is, in bad cases, invariably complicated with internal disease; and this is why it is so formidable a disease compared with a mere simple external inflammation.

Inflammation of a serous membrane generally requires more copious bleeding than inflammation of a mucous membrane. The same observation applies to inflammation of the parenchyma, or substance or body of an organ.

Inflammation of the mucous membranes most frequently has a certain duration; and when it occurs you cannot cut it short as you can inflammation of a serous membrane. If therefore in these cases you go on bleeding again and again you will often do very great mischief.

If acute inflammation attack the larynx it is sometimes fatal in seven or eight, and very often in twenty-four, hours. Here prompt measures are obviously required notwithstanding the structure of the inflamed part. These observations apply also to inflammation of the lining membrane of the trachea. Another point of importance is—

3. The duration of the inflammation.

In almost every form of inflammatory fever, when the fever is fully developed, there is a first, a middle, and a last stage.

The first stage is the period in which the pulse is quicker and more resisting, and in which the skin is hotter, than natural. This stage goes on increasing: the tide flows till it reaches a certain point, and then the complaint remains stationary for a certain time, moving neither the one way nor the other: and this constitutes the middle stage. From this period the fever often ebbs, and the last stage sets in: and then the force of the heart's action falls, and the pulse becomes far more feeble; the respiration becomes far more weak; the heat declines over the surface, first on the extremities, and then on the trunk; and the prostration of the muscular system is surprisingly increased.

Now it is only in the first and middle stages that blood-letting does good, and is borne remarkably well; in the last stage it gene-

rally does harm. In the last stage, therefore, bleeding should be used very carefully; and though you cannot often do any positive good, yet, negatively, you may avoid doing much harm, and thus save the patient's life. It is important to consider—

4. The condition of the pulse and heat on the surface.

When you find the pulse small and hard, like whipcord or wire; or large, round, and resisting; and the skin at the same time hot and dry; then you may be almost certain that the patient is under the most favourable condition for blood-letting.

You have an example of this in inflammation of the peritoneal coat of the intestines, or of the proper peritoneum.

There are some exceptions to this rule, but not many. One exception is the following: with respect to the skin, in inflammation of the kidneys, of the mucous membrane of the bladder, and of the mucous membrane of the large intestines.

I saw a lady with a skin hardly hotter than natural, with distinct and considerable pain about the region of the kidney, with a pulse quick, hard, and wiry. I ordered her to be bled, which was attended with very great benefit.

In some forms of inflammation of the brain the pulse and the animal heat are very little disturbed. This applies to inflammation of the lungs and to inflammation of the liver in some cases. The local inflammation is not indicated by a corresponding degree of fever.

There are some exceptions with regard to the pulse I have mentioned, especially to the round and resisting pulse.

A round, resisting pulse, sometimes arises from enlargment or thickening of the left ventricle of the heart, which continues through the remainder of life. In such a case, but for the previous history, you might be deceived by the pulse if any slight attack of inflammation should occur.

I once saw a patient bled for a supposed inflammation of the lungs, by two Professors of Medicine, till one hundred and sixty ounces of blood had been lost, though she had but a slight degree of fever. The consequence was, that the pulse was not at all reduced, but she died of the blood-letting; and upon examination of the body the left ventricle was found to be thickened and enlarged. The other point for consideration with regard to the application of blood-letting is—

5. The condition of the respiration, deglutition, and muscular power.

This is a subject which every medical man should follow Hippocrates in attending to. Whenever a patient takes a deep and

strong inspiration, and then makes a powerful expiration; whenever a patient displays great strength in inspiration and in expiration, as in coughing, &c., you hardly ever need be afraid of blood-letting. On the contrary, when the inspirations and expirations are feeble, when the cough is feeble, and the patient helpless, you should be extremely cautious; for if you bleed these patients copiously they generally die.

In all cases when the respiration has become very feeble, and especially when the deglutition is impeded, the period for blood-letting is past. I have great dread of bleeding in this state; and also when there is great prostration of muscular power, so that the patient lies on his back in a sunk position in the bed, with a very feeble voice and a very weak pulse.

It is requisite to take into account—

6. The firmness and fulness, or the laxity, or spareness, of the body.

You have a very good illustration of this in London. Take, for example, a servant who is well fed, clothed, and lodged; and compare him with some poor cockney who is badly fed and lodged. The one, full and plethoric, will require the abstraction of twenty or thirty ounces of blood in order to remove an attack of inflammation; but in the other spare and pale individual it will be sufficient to abstract six, eight, or ten ounces, in order to produce the same effect: and, beside, the firm, full, plethoric patient, will rapidly rally; while the spare individual will rally more slowly.

Let me again remind you that in performing a positive benefit you should be careful to do as little mischief, prospectively, as possible.

Persons of full habit and firm muscular fibre, who live on animal food and take exercise in the open air, almost invariably bear bleeding remarkably well. Individuals of sedentary habits, feeble, and of remarkably relaxed muscular fibre, will faint under the loss of a very small quantity of blood, which answers best in them. Persons of pale spare habit and soft skin, who live on tea, or drink diffusible stimuli largely, and eat little animal food, soon sink under bleeding. Persons who drink spirits, or wine, with a large appetite for animal food, generally bear bleeding well, till they get old. Confirmed drunkards generally bear blood-letting ill; and so do persons who are the subjects of much mental anxiety, especially if the natural sleep be broken. Cynanche tonsillaris occurring in a person of strong habit, with a full pulse and very firm fibre, the patient will bear copious bleeding remarkably well. But when it

occurs in a spare habit, with a soft pulse and delicate skin, if you were to bleed such a patient in the same way you would destroy him or break up the general strength. The same occurs in erysipelas, which is one of the names set down to be prescribed for: if it occur in the country bleeding will be borne well; but in weak patients, in London, bleeding will destroy life. Attend, then, to the state of the fibre and the general appearance.

Another point which requires to be taken into account is—

7. The age of the patient.

There are remarkable differences in infancy, in manhood, and in old age.

Infants seldom bear very copious losses of blood well, but suffer extreme exhaustion and extreme irritation from them, and do not rally well after them.

The same observation applies in one respect to old persons, who seldom rally well after large losses of blood.

Between the ages of twenty and forty the power of accommodation is very great; but you must be cautious in the abstraction of blood in infancy and in extreme old age. If the habits of old persons be very regular, or if an infant be very large, these circumstances may of course be taken into account in considering the quantity of blood which may be drawn. This is especially the case in London—that infants are small, and the habits of old persons intemperate; and that they generally do not bear copious losses of blood well.

8. The sex of the patient.

Generally speaking, women bear bleeding worse than men. Sometimes they bear more bleeding than men, especially in the puerperal state.

9. The state of the atmosphere.

Patients generally bear blood-letting better in a cold dry atmosphere, especially if there be a brisk wind, than in a stagnant moist atmosphere. Patients in the cellars of London seldom bear bleeding so well as those who reside in garrets. The same remark applies to hospitals and prison-houses. In hospitals which are not well ventilated there is a taint in the air, from the influence of which patients sink under the application of bleeding.

10. The nature of the remote occasions.

In cases of fever which arise from common occasions blood-letting is generally better sustained than in those which proceed from peculiar occasions, such as inflammatory fever arising from malaria or specific contagions. Bleeding, at least, is not so well borne in

the middle and advanced stages as in the corresponding stages of common fever.

This is especially the case in what is called typhus fever. That affection, as I shall hereafter explain, sometimes sets in with very high excitement. When the heat is low on the surface with a sticky varnish on the tongue, whether these symptoms occur early or late, be very cautious of bleeding. I saw a case of typhus fever where there was a remarkably expanded pulse and violent inflammation of the brain; and full one hundred ounces of blood were drawn in that instance. If there be pain in the head, or pain on pressure in the pit of the stomach or in the bowels, bleeding by leeches may be tried very cautiously in the advanced stages.

Small-pox very often sets in with very ardent fever. You should treat the symptoms then without reference to small-pox at all, even if you knew what it would be. If you remove the high degree of excitement by bleeding, purging, cool air, and spare diet, small-pox will terminate favourably; if you neglect that state it will terminate in confluent small-pox. Confluent small-pox may generally be prevented by proper treatment of the eruptive fever. When confluent small-pox sets in with symptoms of what is called typhus gravior,—in these cases just be as cautious as in typhus fever; for there is an overwhelming bronchial affection, which requires to be taken into account.

The same observations are applicable to scarlet fever.

With regard to hooping-cough, there is sometimes a considerable degree of fever. When this occurs the lungs are always implicated. Sometimes in the progress of the affection the brain becomes inflamed. If the heat be high on the surface and the pulse expanded you may bleed freely: if the pulse be compressible and the heat moderate bleed more moderately.

The same observations apply to catarrh. It sometimes sets in with open fever, and then bleeding will be well sustained: sometimes it sets in with a bronchial affection, and bleeding will be very ill borne.

With respect to the repetition of blood-letting, you must be guided by the circumstances of the case. If there be inflammation in a serous membrane, or in the substance of an organ, do not be content till the inflammation be quite or nearly removed. If the inflammation be in a mucous membrane, as in that of the bowels, you must be content with moderating its violence.

It is important to consider on the same subject—

11. The appearance of the blood.

In the first place, you must take into account the proportion of cruor and serum. In all cases where you observe a large crassamentum in proportion to the serum, it is a certain sign the patient can bear the loss of blood well: if it be small in proportion to the serum, be cautious in the repetition of bleeding.

If the crassamentum be large, very firm, and tenacious, and if it be concave upon the surface,—turned up on the edges and sunk in the middle, or cupped, as it is called—bleeding will be well borne.

If the blood remain a fluid gore in the vessel without coagulating, no more should be abstracted.

If it be convex upon the surface it is always loose: if the person be excessively weak it will often be arched on the top, and then you should be cautious in the repetition of blood-letting, unless for some very powerful reason.

The thick, firm, buffy coat, when the blood is at the same time cupped, is a sign that evacuations of blood can be borne. You have two remarkable exceptions to this, in rheumatism, and pulmonary consumption.

1st. In rheumatism you may draw blood again, and again, and again, and still it will be excessively cupped and buffy to the last; and if you went on, guided by this, you might destroy the patient.

2nd. In the advanced stages of phthisis pulmonalis, in which there are tubercles and inflammation of the substance of the lungs, you find the same thing very often,—the blood is generally buffy to the last; and if you repeated the operation you would destroy the patient.

A buff sometimes exists upon the blood which resembles jelly, being loose and semi-transparent. It occurs in pale broken-up individuals, with a superabundance of serum and a loose crassamentum. It occurs generally in old persons with a quick jerky pulse and a skin hotter than natural.

12. The appearance of the urine.

Whenever the urine is scanty, high-coloured, and turbid, you may bleed with safety: whenever it is copious, thin, and pale, you should bleed with more caution.

Blood-letting seems to operate in a variety of ways.

1. It operates, obviously, by diminishing the quantity of blood; by which the capillary system is especially freed. And when blood-letting is often repeated—

2. It obviously affects the quality of the blood.

We have distinct evidence of this in the diminution of the comparative quantity of cruor. Thus after the second or third blood-

letting the blood will be found to contain comparatively less crassamentum and more serum. And if the bleeding be very often repeated the blood drawn hardly stains linen.

With regard to the quality of the blood, you should not bleed too repeatedly. And it is only for some very powerful reason that you are justified in changing the constitution of the blood.

3. Blood-letting affects, also, the frequency of the heart's motion, or the velocity of the blood.

It very often diminishes the velocity of the circulation, though sometimes it only diminishes the force and not the frequency of the circulation. The number of pulsations at the radial artery may be as high as, or even higher than, before the operation, but the force may be lower.

4. Bleeding often removes what in one word we call irritation; for example, pain.

5. It very often operates very powerfully on the skin; relaxing it and producing copious perspiration.

6. It very often restores the balance of the secretions.

Before adverting more particularly to the precise treatment of internal inflammation of various structures, I shall make some general remarks in the next lecture on some other remedial agents which experience has proved to be efficacious; in the application of which measures I shall in some instances feel it my duty to dissent from some authors of distinction.

There are four kinds of individuals at present in the practice of physic.

The first are physicians. Their business consists in writing prescriptions, and that is all. They are dovetailed and fitted to all cases.

The exercise of the second class is applicable to the general practitioners; and it consists in compounding medicines and making out bills. Both are done according to custom by a nosological practitioner month after month, year after year.

The third class perform operations without a reference to physic. By these men an arm or a leg will be lopped off just as is done by harlequin at Christmas. This refers to the pure surgeons.

It is none of these modes of practising physic which I recommend to you. The experience you should have should be of a different kind. It should be the experience of the fourth class, which is obtained by the observations of symptoms during life, and the investigation of the morbid appearances after death, so as to deduce *à posteriori* principles of pathology; and by noting every circum-

stance under which medicines are given and every effect produced, so as to be enabled to give, as well as to deduce, precise rules with regard to their application in other cases.

In fact, in one word, you ought to avoid the nosological method now in vogue of practising your profession. I will hack and hew this great tree of nosology till I bring trunk and branch to the earth. Look into the most popular works on the subject. Look to the work of Dr. Thomas. It is any thing, every thing, or nothing. It has no definite character at all. One might be amused by reading it in the closet, or hearing the contents in conversation, but not when we reflect that the symptoms, pathology, and practice laid down in that book are current in this country,—current in our schools and colleges, however lamentable that it should be so.

Pope suspected the sincerity of Addison, and he beautifully exclaims—

> "Who wouldn't laugh if such a man there be?
> "Who wouldn't weep if Atticus were he?"

Who would not weep that this nosological system is entertained? It really is lamentable to see men endowed with every moral excellence fond of this system; and yet it is not the individual who deserves blame, but the absurd system of medical education and legislation which prevails.

Some only recount the recoveries and escapes of their patients, instead of cures, of which they have less numerous examples.

They relate such extraordinary events as surpass every thing in ordinary practice; and, as Cullen says, we have more false facts than false theories in the medical world.

LECTURE XXV.

COMMON INFLAMMATORY FEVER.

TREATMENT.

APERIENTS.—EMETICS.—NAUSEANTS.—DIURETICS.—SUDORIFICS AND DIAPHORETICS.—REFRIGERANTS.—NARCOTICS AND SEDATIVES.—EXPECTORANTS.—ASTRINGENTS.—TONICS.—STIMULANTS.—EXTERNAL AGENTS.

IN this lecture I shall consider the effect of a variety of remedies to which, beside blood-letting, we have recourse for the relief or removal of acute and sub-acute internal inflammation.

APERIENTS.

Aperient medicines may be divided into three kinds—Laxatives, Purgatives, and Cathartics.

1. Laxatives are those aperients which unload the bowels with little or no additional discharge or irritation.

The principal of these are manna, sulphur, magnesia, pulpy fruits, vegetable acids—as lemon juice, mustard seed, rhubarb, —electuary of senna, and milk whey—especially in cases of habitual constipation.

2. Purgatives are those aperients which evacuate the contents of the bowels with some additional discharge, but with little or no irritation.

The principal of these are cold-drawn castor oil (for the hot-pressed oil is comparatively drastic), aloes, jalap, senna, calomel, sulphates of magnesia, soda, and potass; tartrate of potass, and supertartrate of potass.

3. Cathartics are those aperients which unload the bowels with some additional discharge and with more or less irritation.

The principal of these are colocynth, gamboge, scammony, elaterium, croton oil, black hellebore, and some of the preparations of antimony—as emetic tartar.

1. The doses, however, influence the operation of these medicines: and laxatives become purgatives, and purgatives in large doses will produce cathartic effects; but still the distinction practically obtains.

2. The operation of these medicines is also modified by their combinations.

Thus colocynth is a cathartic; but it is even a laxative if it be combined with hyoscyamus. Almost all these aperients are disagreeable, and they are better combined, since they become more pleasant and also more active by combination. The most certain way to relieve the bowels is to give a combination of aperient medicines.

This distinction of aperients into laxatives, purgatives, and cathartics, is very important in the practice of physic. The ancients were well aware that their cathartics were frequently fatal, and constant allusion to this fact are made in their writings. Hippocrates mentions that the convulsions which occur under the operation of black hellebore are generally mortal. Convulsions in infancy and childhood are now very common from the careless use of cathartics. I have seen it again and again proved that fatal convulsions have occurred from cathartics. If adults do not often

die from convulsions, yet they frequently die from inflammation, produced by the administration of cathartics. The condition of the mucous membrane of the alimentary canal is by far too commonly overlooked. And in cases of fever the cathartics are yearly fatal to a very great extent. I formerly committed a great error in the exhibition of cathartics in febrile diseases.

Since purgatives may be cathartics, and laxatives may be purgatives, according to the doses, this fact shows the necessity of caution in prescribing them in a certain quantity, and, if possible, of seeing them all prepared. The reputation of a physician is constantly in the hands of a general practitioner or a chemist, and generally very safely so. With regard to the general practitioner, it is of the utmost importance that he should be one who will fulfil to the letter the prescriptions of the physicians, inasmuch as the reputation of the physician and the life of the patient so often depend on it. He should be an individual so conscientious as to prepare every prescription with the greatest possible accuracy. I have known individuals of great worth whose reputation has been entirely sacrificed to the carelessness of apprentices or assistants.

Sometimes we give aperients not by the mouth, but by the rectum: under the form of enema or injection, or the good old English word which I prefer, glyster.

They operate chiefly by the stimulus of distention, and partly by the irritation of the salt which enters into their composition. They are exceedingly useful in some forms of disease, both acute and chronic. The French use them more than we do, and perhaps we neglect them too much. It is the best way of relieving the large bowels also. One would *à priori* infer that it would exhaust the patient less than the exhibition of aperients by the stomach, and generally it is so. But there are some exceptions to this observation.

I saw a young lady to whom an enema had been given to relieve an over-loaded colon. She was a woman of a very delicate mind, and after the operation she was excessively exhausted.

When this is the case you would prefer giving some aperient by the stomach.

Another way of exhibiting aperients is in the form of suppository. Aloes and Castile soap will in this way sometimes relieve an overloaded colon. In cases of torpid colon a minute quantity of elaterium will produce this effect if introduced into the rectum.

Although, as classes, aperients may be called either laxatives,

purgatives, or cathartics; yet if you examine still more minutely, you will find that almost every aperient has some operation peculiar to itself, beside the common operation and effect of relieving the bowels.

Upon one occasion I met a popular medical man, and I asked him what aperient ought to be given in the case before us. He said with confidence, "Any old woman knows that one aperient is just as good as another." This is the opinion of old women both in and out of the profession; but the truth is, that they differ remarkably in their operation, so that the safety or danger of the patient often depends upon the judicious selection of aperient medicines.

What I call laxative medicines and the resinous purgatives chiefly operate on the colon.

Castor oil, senna, and saline purgatives, operate upon the whole tract of the intestines; yet these also operate differently. For example: half an ounce of a saline purgative day after day will provoke loose motions, and yet if the colon be over-loaded the scybala will still be retained. This is not the case with castor oil, which will dislodge scybala from the colon, while saline purgatives will fail to do so. It is therefore of consequence to remark this difference.

Calomel operates very remarkably: it emulges the liver, as is evident from the copious flow of bile which it produces; and it emulges the mucous follicles of the intestinal canal, as is evident from the increased secretion of mucus. Calomel as a purge produces an effect on the stomach through which it often occasions nausea and profound universal relaxation of the system. A child often fails and becomes pale and sick during or after the operation of calomel purgatives. In that way calomel not only induces a discharge from the bowels, but tends to solve some febrile diseases very remarkably.

Cathartics operate not only on the serous exhalants of the mucous coat of the intestines, but also on the mucous follicles, provoking serous and mucous evacuations. This is the reason why they are so very dangerous in many affections of the bowels, as in enteritis. When sero-enteritis occurs cathartics are given because there is constipation. This arises from gross ignorance, or from mistaking the effect for the cause.

Under different conditions of the body, then, it will be obvious that different aperients are required; that the life of the patient often entirely depends on the judicious application of aperients;

and that it is, therefore, of vast importance to select them according to the condition for which they are appointed.

Aperient medicines operate in a great variety of ways.

1. By removing fæcal accumulation.

They have in this way a sort of mechanical operation. This is often a great object when the secretions are morbid. Individuals who are healthy, when they have a perfect evacuation, have a subsequent perfect comfort; but if it be incomplete, there is a sensation of uneasiness remaining—a sense of fulness in the lower part of the rectum. When this remains it is almost constantly an indication of an overloaded state of the colon. It is of consequence to recollect this in acute, in sub-acute, and particularly in chronic inflammation. This is especially the case in large towns. In London, water-closets were formerly very rare, and human excrements were emptied into the streets; as was the case till lately in Edinburgh: for in building that city one of the greatest comforts seems entirely to have been overlooked.

2. By preventing fæcal absorption.

In many cases of fæcal accumulation a distinct fæcal odour passes from the skin and breath of the patient.

3. By preventing retention and absorption of urine.

Some old authors on fever constantly advert to retention of urine as a common occurrence. This arose from neglect of the bowels, and is extremely rare if they be daily and gently opened; except where the brain is affected: and then, nevertheless, the bladder is apt to be distended, with almost incessant moaning and anomalous cold shiverings. Whenever you see these circumstances, you should make a point of attending to the condition of the bladder.

The absorption of fæces and urine, when it occurs, increases the fever.

4. By increasing the secretion of the mucous membrane of the bowels, of the liver, and perhaps of the pancreas.

It is upon this principle that we often remove remote affections, upon the old doctrine of derivation, explain it how you may,—as affections of the brain or of the bronchial lining. If inflammation exist there, you daily act by aperient medicines on the bowels; and thus diminish and at last remove it. You remove an overplus of blood in one part by directing it to another part.

But since aperients irritate this structure which is of such consequence, physiologically speaking, the immense importance of unnecessarily irritating it is obvious. Swarms of individuals are constantly destroyed through the irritation of common prescriptions,

which have nothing but precedent for their recommendation. Within these last twelve months I have seen twenty children destroyed by daily antimonial mixtures; indeed, in saying twenty, I am certain I am within bounds.

A friend of mine lately lost a child from the exhibition of scammony.

These drastics are especially dangerous in delicate children; but the observation obtains in all children. Relaxation always attends the operation of drastic purges, even in adults.

A man asked at a druggist's shop for a dose of physic, which, being composed of a drastic purgative, made him feel the next day as if he had been poisoned. He had violent diarrhœa, and, in fourteen days, he died. On examination, no doubt ulceration of the intestines and especially of the colon would have been found.

Whenever you give purgatives to children, examine the stools strictly, and ascertain whether the bile is healthy, whether there is a large quantity of mucus, and whether there are scybala. Of course in this examination you must take into account the effects of the remedy.

Aperient medicines operate—

5. By lessening the quantity of circulating fluids.

This is quite obvious; they amount, in fact, to a species of blood-letting, drawing off the thinner parts of the blood. This is especially the case with the saline aperients.

6. By diminishing the force and frequency of the heart's action.

7. By reducing the heat on the surface of the body, from some consent between the stomach and skin.

If the heat on the surface be very high, it is almost invariably diminished by aperients.

When the mucous membrane of the bowels is irritated, the skin is affected as to its temperature.

In some inflammations, as of the chest, you must take care not to chill the surface when you give aperients.

Do not act too forcibly upon the bowels when the mucous, serous, and fibrous membranes of the chest are inflamed.

Aperient medicines thus—

8. Indirectly influence the whole capillary system.

You see patients very frequently pale under the operation of purgatives.

9. By promoting absorption very remarkably.

If you purge a patient a day or two so as to produce a cold skin, you may produce ptyalism rapidly by mercury. They promote also the absorption of fluids deposited in various parts of the body.

10. Perhaps aperients change in some degree the constitution of the fluids.

The application of aperient medicines requires then a great deal of discrimination. They are modified in their effects by the state of the body under which they are given.

EMETICS.

Emetics are those medicines which excite vomiting. In the first place nausea is produced, attended by uneasiness at the stomach, by a sense of languor and lassitude, by a pale face, a cool skin, and also invariably by more or less sinking of the pulse. Then vomiting occurs, from the combined influence of the brain, stomach, diaphragm, and abdominal muscles.

Emetics increase the susceptibility of the stomach, so that on repeating their application, a smaller dose than the first will be sufficient; but if repeated doses of ipecacuanha or emetic tartar be given, the susceptibility of the stomach is destroyed.

Two modes of exciting vomiting are employed by medical men.

1. Dry vomiting.

This was formerly very much used in consumption, but is now abandoned. Only a small quantity of fluid was given with the emetic; hence there were repeated efforts, and little or no vomiting.

2. Wet vomiting.

Tepid water remarkably assists vomiting, and prevents the painful retching which otherwise occurs. And sometimes bitter medicines are used for this purpose, as infusion of chamomile flowers.

NAUSEANTS.

These are emetics in small doses. They differ only in degree from emetics, and are beneficial in some cases where vomiting would be injurious.

DIURETICS.

These are very secondary remedies. They are medicines which increase the flow of urine; and they operate directly, or indirectly.

1. They operate directly:—

1st. Through the stimulus of quantity; and hence large draughts of water prove powerfully diuretic.

2nd. Through the effect of some impregnation, which, being in the blood, stimulates the kidneys; hence coffee, asparagus, and turpentine leave a smell in the urine, while others leave no smell.

3rd. By a general stimulus; as mercury, which operates on all the secretory organs, especially when it does not operate on the salivary glands.

2. Diuretics also operate indirectly in three ways.

1st. By diminishing the action of the heart; as digitalis, blood-letting, squills, purging, spare diet. The absorbents act as usual, but the quantity of blood passing through the secretory organs is not the same as usual.

2nd. By increasing the absorption through evacuations.

If you bleed or purge, and then give mercury, its absorption will be far more rapid from the stomach. And on this principle they operate as diuretics indirectly.

3rd. Through sympathy.

Cold water increases the action of the kidneys the moment it is taken into the stomach, and the same obtains with regard to the skin. Tea affects the skin very rapidly. In the winter from this sympathy we pass more water than in the summer. Music sometimes operates remarkably on the skin and urinary organs. Shylock says—

> "Others, when the bag-pipe sings i' the nose,
> "Cannot contain their urine."

I suppose this is the reason why grooms whistle to their horses.

The operation of all diuretics is remarkably uncertain. This is the reason why the treatment of dropsy has been so unsuccessful. You will generally fail in exciting the action of the kidneys by diuretics.

Bland tepid drinks excite them better than medicines. In short, if you lessen the inflammation by the means I shall point out, you will restore the action of the skin and kidneys, because you will restore the balance of the circulation and of the secretions.

I suppose by-and-bye we shall have a patent pump for the purpose of exciting the kidneys, for I confess in my attempts to call them into energetic action I generally fail.

SUDORIFICS AND DIAPHORETICS.

Sudorifics are medicines which produce sensible perspiration. Diaphoretics increase the insensible perspiration. In fact their action is one and the same. They operate—

1. By sympathy, or a connexion through the nervous system between one part and another. Thus tepid fluids taken into the stomach often excite perspiration immediately.

2. By changing the distribution of the blood. They bring a flow of blood to the surface, and thus relieve the internal organs.

3. By lessening the quantity of the blood. It is a notorious

fact that a jockey will in twenty-four hours reduce his weight several pounds.

4. They tend ultimately to lessen the heart's action, certainly in frequency, if not in force, and generally in both.

5. They affect the temperature of the body, generally and locally.

REFRIGERANTS.

These lessen universal or topical heat. One of the most powerful is the application of a low temperature, of the efficacy of which you have an example in phrenitis. In these cases it is best to premise blood-letting and purgatives, which are two of the most powerful refrigerants; and after these I have used cold affusions with great benefit, but not unless the heat of the skin is still very high.

In many peculiar fevers, when the heat sets in high, cold affusions may be used with very great advantage, as in scarlet fever, typhus fever, and small-pox. In the eruptive fever of small-pox, if the skin be hot, you may use tepid and sometimes cold affusions with very great benefit. But when either of these affections sets in with smothered heat upon the surface cold affusions would prove fatal, and even tepid affusions had better not be used.

In measles more care is required, for patients are then generally preternaturally susceptible of cold. Here you may generally with great safety use tepid affusions or copious ablutions, especially when the heat is higher than natural over the whole surface, and the skin is dry.

Fresh cool air is an excellent refrigerant; and this is especially of consequence in specific fevers, in all which cases a very small fire should be made every afternoon to ventilate the room.

Regulation of the bed-clothes may be considered indirectly as a refrigerant.

Gelatine is a refrigerant compared with extractive matter. Thin farinaceous articles of food are refrigerant. So are effervescing draughts, especially when the stomach is irritable. And vegetable acids, especially citric acid and lemon-juice, and moderate doses of oxymuriatic acid, have a similar effect. Nitre has been said to have a similar operation, but I repeat that in febrile diseases the best refrigerant is the admission of cool air.

NARCOTICS AND SEDATIVES.

The term Narcotic is derived from ναρκόω, to stupify or make torpid: sedative from *sedo*, to allay, bring down, or calm.

Narcotics, generally speaking, operate on the nervous system: while sedatives operate more sensibly on the vascular system, allaying its force and frequency. Opium may be said to be narcotic from its soothing powers: and digitalis may be be called sedative from its reducing the heart's action. But opium may be both narcotic and sedative, and also a stimulant, according to the doses and the circumstances under which it is given. Abstract twenty ounces of blood; and then five or six drops of tincture of opium would operate as a stimulant, but if three or five grains of solid opium were given it would act both as a sedative and narcotic. Hence you perceive how the same remedy produces different effects. Three grains of opium would have little or no effect as a sedative or narcotic on a patient labouring under tetanus. In the exhibition of all remedies, you should remember that the effect is much modified by the doses; and especially by, what is very important, the state under which they are administered.

The following are some of the narcotics: opium, hyoscyamus, conium, solanum nigrum, belladonna, stramonium.

Of sedatives the following are the most common: digitalis, tobacco, prussic acid, colchicum, nux vomica, ipecacuanha, and some preparations of antimony,—especially emetic tartar.

We can produce all the effects of opium by applying it externally by friction. It seems to operate in this case through the blood, and also specifically on particular parts of the body; for instance, it gorges the brain, and if the congestion be extreme the respiration may be very much oppressed.

Sedatives operate through the blood, and they operate more or less through the brain on the other parts of the body; but they often seem to have a specific effect on particular parts of the body. Colchicum in an over-dose produces an universal relaxation of the whole system, a state of extreme languor and lassitude, but it then produces also, invariably, a most extensive irritation of the stomach and whole intestinal canal.

Antimonial medicines, such as emetic tartar, in over-doses produce a similar collapse and extensive inflammation of the intestinal canal.

If a small portion of strychnine be inserted into the thigh of a dog it produces its specific effects, as if taken into the stomach, namely, inflammation of the brain.

The pleura is sometimes found inflamed in animals killed by an over-dose of opium.

In respect to the tribe of narcotics and sedatives, bear in mind

that the different pharmaceutical preparations require great attention. It is necessary to be extremely careful in drying the roots and bulbs, which should be cut in thin slices; and the leaves, which should be laid in single layers, in broad shallow baskets, in a closet at the temperature of 150°. Immediately they are dry they should be powdered and put in bottles, from which the light should be very carefully excluded. Light should also be excluded from all tinctures, especially those of digitalis and colchicum, the narcotic quality of which is destroyed by exposure to it. The rectified spirit used in making them ought to have its strength ascertained by Sikes's hydrometer, and should be from 56 to 58 of that scale. Proof spirit consists of equal measures of rectified spirit and water; but for the common purposes of pharmacy, one hundred parts of rectified spirit, at 56 or 58 of Sikes's hydrometer, should be mixed with about sixty parts of distilled water.

The following substances are soluble in rectified spirit:—the resins, resinous gums, essential oils, balsams, camphor, pure alkalies, most vegetable acids, and wax. Saline substances are precipitated by it. The mineral acids are decomposed by it and form æther. Mucilage, fæcula, expressed oils, and carbonates of the alkalies are insoluble in rectified spirit.

The efficacy of pale bark chiefly resides in the resin, and it requires rectified spirit to form a tincture.

The efficacy of yellow bark chiefly resides in the tannin and extractive, and requires it to be digested in proof spirit.

Vegetable substances abound with extractive, saline substances, fæcula, mucilage, and narcotic principles. They require, therefore, proof spirit. The bark and leaves of plants give out their most active principles to water about or below 160°, for making extracts which should be prepared *in vacuo*.

Decoctions, if the substance be active, should not be boiled long; and upon the whole infusions are a preferable form of preparation.

OPIUM.

Opium has two active principles—narcotine and morphine. Narcotine may be obtained from a solution of opium in æther or rectified spirit. Morphine combined with meconic acid may be obtained from a watery solution of opium. The tincture of opium is the most active preparation. When experiments are made on narcotine and morphine on the lower animals they produce different effects; and the period seems to be fast arriving when all the active principles of vegetables will be obtained in a small compass.

A friend of mine gave a grain of narcotine to a dog. In half an hour it became stupid and insensible. In forty-five minutes it reeled about and was excessively stupified. In two hours it was apparently asleep, moaned, and was convulsed. In three hours the insensibility had much subsided; and it gradually recovered, but great weakness remained for some time.

To another dog he gave a grain of morphine. In twenty minutes the animal was drowsy. In forty minutes it was quiet but not asleep, yet took no notice. In two hours it was quiet and apparently asleep. It recovered in four hours, and no debility ensued.

The effects may be similar in the human subject, but we require something more than analogy. These experiments are exceedingly useful, and may lead to new views in reference to the operation of morphine, &c. A watery solution of opium irritates the eye less than any other preparation. The liquor opii sedativus has a very soothing effect in the opinion of some persons, but others do not think so favourably of it. I have a strong objection to the trial of new remedies, and adhere to the advice given by Pope:

> "Be not the first by whom the new is tried;
> "Be not the last to lay the old aside."

There are some preparations which on the whole have less influence. The black drop is an acetate of morphine and narcotine; it is in fact opium combined with verjuice, and it excites less nausea and less constipation than the tincture.

If you give opium to an individual in health, you generally find the stools whitish in a day or two. An American physician says that ten grains of carbonate of potash with a grain of opium will prevent all the distressing effects of the opium. This, if true, is a valuable remark. Opium applied by friction very often disturbs the brain less, as also when applied in an enema, than when given by the stomach.

HYOSCYAMUS.

The difference between opium and hyoscyamus is this: opium constipates the bowels, which hyoscyamus does not in any dose or under any circumstances; and therefore, if you wish to avoid that effect, it is better than opium. It seems rather to assist than to retard the operation of aperient medicines; and when the head is much affected you may often with advantage give hyoscyamus with saline aperients. A small quantity of chalk combined with it will also assist. In many chronic cases hyoscyamus is of great benefit. Colocynth is a drastic purgative, which is often indiscriminately given; but if you combine hyoscyamus with it, it does

not produce bloody stools as when given alone. Five grains of the extract of hyoscyamus are nearly equal to one grain of pure opium, if I may judge from my own observation. Hyoscyamus allays irritation of the urinary organs more than opium itself.

CONIUM MACULATUM

is a very good medicine in phthisis pulmonalis and many chest affections, and in some other cases in which there is copious external discharge.

BELLADONNA

may be applied externally in rheumatism. It is extremely useful in iritis to dilate the pupil and prevent adhesion between the iris and the capsule of the lens or the lucid cornea, and to prevent preternatural contraction of the pupil. Bathe the eye with a dram of extract of belladonna in six ounces of water; or put a scruple or half a dram in half an ounce or an ounce of water, and if a drop or two be put in the eye dilatation of the pupil will sometimes rapidly succeed; or you may apply a plaster of belladonna to the temples, but in this case you should wait to see the effect, for a child might be destroyed by it if it should taste the plaster.

Another medicine of considerable benefit in inflammatory fever is—

COLCHICUM.

Of this I have used three preparations, all of which are I think very excellent if made as I have mentioned:—namely, the powder of the bulb, the tincture of the bulb, and the wine of the seeds. On the whole, perhaps, the powdered bulb is the best of the three, but it requires to be very carefully prepared. An extract is made from the seeds, of the effects of which, as I have only used it twice or three times, I cannot speak confidently. The other three forms which I have mentioned I have used extensively.

The tincture of the bulb is made by macerating two ounces of the bulb, gathered early in September, in four ounces of proof spirit, for ten or twelve days, and straining off the tincture.

The wine of the seeds which I have used is made according to the formula recommended by Dr. Williams, of Ipswich, by digesting two ounces of the seeds in twelve ounces of sherry for nine days. The only death I ever saw from colchicum was produced by this preparation. Dr. Williams has spoken very unguardedly of it as a harmless preparation, giving all the good effects of colchicum without any of its bad consequences. I have seen the other preparation nearly produce death in some instances.

Other preparations have been used, as the vinegar and the wine of the bulb, which are mentioned in the London Pharmacopœia. Dr. Scudamore prefers the vinegar of colchicum, which he says is uniformly mild; but I am perfectly confident that it is a very bad preparation. I have seen the most violent effects from it, and it is the worst form of the medicine. It is very liable to ferment. It is a very remarkable fact that Dr. Scudamore has not at all glanced at the pathology of the gout. He has published a large volume without any direct allusion to it.

Even the tincture of the bulb and the wine of the seeds are often changed. The bulb, the tincture, and the wine, all become impaired and even inert by long keeping, and sometimes rapidly so by exposure to the influence of light. They should, therefore, be kept in a dark place, wrapped in paper or in opaque bottles, so as to exclude the light.

My eldest boy had an attack of rheumatism, and I gave him some tincture which had been long kept and exposed to the light. It produced no effect: in fact, it was perfectly inert. The powdered bulb was then given, and entirely removed the attack.

No medicine exerts a more decided effect over inflammation than colchicum, with the exception of opium in enteritis and gastritis when the mucous membrane is affected.

The doses of colchicum must vary according to the circumstances of particular cases.

When the heat is very high upon the surface, and the pulse is very expanded, as in acute or sub-acute rheumatism, and in internal serous inflammation, especially of the arachnoid or of the pleura, you may give as the first dose five grains of the powder of the bulb, and repeat it every four or six hours while the heat remains high and the pulse expanded. About one drachm is a full dose of the tincture, and half a drachm a moderate dose. Of the wine of the seeds in a state of excitement one drachm morning and evening is about the ordinary dose.

Some inflammations are attended with very high excitement. In all such cases the late Mr. Charles Haden combined colchicum with purgatives.

When any degree of sickness occurs, withdraw the colchicum immediately. Always watch the effects narrowly, especially if it produce sickness with purging; and remember, that it sometimes produces profound languor and lassitude without either sickness or purging; and then also it should be withdrawn, for death may rapidly supervene in the collapse. In the fatal case to which I

have before alluded the colchicum was continued after the purging and sickness had occurred. Upon examination of the body after death, inflammation of the mucous membrane of the stomach, and of the whole course of the intestinal canal, was found. Never prescribe the powder of the bulb of colchicum without an aperient; for if you do, and sickness occur, so much powder may remain in the bowels as to endanger the patient's life through its future absorption. I saw one patient's life very nearly sacrificed to an inattention to this circumstance. Sometimes very small doses of colchicum have very serious effects; in all such cases, therefore, it is best to be guarded in future. Most patients will bear it if the excitement be high. Dr. Williams would have us believe we might drink the wine of the seeds of colchicum as a cordial with safety, after dinner: but if given in over-doses it inflames the mucous membrane of the stomach and the whole of the intestinal canal, and gives an universal shock to the system, so that you cannot treat the case as one of inflammation.

The effects of colchicum are shown in one of two ways.

1. By vomiting and purging, and remarkable prostration of strength; and by a tongue red at its tip, and covered with a remarkable grey fur. The tongue is very peculiar: I have never seen one like it in any other case. This state, I am sure, is attended with inflammation of the mucous membrane of the stomach; but if the pulse be feeble, and the heat lower than natural, you cannot in the first instance treat it as inflammation, till you have given opium and brought a flow of blood to the surface.

A surgeon had heard that colchicum seeds were given in cases of rheumatism, but he did not know that they were to be infused in wine or spirit and the tincture exhibited. He therefore gave a lady a tea-spoonful of the colchicum seeds, which produced a profound state of collapse. From this she rallied, and had an attack of inflammation of the mucous membrane of the intestines. Afterwards she recovered, by very judicious treatment combined with the allowance of only a very bland diet.

When you prescribe colchicum, always make a point of seeing your patient twice a-day.

2. If the patient should not feel its influence in the first way I have mentioned, it may perhaps be shown by universal faintness. This is the rarest effect of an over-dose of colchicum.

If purging occur with merely nausea, you should withdraw this medicine.

Even mild medicines, in over-doses, operate in the same way.

I was called to a delicate boy about eight years old, and as there was not much amiss with him, I prescribed manna, magnesia, senna, and some aromatic water, and nothing more. His mother was a sensible woman, and I directed her to give her son the senna in sufficient doses to operate on the bowels. The next day the boy was near expiring. When I saw him he was lying upon the sofa, with a skin universally cold; with a damp dew on the upper lip; with retching; with a very feeble respiration; and with a pulse so rapid and small as not to be readily counted. He flung his arms about (which is always a dangerous symptom), and then rested his head suddenly upon the pillow; he had twitchings in his face and extremities. His mother had given him a wine-glassful of infusion of senna every hour or two, and had thus induced cholera; and the boy was, when I saw him, in danger of dying. I gave him wine and opium, and he recovered.

Therefore, be on your guard with all medicines which operate on the mucous lining of the alimentary canal.

The only difference between female practitioners and nosological ones is this. Female practitioners prescribe boldly; but if they fail, they get alarmed and send for the doctor. The nosological practitioner has an assumption, or name, with some treatment set down for it; and he goes on, day after day, without profiting by his experience, and prescribing for a mere name,—an imaginary thing.

The old nosological method of practising physic is nothing but deception. The exercise of common sense is always useful; and it is just what we want in a physician. This was what distinguished Sydenham. He flourished when it was the fashion for doctors to wear big wigs, cocked hats, and strange dresses; but he was a man of the most simple mind. Patients under fever in that day had gallons of drink, and died *secundum artem*. Sydenham protested against the practice; and the practitioners of London worried him to death. The same errors are very often followed now, especially in what are called low fevers.

TOBACCO

is another sedative which has the power of sometimes allaying irritation and pain very remarkably. Sailors on short allowance will live comparatively comfortably on a very small quantity of food if they chew or smoke tobacco. The Indians, in long journeys, mix powdered shells with tobacco, and by it allay hunger for many days. I know a gentleman who chews two, three, or four grains

of tobacco, and swallows the saliva till he feels sick, and finds that it allays the pain of gout. In gall-stones it will, by producing relaxation, assist their passing. Never use it in children, even by injection; and in adults, in strangulated hernia, never use it strong.

PRUSSIC ACID

requires very great care; and as it is prepared differently by different chemists, you should always ascertain the strength of it. It has a very remarkable influence over spasmodic cough, and those coughs which return by fits.

ANTIMONY

is another sedative which operates, like prussic acid, on the heart's action. Be exceedingly cautious in using it in cases of irritation of the mucous membrane of the intestinal canal or stomach. It has a different effect on the pulse to digitalis; in the one case you will have a small and quick pulse; in the other a slow and full pulse.

IPECACUANHA

has not the dangerous effects which arise from antimony; and yet, if given too largely, it may destroy a patient's life. Emetine is most active when concentrated.

DIGITALIS.

The great objection I have to it in the treatment of acute and sub-acute inflammation is, the uncertainty of its effects. You want given effects in a minimum of time, and you cannot obtain them with certainty by digitalis: you waste hour after hour, and perhaps a day, and by wasting time you may lose the patient's life. Therefore, in acute inflammation I would not trust to digitalis.

There are two cases in which digitalis is extremely beneficial. The first is in cases of fever in which, the inflammation having been removed, the skin continues hotter and the pulse quicker than natural, for some days. In these cases, when absolute rest, a bland diet, a regulated temperature, and mild aperients, fail to remove the fever, you may generally succeed by digitalis given so as to bring the pulse down.

Also in chronic inflammation of the lungs, with a harsh cough, with a hottish skin, with a pulse of one hundred, digitalis is very beneficial by lessening the chronic inflammation. But digitalis, like colchicum, requires watching; and as soon as nausea occurs, as soon as the pulse becomes intermittent or slower, or as soon as the

patient complains of vertigo, it ought to be withdrawn immediately, for its effects sometimes accumulate in the system.

I recollect a case in the Edinburgh Hospital, which occurred under the late Dr. Gregory, the clinical professor of medicine there, when I was a student. In a case of typhus fever he gave digitalis, till it produced a slight effect on the pulse and stomach. Still the use of the digitalis was continued the next day, and the patient died in convulsions from its effects. Dr. Gregory was very candid, confessed that he had overlooked the sickness, and that the continuation of the digitalis was in consequence fatal.

The impression made upon my mind by this case was so great that I have always watched the effects of digitalis narrowly since. Disorders are frequently produced by what we call remedies; and I might give a lecture on the disorders produced by nosological practitioners.

I saw a gentleman at the west end of the town who was vomiting, with a pulse very low but feeble and intermitting, and with giddiness. I asked his wife if he was taking any particular remedy; she said, "No, nothing but some drops twice or thrice a-day, which were prescribed for him by a physician." These drops were tincture of digitalis, and if continued they would have been fatal.

It is your bounden duty, whenever you employ active medicines, to watch their effects; and nothing surely can be more painful to a medical man of any sensibility than to be convinced that a patient has lost his life from his negligence.

Remember, then, that digitalis powders produce a glassy appearance of the eye, nausea of the stomach, and a slow pulse, with some degree of giddiness; and then it should be immediately withdrawn.

EXPECTORANTS.

They are medicines which increase expectoration; and the best of them are nauseants. Remember the two cautions I have given against the nauseants; in very aged persons, and in cases where there is any bronchial affection.

The shock of an emetic sometimes operates very remarkably as an expectorant, as in laryngitis; but you will be careful of these when bronchitis occurs with a weak respiration

Some gums and balsams sometimes apparently operate as expectorants; especially copaiba and turpentine, which seem to have a special operation on the mucous membranes, particularly of the urinary organs.

The fumes of certain substances are sometimes directly expectorants; and the vapour of water, and the fumes of tar, vinegar, &c. The poor in the north of England from time immemorial have used these remedies for chronic bronchitis; but acute inflammation may follow their incautious use.

When the expectoration is very tenacious and scanty, the carbonates of soda and potash have a power of rendering it more free and loose.

ASTRINGENTS.

They are those medicines which contract the animal fibres and restrain evacuations.

They are vegetable and mineral; such as alum, tannin, gallic acid, sulphates of copper, iron, and zinc, a low temperature, &c.

When a person's nose suddenly bleeds it is common to apply a cold key to the neck. This impression extends over the whole surface; and hence the bleeding is sometimes restrained. In active hemorrhage from the nose, applying a cold wet cloth to the genitals produces a far more certain effect.

Hemorrhage is either active or passive. When it is active, there is a strong action of the heart and a full bounding pulse, with or without a hot skin.

Hemorrhage occurs, however, with a very feeble pulse and little or no heat on the skin. You have a remarkable example of passive hemorrhage in passive fever.

Active hemorrhage sometimes requires blood-letting.

When the hemorrhage is passive, as in the last stages of typhus fever, the less done the better; rest and a cool bland diet are the best astringents here. I now scarcely ever lose a patient from this cause if there be no ulceration.

If hemorrhage occur with a moist tongue, avoid aperients for two, three, or four days, and give opium, keeping the patient perfectly still, and he will generally recover. Give a little lemon-juice or oxymuriatic acid. Rest and a very bland diet are the two principal things in this case.

Lead, alum, and so on, are used; and yet, though I never prescribe one or other of them, I have no reason to regret it. You have the power of astringents displayed externally, but these first pass through the circulation. I never saw any good from astringent injections into the bowels.

The discharge may not consist of blood; but of serum or mucus, as from the bowels, vagina, or bladder.

This frequently occurs from the bowels, and is called diarrhœa, which proceeds from a variety of conditions, as I have explained in a former lecture; and you will find that there is very seldom any necessity for astringents in diarrhœa. I am sure that many lives are annually lost from the indiscriminate use of astringents, and that persons taking them often get well, if at all, in spite of the doctor.

Chronic inflammation is sometimes attended by a serous discharge, as in chronic ophthalmia; and in these cases astringents are often exceedingly useful, as the sulphates of alum, copper, or zinc.

There is one class of medicines called

TONICS,

which requires a few observations.

I am inclined to think that the application of tonics rests on mere conjecture, which has been handed down from a very remote period. It was the opinion of Themison, the founder of the methodic sect, that all diseases arose from constriction or relaxation; and this led to the selection of appropriate remedies for each of these conditions, and to the extensive application of tonics. That some agents constrict and others relax is a great certainty, exemplified in the effects of a high or low temperature. The ancients supposed this to extend to particular organs, especially to the liver. It is quite a conjecture that dyspepsia is an atonic disease or a disease of relaxation: it arises from a great variety of conditions. I defy any man to authenticate the application of tonics by an appeal to facts. Their use is continued from the laziness which tempts men, like herds, to follow some leader. And the application of tonics is not only conjectural, but highly destructive—more destructive, I believe, in Europe than the plague is in Asia. The employment of tonics was, formerly, very considerable in many diseases, and the consequence was that in acute febrile diseases they were most destructive; and the general result is still exceedingly fatal.

In all those cases where the heat is higher and the pulse quicker than natural, stimulants and tonics are exceedingly prejudicial. They are still given by men of the highest reputation on the continent. They are not to blame. They have imbibed opinions that diseases proceed from weakness; and having obtained the public confidence, they are so lost in business that they have no time to think. If we expect perfection we expect a phantom. If

we avoid errors of education we cannot expect old men to abandon them: they will not be instructed by the reflected light of medical science. Dr. Hamilton of Edinburgh, grey in years, is an exception to this remark: he put the satchel on his shoulders a second time, and took the lead in modern pathology.

In erysipelas, cynanche maligna, confluent small-pox, and typhus fever, there are cases in which stimulants are given. The best tonics in these cases are rest, quietude, a bland spare diet, fresh air, and cleanliness.

It is material to avoid all demands upon the strength. What does a medical man mean by a weak stomach? Inflammation of the stomach? Try the effects of stimulants and tonics here if you dare, and you will see the inflammation increased to a frightful extent.

Chronic inflammation is a very common cause of what is called dyspepsia; and in all these cases the tonic plan is equally destructive. If a horse be exhausted by a long journey will you spur him to make him strong? Will you load a labouring man more and more to restore his strength?

Rest and starvation are the two best tonics in the world.

In chronic vomiting wine, bark, and beef steaks have been given without advantage; and it has been entirely removed by starving a short time.

STIMULANTS.

Stimuli might be divided into local, or those which operate on a part only; and diffusible, though these also operate on a part only, but their influence is extended throughout the whole system. Many aromatics are local stimulants in moderate doses. Other stimuli are diffusible, as alcohol, under the common forms of spirits, wine, ale, and certain spirituous tinctures, æther and musk, castor and small doses of narcotics. Some of these have been called antispasmodics; for instance, musk, camphor, and æther.

Local stimulants are often good vehicles for medicines that are cold, as aromatic waters or camphor julep for Epsom salts.

In many cases when exhaustion arises from blood-letting a stimulus is very beneficial. Death sometimes supervenes on the syncope induced by hemorrhage, especially if the patient be allowed to move about; and the patient often therefore requires to be held in bed. This is especially the case in uterine hemorrhage; in which very small quantities of diffusible stimuli (of which brandy is the best) and quiet are the most efficacious remedies. If the uterus be not quite contracted, brandy given in doses of a tea-

spoonful is very beneficial, watching its effects on the pulse and uterus very carefully. The large exhibition of opium in these cases is very serviceable; by it you prevent the tremendous hemorrhagic reaction which is apt to occur when the uterus has contracted after excessive hemorrhage. In cases of extreme exhaustion from any evacuation it is astonishing how you may save life by the exhibition of stimulants and opium. In all these cases keep the patient at rest.

Stimulants are beneficial in some cases of specific fever. In remittent typhus fever, when profound exhaustion occurs in the morning after a very high excitement during the night, a stimulant is highly valuable.

In some ordinary cases of bronchitis, when the skin is universally moist and when there is great expectoration, wine is very beneficial, taking care to admit plenty of fresh air.

After inflammatory fever, when exhaustion occurs, it is much better to save the strength by abstaining from all demands upon it, than to give too much food or too many diffusible stimulants.

After long fasting ordinary food has a stimulant effect; and in such cases persons should return to their ordinary habits very gradually.

EXTERNAL AGENTS.

BLISTERS

composed of cantharides are the most frequently used; the stimulating power of which depends principally upon cantharidin. If cantharides be boiled repeatedly and evaporated to an extract, which is then digested in alcohol and this evaporated, and the residuum be dissolved in sulphuric æther and evaporated again, tolerably pure cantharadin will be procured, and an atom of this will blister in a few hours.

The French use a plaster consisting of an alcoholic tincture of cantharides evaporated, mixed up with a little of the very fine powder of cantharides, spread on oil cloth, and varnished with isinglass. It is the most elegant, useful, and efficacious plaster I have seen for the purpose. Our plaster is sometimes spread on paper; but it is best to use leather, round the edges of which adhesive plaster should form a margin, and the blistering plaster should be spread tolerably thick with the thumb. When the plaster has been properly prepared it should be merely warmed before the fire, lest its stimulating qualities should be destroyed, and should be applied close to the cuticle.

If there be any hair on the sternum in males it will prevent the blister operating; it should therefore be shaved off.

The skin of children is so much more irritable than that of adults, that in twenty-four or sixteen hours you will have excessive irritation produced. From twelve to sixteen hours is generally sufficient for the application of the plaster in adults, and half that period in children.

Blisters are apt to produce strangury; and when this is the case the plaster should be removed, as well as any part of it which may adhere to the cuticle. The strangury will be relieved by opiate injections and mucilaginous drinks.

Sometimes hot water has been used to produce rapid vesication. Dr. Beddoes used to have a little narrow deep vessel filled with linen, and boiling water having been poured in, the vessel was inverted and applied momentarily to the part.

Two parts of nitric acid and one of water rubbed on the part with a camel-hair brush till pain is produced will excite vesication. The part should be immediately washed with a solution of carbonate of potass. This is sometimes used on the continent. The cuticle becomes detached and leaves a raw surface.

Caustic ammonia and oil will produce irritation. It may be applied by means of a cupping-glass when you wish to produce a rapid effect: or a hole, the size of the required blister, may be cut in a piece of adhesive plaster, which is to be placed on the part, and cloths wetted with the ammoniated oil may be placed on it.

Blisters are often very empirically prescribed in the inflammatory form of fever; for no better reason than upon the old principle of precedent, a principle which may do very well for law, but is very unsatisfactory for physic. In fact, the empirical remedies for inflammation are bleeding, purging, blisters, and spare diet. When acute or sub-acute inflammation has become chronic, and there is little remaining fever, blisters are often exceedingly beneficial; but they are generally very prejudicial in the commencement of acute and sub-acute inflammation; and it is better to abstract blood before you employ them. This observation is remarkably applicable to inflammation of the pleura, which I have again and again seen aggravated by blisters.

In emaciated children whose general strength has been broken up never apply a blister at all; for it will frequently produce a large slough, which you cannot heal, and which goes on to destroy life, especially whenever the skin has been affected by any febrile disease, as after scarlet fever, measles, or small-pox.

When you dread any such effect, if you use a blister at all, allow it to remain only a short time, and either place some gauze next the skin, or let the plaster be mixed with a small quantity of mild ointment.

The best mode of treating these sloughing blisters is to apply the chalk ointment, spread upon lint, over the whole sore; and, over this, strips of adhesive plaster and a bandage. I have seen two cases lately which healed very rapidly under this plan.

Sometimes nothing answers better than a weak aqueous solution of opium and an occasional poultice; but, on the whole, I prefer the former plan, because the child often scratches the poultice off.

The diet should be exceedingly bland, the temperature carefully regulated, and the patient should be placed in a fresh atmosphere. A tepid bath should now and then be used; the sloughing part being dressed with spermaceti ointment, spread upon lint, and covered with oil silk. The bowels should be kept gently open by the mildest laxatives.

I saw a case where the emplastrum lyttæ and emplastrum opii, in equal parts, produced no effect except a slight redness on the skin; and a blister alone, afterward, caused a perfect vesicle. Opium seems to exert the same power over irritants externally applied which it does internally.

If a blister be applied to a part of the body which is generally exposed,—for instance, to a lady's neck,—be careful to dress it with the purest white ointment: for stains are very liable to be produced by Turner's cerate or any coloured ointment. For the same reason you should never keep blisters open in these situations; for a permanent scar is apt to be left from a slight degree of sloughing.

RUBEFACIENTS.

These, as the term implies, merely redden the skin without producing vesication.

Sinapisms are often used to produce heat and redness rapidly. Equal parts of mustard and dry crumb of bread, mixed, and made with hot vinegar into a poultice, and applied warm, will excite irritation in a short time.

Ammonia, capsicum, garlick, emplastrum picis, aridæ, &c., are of this class of agents; but I shall recur to them in speaking of chronic affections.

LECTURE XXVI.

COMMON INFLAMMATORY FEVER.

TREATMENT OF INFLAMMATION OF THE BRAIN AND ITS MEMBRANES IN CHILDREN AND ADULTS, OF THE BRAIN FEVER OF DRUNKENNESS, AND OF INFLAMMATION OF THE SPINAL CORD AND ITS MEMBRANES.

HAVING in two preceding lectures made some general remarks on the most important remedial agents by which we relieve or remove febrile affections, I shall next point out the precise application of those measures to the treatment of inflammation of the various internal organs, in the order in which I described their symptoms. And, first, in the

TREATMENT OF PHRENITIS,

or inflammation of the brain and its membranes, the following are the measures on the combination of which you are mainly to rely.

1. General or local blood-letting:—most frequently both are required.

You will recollect that phrenitis has a stage of increased sensibility in which nothing more than disorder exists, and a stage of diminished sensibility in which that disorder will have passed into disease; that in some forms of very acute inflammation of the brain the fever is not in proportion to the inflammation, though the patient is mentally and bodily oppressed; and that in the subacute phrenitis there is less fever and less marked disturbance in the body than in the acute form.

"*Nullum tempus occurrit regi*" is a motto amongst the lawyers, which should be assumed by physicians. A medical man should have that decision which will enable him to save a large proportion of patients labouring under phrenitis. If I wanted to inspire any person with a high degree of confidence in the power of physic, I would select for his notice the most urgent cases of inflammation; and here I would show him the remarkable and decisive effects of blood-letting. If, on the contrary, I wished to shake his faith, and make him a sceptic in physic, I would show him the same

disease in its advanced stage, after it had been neglected in its early stage. A man may not on all occasions produce a calm, but he may become the presiding genius of the storm: he may, as it were, ride on the whirlwind, and direct the hurricane, so that it passes safely over.

There are three forms of treatment of phrenitis:—

1. An active form, fitted for the first stage;
2. An intermediate form, fitted for the middle stage; and—
3. A mild form, fitted for the last stage.

The great efficacy of treatment in all acute affections consists in prompt measures. If the attack of phrenitis be acute it runs a very rapid course, and is only to be arrested by very prompt measures. If it exist in a tolerably healthy subject the first thing to be done is to abstract blood till the pulse merely flutter under the finger, regardless of the quantity.

Sometimes one, sometimes two, three, or four blood-lettings will be necessary to subdue it: if, however, the lancet be employed early, it is seldom necessary beyond the second or third time.

About seven years ago I had an attack of acute inflammation of the brain, which crept on insidiously, being for days preceded by uneasiness in the head. On Sunday afternoon it was so extremely violent as to nearly overwhelm my intellectual faculties. After a long investigation of my own case I directed the treatment. I was bled about eleven o'clock in the evening to approaching syncope with considerable relief. I had pain in the head, with a feeling as if the brain were too large for the cranium. These were entirely relieved by the first blood-letting, which consisted of the abstraction of about eighteen ounces of blood. The pain in the head returned, and twelve ounces more blood were drawn, and I experienced from it complete relief. I was purged copiously, and was perfectly well for twenty-four hours; and then, after having some conversation with my friends, the inflammation returned. On the following day I was bled twenty-five ounces, and the operation was followed by deep and long-continued syncope. Had I been prudent, two blood-lettings would have been sufficient.

Sometimes very slight occasions reproduce the inflammation the brain is thus predisposed.

Last year I saw a case of inflammation of the brain with a medical practioner, in which the patient was bled four times to approaching syncope, besides local blood-letting by leeches, so that in all about one hundred and eight ounces of blood were lost. You must not then depend upon any determinate quantity.

Another gentleman, a pupil of mine, was attacked by acute

inflammation of the brain, for which I bled him to approaching syncope: that is to say, a vein was opened, and he fainted under the shock of the operation, when not half an ounce of blood had been drawn. Yet this syncope as effectually removed the inflammation from his brain, as that produced by the abstraction of one hundred and eight ounces of blood did in the other case which I have just related. It is the effect, not the quantity of blood, you are to look at.

Do not, by bleeding in small quantities day after day, exhaust the patient's strength, but produce at once a state bordering upon syncope; and the less blood you draw to produce this state the better.

A renewal of the same symptoms should teach you to repeat the bleeding. The appearance of the blood is sometimes taken as a guide with regard to its repetition. When the buff on the blood is abundant this is generally a good criterion, especially if it be also cupped. But the best rule is the removal of the pain: while the pain and fever continue active measures are necessary.

When the inflammation is sub-acute it is frequently removed by repeated leeching, or leeching with general blood-letting.

In the first instance it is generally best to bleed in the same decisive way as in acute inflammation. One or two bleedings will here be sufficient; and very slight inflammation may be subdued by leeching. Either in this or in the acute form, when you have broken the violence of the affection it will almost entirely yield to local blood-letting.

I saw a lady labouring under sub-acute inflammation of the brain. In the morning I ordered her a purgative, with the application of twelve leeches. She was not at all relieved when I saw her in the evening; and I therefore bled her to approaching syncope, which occurred when about twelve ounces of blood were abstracted; and after that she had no uneasy feeling.

It is very fortunate to crush the inflammation in this way, for uneasiness often remains without any fever. And you should not forget that chronic inflammation very often supervenes on the acute and sub-acute forms: the fever will entirely cease, but the pain continues; and so long as this remains the patient is never secure.

Some children labour under an intermediate stage, in which the trunk is warm and the extremities cool. These cases require delicate management, and bear moderate abstractions of blood generally very well; if the pulse rise after bleeding you may proceed, but not otherwise.

Children in the acute form are liable to be taken off suddenly

by an attack of convulsions. After convulsions in infants or adults there is often a damp skin left, and an expression of alarm or anxiety in the countenance. Convulsions allowed to go on a second or third time the mischief is generally done, and there will be effusion or rupture of a vessel.

Do not bleed to actual syncope in children, as they are apt to fall into convulsions, of which they may die. Another reason is that a violent re-action frequently takes place after syncope. Children do not recruit from very large bleedings like adults, especially in a confined atmosphere.

Individuals who have drunk largely of wine or spirits, if the diet be not attended to, are liable to sink suddenly after copious blood-lettings.

A patient was brought into the Fever Hospital with inflammation of the brain, the symptoms of which were promptly met by the application of sixteen leeches and by bleeding, so that the inflammation was soon subdued. I put him on mild treatment, and his powers seemed to be failing, and then he was in a state of collapse; and I found he had drunk hard, which I ought previously to have ascertained, and allowed him some stimulus.

Most physicians are in the habit of acting on general principles; they acquire a certain tact of discriminating complaints and prescribing for them systematically; but a medical man should be careful to investigate complaints, especially exceptions to general rules: otherwise, his blunders, the consequence of his neglect or inattention, will remain as dark specks in the picture of his life.

If you subdue the first symptoms of this disease, be content to do little afterward.

It was the custom of an intelligent friend of mine, who practised in a hot climate, to pay so much attention to his patients that they frequently died; while a negro practitioner lost but few, comparatively, of his patients under the same disease. The reason for this was, that the negro saw his patients the first day, and then left them to the care of intelligent nurses, by whom their diet was attended to.

If you wish to bleed a child you should never mention it, or if you do mention it never retract and say it shall not be done. It may possibly perhaps occur that some deception is necessary, but I have never found it so; and I think it is not only morally wrong but impolitic in a medical man to have recourse to anything resembling falsehood.

I was requested to see the child of a medical man, which it was

necessary to bleed, and its father was getting his lancet, &c. ready for the purpose; but as the child objected very much to it, the medical man said, and solemnly assured the child, that he would not bleed it, and the next moment thrust his lancet into the jugular vein. Horror at the conduct of its father, and the operation, caused it to fall into a collapse for twenty-four hours; and although it recovered, it was very probable that it would have died.

When syncope is approaching, watch, from time to time, the pulse, and you will find it becoming a mere flutter, the respiration becoming weak, and the stomach becoming irritable so that there is a tendency to retch.

Bleeding from the nose is sometimes an unfavourable symptom if the disease be far advanced; but in the early period it is invariably beneficial.

The most ancient mode of abstracting blood was from the nose. The French frequently apply leeches to the nostrils in diseases of the head; and the practice might be advantageously renewed in England.

After bleeding a child irritation arises, and, if continued, inflammation is often renewed.

One bleeding in this disease in children is all that is necessary; but if the symptoms return it may be repeated; and from the circumstances of each case must be determined whether local or general blood-letting should be used.

Sometimes leeches are sufficient at first; after which nothing more is necessary than purgatives and a regulated diet. Always, if the child be suckled, let the nurse have regular sleep; this is of great importance.

Sometimes the inflammation is chronic, without fever.

I saw a boy at a school who was playing leap-frog, and who had leaped over one boy's back, and then directly pitched on his head. He had an attack of inflammation of the brain, which, when I saw him first, existed without fever. He had intolerance of light and noise, uneasiness in the head, dropping of both eyelids, but no fever. The noise of the school appeared to have maintained the inflammation.

Common sense is very often abandoned in the minds of the public, as it is also in the minds of the profession. The older writers frequently referred to the *lædentia*, as well as to the *juvantia* —to those agents which do harm, as well as to those which operate beneficially; and in truth both of them are of great importance in the treatment of diseases.

2. The use of aperient medicines greatly assists the efficacy of bleeding, especially in the first stage.

In the first stage aperients are very necessary, especially purgatives which are then the best. You should select such as will produce loose watery stools. Upon the whole, a combination of aperients in small quantities answers best, operating in a moderate dose better than a larger quantity of either aperient alone; for example, three grains each, of calomel, rhubarb, and jalap; followed up by half an ounce of castor oil, or a draught containing a drachm each of sulphate of magnesia and manna. Or you may give five grains of calomel, with twelve grains of rhubarb; and after that the patient may take two or three table-spoonsful every hour or two of a solution of an ounce of sulphate of magnesia in half a pint of compound infusion of senna. This will generally answer after blood-letting.

In many cases where the skin is intensely hot you will often derive advantage from affusions of tepid water in promoting the action of purgatives.

If the stomach be very irritable or the bowels very torpid, these are never overcome but by blood-letting; and then purgative medicines will act almost immediately. In fact, blood-letting may here be considered as a purgative, at least preparing the way for aperients.

Many individuals go about with chronic head-ache, entirely arising from irritation of the mucous membrane of the large or small intestines. Apply leeches repeatedly to the epigastrium; and the tongue becomes pale and the head-ache leaves the individual.

In the last stage, when the sensibility is diminished in the whole body, and consequently in the intestinal canal, cathartics will not irritate the mucous membrane dangerously; and you may often give drastic aperients with great benefit. For this purpose you may frequently combine scammony and gamboge with calomel, rhubarb, and jalap; and follow it up by the infusion of senna with manna and sulphate of magnesia, in full doses. In this way, where a single aperient would often fail, a combination of medicines will succeed.

If ever you find the tip of the tongue becoming red under the operation of aperients, be quite sure that irritation of the mucous membrane of the intestinal canal is excited by them, which may be highly dangerous.

In all cases where irritation of the intestinal canal exists in

inflammation of the brain, you should relieve the bowels by mild laxatives; for which purpose cold-drawn castor oil is the best medicine: or if you give purgatives, you may consider the best to be a grain and a half each, of calomel and jalap, followed by cold-drawn castor oil. If you give harsh purgatives you invariably aggravate the affection both of the head and of the intestinal canal.

Some authors say there are hydrocephalic stools, that is, evacuations which indicate the presence of hydrocephalus internus: but from these authors I differ in opinion. Calomel and scammony will change the appearance of the stools to a green colour, with a sickly and faint smell; or to an appearance like chopped spinach, which is produced entirely from calomel, I think. This is sometimes inducing practitioners to continue calomel to a great extent, thinking these stools morbid. If you have any doubt about the matter, give medicines which do not alter the stools, as cold-drawn castor oil.

Castor oil sometimes unites with the mucus of the intestines, forming clots like curds.

In some rare cases calomel has distinctly cured effusion, and in these cases it produced copious mucous stools. Calomel I think is the best purgative in these cases. I think it acts on the stomach, liver, and bowels. A remarkable effect of it in children is its relaxing power: thus you often find the child feels faint and sick under its operation, or immediately after; and this sometimes relieves the brain with great rapidity in children and in adults.

I am confident that I am yet but a mere student of physic, that I have many things to learn, and many errors of practice to correct: formerly, I believe, I committed an error in prescribing calomel too largely. I find all the good effects from a small dose which I formerly obtained from a larger dose; and with these a small dose produces no bad effects.

When the child is very much relaxed do not repeat the calomel but for very good reasons. I generally give from one grain and a half to three grains of calomel three times a-day, with a little powder of rhubarb, or powder of jalap; following this up with cold-drawn castor oil or sulphate of magnesia.

When you give a child medicine never mention it. Calomel may generally be given with a little sugar. Some children will smell rhubarb. Give sulphate of magnesia by throwing it into the intestines dissolved in water, or it may be administered in almond emulsion. Castor oil may be given in arrow-root or gruel.

The effects of purgative medicines should be watched. Calomel

is not absorbed in children as in adults, but when you have bled a child absorption is probable; and ptyalism in children is a very serious evil indeed, and one which should be avoided. Calomel is most beneficial in those cases of affections of the head complicated with bronchial and pneumonic affections.

The time of administering medicines is important in febrile diseases. In the inflammatory form of fever the best plan is to give calomel, rhubarb, and jalap, in the morning; and the other aperients three hours afterwards, repeating them every hour or two till the proper effect is produced, so that the patient may sleep at night. But if there be urgent inflammation of the head or chest, order purgatives in the evening if you be called in at that time, and do not lose a night. In less urgent cases it is better not to disturb the patient in the night. One circumstance you should be on your guard about. After large bleeding and purging, persons are apt to become faint and exhausted; and then castor oil is the best medicine, and you should avoid saline purgatives. Do not allow the patient under these circumstances to get up to a close stool, or he is very apt to die from syncope. I think I have met with a dozen instances where patients have died in this state after the inflammation has been subdued.

This observation applies to the last stages of peculiar fever. If a patient persist in getting up, always watch him, and have a glass of hot wine and water ready: if he become faint, lay him flat directly, and pour the wine down his throat; for they often die with very great rapidity.

3. The administration of colchicum is a measure which you may generally continue with great benefit so long as the pain and fever remain, recollecting to withdraw it as soon as ever it produces sickness. You may give twice or three times a-day from four to five grains of the powder of the bulb of colchicum, with two scruples of sulphate of potass, a scruple of carbonate of potass, and sufficient lemon-juice and water to make an effervescing draught.

4. Cold applied to the head. Always shave the scalp, and apply ice-cold water locally. While the head remains hotter than natural (and it generally does so while the inflammation continues) so long is the application of a cold cloth to the head beneficial, provided it does not distress the patient; for then it does harm. Generally, it is remarkably soothing and beneficial. A great error is often committed by applying a thick towel folded, so as to prevent evaporation, and the head becomes remarkably hot. A single piece of linen, lightly applied, generally answers the purpose. I do not

recommend the use of ice enclosed in a bladder, because it is too heavy.

In children shave the head and sponge it, taking care to dry it well.

Do not lay cold water on the head if the bronchia be inflamed, or it may aggravate that affection.

In cases where jactitation exists, pouring a stream of water from a height upon the head will sometimes procure sleep after other means have failed; but in ordinary cases the method I have already mentioned is best.

Always attend to the lower extremities, which are very often cold, and should in that case be wrapped in warm flannel; or you may apply bottles of hot water to the feet; or, if these fail, sinapisms will generally restore the circulation and increase the animal heat in them.

Attend to the clothing of the bed and to the temperature of the apartment. In hot weather, such as occurred in the summer of 1818, I have seen phrenitis resemble that of tropical countries; the symptoms being far more aggravated and the disease far more rapid in its course than in cold weather, and the delirium occurring early.

5. A blister.

I have generally a dread of the application of blisters to infants, on account of what is called the local and general irritation.

In the first stage never apply a blister until you have reduced the pain by bleeding; and then put it on, if any where, over the sternum or the epigastrium, or upon the nape of the neck, and not upon the head, where it would raise the temperature of the head, create local irritation, and aggravate the inflammation.

In the second stage of phrenitis, both in infants and adults, blisters are very often beneficial; for instance, when the inflammation is assuming a sort of chronic character, when the patient is becoming preternaturally torpid to light and sound, and indifferent to all surrounding objects, sinapisms to the feet and blisters to the head are very useful.

Blisters should not remain so long on infants as on adults; for they sometimes assume a sloughing character, and under the irritation occasioned by them the child sinks.

6. Perfect quiet.

Nothing distresses a patient so much as noise; sometimes it destroys his life. It is a good plan to put cotton in the ears, and to lay straw in the street if the situation be noisy. No persons but

those absolutely necessary should be admitted; no clock should be within hearing; the patient, especially in London, should be placed in the least noisy room in the house, and murmurs underneath the room should be prevented. This may be negative practice, but it is very efficacious.

In the advanced stages of the disease avoid every species of disturbance.

I have sometimes seen patients lost from over-officiousness. Too much is generally done in nursing, which is more dangerous in inflammation of the brain than in any other disease.

When I had an attack of this nature I was greatly injured by the over-officiousness of a friend who came to inquire how I was, and wished very much to see me. He would fain, also, have stopped all night. I could hear the murmuring of the conversation in the room underneath me, and was obliged to beg that it might not continue.

I attended a child which had inflammation of the brain, and its mother was a noisy bustling woman, who was perpetually running backward and forward in the room. Its father also was very anxiously watching its wants, or, for lack of those, creating artificial wants; so that I was sure the child was considerably injured by their over-officiousness. I obtained from them a promise not to see the child for the next day or two; and when they left it, the child, which till then had not slept for three days and three nights, fell into a sleep, from which it awoke apparently much refreshed, and afterward soon recovered.

7. Elevation of the head and trunk.

This is very important, so that the blood may ascend with more difficulty but descend with more facility; and it may be accomplished by placing a block of wood six or eight inches high under the bed-posts.

8. Exclusion of light is another point.

It is surprising how the light disturbs the patient in the first stage; he tosses about and becomes delirious: but if you darken and cool the room he often falls into a tranquil sleep.

9. Attend particularly to the diet.

During the first stage it must be as bland as possible. A cup of thin arrow root, or gruel, or barley water, may be allowed twice or three times a day. Debility is the effect and not the cause of the disease.

Do not enter into any contract with the nurse or friends with regard to the diet, but dictate and enforce implicit obedience to

your rules. And never alter any rule which you have laid down if you know it to be correct, on account of any thing which is said by the nurse or by over-anxious friends.

Infants cannot bear fasting so well as adults, and require very light supplies of food: they sink as rapidly under fasting as drunkards do under abstinence from their accustomed stimuli.

Nothing answers half so well as the breast of the mother or nurse.

With regard to the breast of a nurse, always get another nurse for the child whose mother you employ. It is almost a species of murder to get a wet-nurse who puts out her own child to die by being fed by hand. This is important to the welfare of both parties, for if the nurse's child should die her mind is disturbed.

If the child be weaned you may allow barley water, arrow root, or gruel.

10. Attend to the drinks.

Water is the best drink. If you see a child's lips moving frequently you may be certain it is thirsty, and if you give it water by table-spoonsful it sometimes takes it with exceeding avidity, and frequently falls asleep. Infants often have their lips parched, and are very much distressed by thirst; and I have seen many lives saved by allowing them water till they are satisfied.

11. Opium is very beneficial when the inflammation has been removed.

In the first stage it would be very prejudicial; but after evacuations by the lancet and purging, a state of extreme irritation often supervenes; the patient becomes extremely restless, frequently changes his position, tosses about in the bed, and rolls his head on the pillow; the pulse is rapid, feeble, and tremulous; the respiration weak, short, and hurried; and the patient complains, not of pain, but a sensation of lightness in the head; and then a full dose, for example, two or three grains, of opium is extremely proper, and will often save life.

Sometimes in children there is a state of extreme general irritation. The arms are tossed about, the breathing is rapid, the pulse small, weak, and thready; and the countenance anxious. In this state I have found great benefit from a twelfth part of a grain of opium, or one grain of compound powder of ipecacuanha, or two drops (and in very young children one drop) of tincture of opium, or two, three, or four drops of tincture of henbane. It is astonishing how these anodynes relieve irritation. Many children would die but for the exhibition of opium, the effect of which is that the child falls into a tranquil sleep, from which it awakes

with a pulse reduced in frequency, and sometimes with a desire of food. The return of sleep and appetite are sure signs of convalescence. The sleep is very profound, and you should be very careful that it be not disturbed.

You must be cautious in the use of narcotics, and precise in their application. The abuse of this class of medicines is almost as great as that of aperients in this country.

The Italians give digitalis, antimony, and prussic acid, in all inflammations; but commonly I think simple medicines will do more good than sedatives.

Digitalis is useful in the simple fever which remains after inflammation is subdued; but it will not be of much service in phrenitis, because it is uncertain, and wastes time where promptitude is your object.

Calomel is very useful as a purgative, or, in protracted cases, even pushed on to ptyalism. When the patient at the same time has bronchial inflammation, he is heavy and appears asleep, and if roused soon relapses, and becomes more and more heavy; and then calomel is exceedingly beneficial, and if not given daily the patient will sink into a state of complete insensibility, and die of effusion.

Patients are liable to relapses of phrenitis from slight occasions; therefore great care should be taken to regulate the diet and the bowels for some time.

Phrenitis is almost invariably aggravated by emetics.

An affection of the ear is sometimes complicated with inflammation of the brain; in some cases following small-pox, in others following measles, or scarlet fever, or typhus fever, and sometimes arising from common inflammation of the fauces and eustachian tube.

From whatever occasion it arises, it is inflammatory; and if this inflammation occur in bad habits, it goes on till caries of the petrous portion of the temporal bone exists; the dura mater, and at length the brain is affected.

If during its progress there be much pain in the internal ear, abstract blood, and apply a blister behind the ear. Strict attention should also be paid to the diet and to the state of the bowels.

TREATMENT OF THE BRAIN FEVER OF DRUNKENNESS.

1. If the bowels be not previously open, give an aperient; otherwise there will be no need of it.

You must be cautious how you use harsh purgatives, or any means which produce copious evacuations. The mild aperients

are best, such as sulphate of magnesia with infusion of senna. If you exhaust the patient much he sinks into convulsions and suddenly dies. Even in genuine phrenitis, if you have bled largely, be cautious of exhausting the patient by purging.

2. Give opium according to the previous habits and present state of the patient. Opium is the main remedy, especially when there is a soft compressible pulse and a pale face, and should be given in full doses. I have often given sixty drops of the tincture, or three or four grains of opium, at the first dose; and two grains of solid opium every four, five, or six hours afterwards, until the patient has fallen asleep. An old spirit drinker will bear larger doses than a novice.

Go on thus for forty-eight hours; it will succeed in that time if at all; and if it fail so long, it is wrong and often hazardous to push it further. If it produce long tranquil sleep, it almost invariably succeeds; if it fail, you should substitute for it purgatives, cold to the head, and the tepid shower bath. Cold bathing should only be used in very robust subjects.

3. Good mutton broth, or beef tea, is the best diet; with a tolerable quantity of good malt liquor as common drink.

4. Avoid restraint in almost all cases. If the strait-waistcoat were applied and the patient submitted to it, it might be used with efficacy. But this is not the case; the patient generally is restless and violent, and wants to leave the house. And if he struggle under restraint, he will become extremely exhausted; the perspiration will pour from the surface; the pulse will become tremulous and fluttering; the respiration weak and hurried; and he will become convulsed, and die.

5. I would say passive exercise is very often beneficial when you fail in procuring sleep by opium. The patient should be placed in a carriage, and driven rapidly into the country and back again, the wind being suffered to play about; or he should be put in a boat, and rowed rapidly up and down the river. Of course he should be watched lest he should leap out. Or if at a sea-port, he may be allowed to walk on the pier, so that a stream of cold air may blow upon him.

6. Cold or tepid affusions are often very beneficial. In young strong individuals cold affusions are frequently remarkably well sustained.

This affection is, you will remember, generally marked by a pale face; a pallid, damp, and relaxed surface; tremor of the hands; and a soft, compressible pulse. You sometimes see this tremor in

dram-drinkers in a morning, or in opium eaters, and it goes off on taking the accustomed dram or dose. You see it often in some persons, especially in females, under mental emotion.

The death-warrant of the Earl of Essex is now in the possession of the Stafford family, and the signature of the queen is evidently written with a very tremulous hand, while her other signatures of the same date have not that character.

Whenever you see this tremulous state it is generally an indication of some stimulant or narcotic being required.

7. The American physicians recommend emetics in this affection, and not only speak favourably of their effects, but state confidently that they are extremely beneficial. I have no experience of them, never having used them in these cases.

8. I would warn you of bleeding in this affection; for I have seen patients sink very rapidly from copious and repeated losses of blood; indeed, all whom I have seen copiously bled have died. The rule in bleeding is to observe the pulse and the heat. In the onset, if the pulse be steady, strong, full, and bounding, while the heat is universally a little above the natural standard, you may abstract a small quantity of blood. Otherwise blood-letting in this affection is generally prejudicial.

When convulsions occur lay the patient prostrate, and give him wine, spirit, or opium.

There are remarkable ebbs and flows of strength; and when the relaxation is very great wine and water should be administered.

TREATMENT OF INFLAMMATION OF THE SPINAL CORD.

1. Blood-letting; general or local, according to the degree of the inflammation.

When it is acute, you must treat it as you would inflammation of the brain and its membranes.

It is mostly sub-acute; and then moderate bleeding from the arm, with leeches to the epigastrium or head, will generally suffice to stop it, especially if you keep the bowels open every day.

When patients breathe a tainted atmosphere be cautious of leeching a part which is exposed, as the temples; for the punctures and adjacent parts are very likely to become erysipelatous. If you have any doubt rather apply leeches to the epigastrium than to the temples.

2. Purgative medicines, such as calomel followed by sulphate of magnesia and infusion of senna, act exceedingly beneficially; and the continuance of them must be regulated by the duration of

the disorder. I have seen a great many cases of sub-acute inflammation removed by saline aperients.

3. Blisters in the course of the spine.
4. Rest in the recumbent posture.
5. Spare diet.

These are the most efficacious remedies. Patients often complain for a long time after the attack of a loss of power.

LECTURE XXVII.

COMMON INFLAMMATORY FEVER.

TREATMENT OF INFLAMMATION OF THE FAUCES AND AIR-PASSAGES, LUNGS, PLEURA, AND PERICARDIUM.

The following means are most to be relied on in the—

TREATMENT OF CYNANCHE TONSILLARIS.

1. Blood-letting.

You must be guided by the strength of the patient, and by the degree of the fever and inflammation.

If there be simple inflammation about the tonsils; if the patient be very robust, and the inflammation acute; if there be an intensity of pain, with a hot skin; you may bleed him in the erect posture to approaching syncope. This will generally produce a decided effect on the local inflammation, and be very beneficial; for this inflammation otherwise may spread to the pharynx, and thence to the larynx.

If the patient be a weak and broken-up subject, of spare habit, and fair lax skin, local blood-letting answers a much better purpose, and will be all that is necessary. And sometimes this will be sufficient when the patient is robust; it has great effect in inflammation of the tonsils. From eight to twelve leeches may be applied to the throat in the first instance.

In the inflammation which takes place in scarlet fever there is a tendency to ulceration, which is rapidly removed by the application of leeches to the throat, followed by an emetic and by daily purgatives.

But beware that you do not use general blood-letting in weak

subjects with indications of previous bad health, a faded skin, and a weak intestinal canal, which, in this case, is the pathological predisposition.

Inflammation of the tonsils very often occurs in medical students; and if you bleed them copiously they will lapse into consumption, but will get well rapidly if you apply leeches and prescribe the warm bath and mild aperients.

2. Emetics are in most cases extremely beneficial.

They operate in these cases by inducing a mechanical change in the part itself; by the nausea and relaxation they give rise to before and after their operation; and by increased secretion from the part which they occasion. There are two circumstances to remember in the application of emetics to this affection.

1st. When it occurs in a subject of a strong full habit it is always safer to premise blood-letting, lest some affection of the brain should be induced by the emetic. Vomiting can only occur during expiration when the lungs are collapsed, and then offering considerable resistance to the passage of the blood, the brain, which is then temporarily, might become permanently, congested. I have only seen two cases where affections of the head have arisen from vomiting; but I have again and again seen ecchymosis under the conjunctiva from an emetic, which transudation of blood might have ocasioned in the brain.

2nd. When it exists in spare weak habits, pause and ascertain if there be any inflammation of the mucous membrane of the stomach and intestinal canal, in which case an emetic would be extremely prejudicial, and might be fatal.

In fact, I would not advise you to prescribe emetics empirically as set down in books. It is an empirical practice to give an emetic in incipient fever because it is fever; for this abstract term involves conditions essentially different. I have seen muco-gastritis evidently excited by an emetic.

The best emetics in cynanche tonsillaris are tartrate of antimony, or ipecacuanha; and after its operation you should give—

3. An opiate.

The best for an adult is twenty drops of tincture of opium.

4. Aperient medicines are beneficial.

Act on the bowels freely by some combination of purgative medicines. Be cautious, however, about calomel, especially after blood-letting, lest you produce ptyalism, which may be followed, in broken-up subjects, by ulceration of the tonsils and larynx.

5. A blister is sometimes exceedingly beneficial when the inflam-

mation has become chronic: but it has not much influence over acute and sub-acute inflammation as far as I have observed, except that in acute attacks it is generally very prejudicial; it should never, therefore, be applied in these cases till bleeding has been premised. Recollect that a stain may be left from dressing a blister with Turner's cerate; therefore the purest spermaceti liniment should be used.

6. Rubefacients may be tried when the inflammation assumes the chronic character, and will be found very beneficial; but if you be prompt in subduing the acute inflammation I think rubefacients will seldom be found necessary.

7. When the tonsils are proceeding to suppurate, which is known by throbbing and excessive distention, and thickening, and a cessation of pain, or by spasm, a poultice applied externally is sometimes exceedingly beneficial in promoting the process.

The abscess hardly ever requires to be opened. But sometimes the abscess is so large as to press on the epiglottis, and threaten suffocation. If the patient be much distressed you may open it; but whenever you have occasion to puncture the tonsil, remember the situation and course of the internal carotid artery, which lies very near it, lest you wound it. Do it gently if at all; but the abscess generally bursts by coughing, and at length the patient spits up a quantity of pus.

8. Gargles are of some benefit in promoting the flow of saliva and increasing the secretions of the parts about the tonsils, though not so much as is generally supposed. They are more beneficial when ulceration exists in promoting healing, than acid gargles are in promoting secretion in the first stage. A good form is the infusion of roses of the London Pharmacopœia.

9. The diet should consist of gruel or other farinaceous food.

Persons who have had cynanche tonsillaris have an acquired predisposition to it; so that it frequently returns when they become exposed to those remote occasions which excite it. The best way to prevent this is to harden the system by a shower bath, at first moderately warm, and gradually lowered to 60° Fahr. Such persons should wear strong shoes, be warmly clothed, and use a regular diet. The throat should be washed with cold water every morning, and a glass of cold water should be drunk every morning.

After cynanche tonsillaris the tonsils are frequently very large; and in those who have had it frequently there is a liability to chronic enlargement; and thus there is apt to arise a chronic

cough, the seat of which may be mistaken, and it may be supposed to be in the lungs.

Two physicians attended a young lady who they thought had consumption, for which they treated her. The tonsils became troublesome and were removed, and then the cough ceased.

The tonsils will after a time shrink to their natural size if the bowels be regulated and the diet be properly attended to.

TREATMENT OF CYNANCHE LARYNGEA.

This is the most dangerous inflammation which attacks the human body; it has a natural tendency to destroy life, therefore you must be prompt.

1. The first thing is an emetic.

No single means of treating inflammation is so beneficial in this affection as an emetic of antimony and ipecacuanha.

For an adult the dose may be two or three table-spoonfuls, every quarter of an hour until vomiting is excited, of a mixture consisting of three grains of tartarized antimony and one drachm of powdered ipecacuanha in six ounces of water.

I have more faith in antimonial emetics, in laryngitis, than in any other remedy taken singly, if they be given so as to produce full and free vomiting.

I recollect I saw a woman on the point of being suffocated in acute laryngitis. Her voice was suppressed, and she pointed repeatedly with her finger to the seat of her distress. I gave her a dose of antimony and ipecacuanha; and after vomiting she spoke distinctly; and the next morning when I saw her she was perfectly convalescent.

2. Bleeding, both general and local, is necessary if the emetic fail to remove the affection.

Blood-letting exercises upon the whole less influence over this than over any other form of inflammation.

I saw the servant of a medical man at the west end of the town from whom upwards of one hundred and sixty ounces of blood were drawn in three or four hours under an attack of laryngitis. I saw standing by the man's bed three or four large hand-basins nearly filled with blood; and yet each blood-letting, though carried to approaching syncope, afforded only temporary relief. Beside this general abstraction of blood, thirty leeches had been applied over the larynx; yet he died of inflammation of the larynx in a few hours.

I saw another patient who was bled to approaching syncope under acute laryngitis with no relief.

Blood-letting will not generally remove inflammation of an acute kind seated about the larynx. It is, however, an useful auxiliary in the treatment. Acute laryngitis is sometimes removed by it; but when the inflammation is concentrated about the epiglottis and rima glottidis, bleeding alone will not subdue it, but relief is to be sought in a combination of measures; namely, blood-letting, emetics, and aperients.

3. Aperient medicines.

By exciting the action of the mucous membrane of the intestines you decrease the action of that of the air-passages, and hence you will be led to the exhibition of aperients; and the best is a combination of calomel, rhubarb, and jalap, followed up by castor oil.

4. In many cases colchicum is very beneficial. The best diaphoretic in these cases is one grain of ipecacuanha every one, two, three, or four hours, or two grains of colchicum every three, four, five, or six hours, with a regulated temperature, especially during the night.

A friend of mine was saved in laryngitis when all other means failed by the relaxation produced by a tobacco enema. Nausea induces relaxation, diminishes the heart's action, and excites perspiration; and these effects you should have in view in the administration of nauseating doses of colchicum or ipecacuanha.

5. Blisters are useful when the inflammation has been rendered chronic, but not till then.

6. The patient generally feels very great relief from the inhalation of steam.

7. Regulate the apartment as to temperature; for if he breathe cold air it aggravates the inflammation and chills the skin. If he breathe air of the temperature of 60° Fahr. it relaxes the skin and is grateful to the parts.

8. The drinks should be tepid; and if the skin do not secrete under this treatment the patient may make use of—

9. A warm bath,—avoiding a chill of the surface. And if this fail you will almost always succeed with ipecacuanha (as I have already suggested,) repeatedly given till some degree of nausea is excited; but in the administration of this medicine remember to observe attentively the state of the stomach and bowels. You should withdraw it the moment the end you require has been answered. In bronchitis I have seen it produce marked inflammation of the intestinal canal.

I have seen laryngitis greatly relieved by a spontaneous discharge from the nose.

10. Sometimes there is a harassing, hard, short, dry, ineffectual cough, which is best relieved by a pill containing a grain or a grain and a half of opium. By these means you will sometimes remove the symptoms; but you will have reason to be well satisfied if chronic laryngitis remain occasionally; and if great care be not taken this may be followed by another attack of acute inflammation, and then the same treatment must be repeated.

It may happen that all these means will fail, and the patient is obviously sinking. An operation will only be beneficial in this case when the disease is confined to the larynx; then it may be used with a chance of success; but when the false lining extends into the bronchia it will fail. If you think of performing this operation, always request a consultation with some person of talent and integrity; which two qualities are requisite, the one for the patient, the other for yourself. Never perform the operation by yourself, except in cases where a consultation cannot be procured without loss of time. Never undertake any operation without a chance of success; and when you undertake one where the chance is but faint, always explain the probability that it will not even relieve the patient, but that it affords the only chance.

The best place for the operation is between the thyroid and cricoid cartilages.

Two friends of mine have performed this operation, both unsuccessfully from blood getting into the trachea and suffocating the patient.

I would not allow the operation to be proceeded with till the bleeding had been stopped; the vessels should be secured previously to opening the trachea.

When chronic inflammation of the larynx continues nothing is more beneficial than an occasional nauseant, followed by a dose of opium. A full opiate will often quickly relieve it. Ipecacuanha should be given in nauseating doses, and you should keep up the nausea daily for some time.

If the bowels be not relieved by the ipecacuanha, give the patient sulphate of magnesia, or cold-drawn castor oil. Keep the apartment at a temperature of 60°, and prescribe a spare diet. Thus the patient sometimes may be cured; or if not the inflammation may slowly go on to ulceration, or a relapse of the acute form of inflammation may recur. The warm bath may be occasionally used, and the steam of water inhaled.

Although nauseants are sometimes very useful in the chronic form of inflammation about the larynx and the trachea, given so as to keep up some degree of nausea, be careful how you excite nausea in very young children. I have been deceived now and then by the confident declaration of friends regarding this practice.

You should consider that a young child is, or ought to be, growing, and requires therefore a large quantity of food. Now if the stomach be disturbed twice or three times a day, extreme irritation occurs, and the pulse flutters with nervous rapidity, and the nauseant, whether it be ipecacuanha or antimony, excites often inflammation of the intestinal canal; and they sometimes sink very rapidly. I have seen at least six children within the last six months, who I am perfectly confident have died from the irritation of ipecacuanha or antimony on the mucous membrane of the intestinal canal. Nevertheless you must be cautious respecting my declarations. The doctrines which I teach I believe are true, but I may be mistaken; and therefore you must take them only for subjects for consideration, to be confirmed or refuted by an appeal to facts. Medical lectures, like the web of Penelope, should, though they have been woven with great labour, be pulled to pieces again by those who hear them. This is far better than that you should take up passively, without examination, those opinions which may upon inquiry turn out nothing better than mere prejudices.

Nauseants were formerly used in specific fevers, under the idea that a spasm was the cause of them; and this practice was most destructive. At the same time, in specific as in common fever, nausea in the first instance is often beneficial, attended frequently by relaxation and purging, and by a reduction of the pulse.

If you give colchicum with the same intention, you will be still more successful than with ipecacuanha, provided you withdraw it the moment that nausea appears.

TREATMENT OF CYNANCHE TRACHEALIS.

This also is a very dangerous affection, and requires prompt and decisive measures.

1. Blood-letting.

In croup bleeding sometimes gives very great relief, and will often remove the inflammation.

My eldest daughter, when about three years of age, had an extremely violent attack of croup, which became evidently very serious. She was bled to approaching syncope, and for that purpose nine ounces of blood were lost.

This is the largest quantity of blood I ever drew at that period of life: but she was of very full habit, and required the abstraction of so much blood to make her faint; and it stopped the affection completely.

A friend of mine was called to a considerable distance from London, and found a patient with inflammation of the larynx and trachea. Reaction was not established; the heat was not high, and the pulse was flagging. He bled the patient, and the pulse rose; and finding this to be the case, he went on with the abstraction of blood, even to approaching syncope. He drew about eighty ounces of blood, which is the largest quantity I have ever known drawn before syncope.

The largest quantity of blood I have ever drawn before syncope has been fifty-eight or sixty ounces.

One friend of mine, in a case of enteritis, drew eighty ounces of blood before syncope was produced.

It is rarely necessary to abstract forty ounces of blood to produce that effect; generally, in the adult male, between eighteen and thirty ounces of blood will be sufficient to produce a state approaching to syncope.

Blood-letting to approaching syncope is the only thing which will relieve the patient in many cases of inflammation.

Half measures in inflammation of the tunica conjunctiva of the eye will leave the vessels of that membrane as highly injected as before. Bleed to approaching syncope; and when the patient is in a state of syncope the conjunctiva will be perfectly blanched. The blood has then left the capillary vessels and retired to the venous system; and this is the reason why blood-letting is so powerful for relieving the vessels which are the immediate seat of inflammation. Sometimes the injected state of these vessels is never reproduced; though sometimes it is, as may be seen occasionally in the eye. As the heart's action rises internal inflammation also is sometimes renewed; but in some instances it is never reproduced.

In all these inflammations, if acute, decisive measures must be adopted. If you see the case early never be afraid of blood-letting rapidly. Do the thing decisively, and you will generally find good in it; for you will save the patient's strength more than if you bleed half way. I cannot specify the quantity of blood which you should abstract; it must depend upon the effect produced. The evil which follows blood-letting is nothing to allowing the inflammation to go on. As a general rule, two ounces may be taken from an infant

a year old; four ounces from a child two years old; six ounces from a child three years old.

A cupper was once ordered to take six ounces of blood from an infant six months old, which he did; the infant lay for a very long time in a state of syncope, but at last recovered.

If the same effect be produced by the abstraction of a large as of a small quantity of blood, so much the better.

2. Emetics are extremely useful, and should be given directly after blood-letting. The best is a combination of ipecacuanha and tartrate of antimony.

I shall give tables of the doses of emetics and other medicines; and formulæ of emetics, aperients,—indeed all the formulæ which I employ. They are about a dozen forms of a dozen medicines. Every year my prescriptions are more and more simple, as I rarely add to them any new remedy unless it comes strongly authorized. If an individual have a distinct end in view when he prescribes his remedies, his prescriptions must necessarily be simple. I never met a physician for whose opinion I would give one penny who was not extremely simple in his prescriptions.

In damp situations in Scotland, where croup is endemic, as on the banks of rivers and marshes, the farmers always keep emetics in their houses, and exhibit them early, when the first symptoms of croup are observed, and sometimes with success, even although blood-letting is not premised.

3. Purgative medicines are especially beneficial.

You reduce the force of the inflammation at first by blood-letting; but the daily operation of purgatives is one of the best means of removing it entirely. The best aperients for the purpose are calomel, jalap, and rhubarb, followed up by cold-drawn castor oil or salts and senna or some other combination. When the stools become copious, green, and slimy, like spinach, the relief is generally remarkably great. Calomel hardly ever does relieve inflammation of the air-passages until the spinach-like stools follow its use. Ipecacuanha has the same effect as to the stools.

Some persons say that the good effect of calomel depends upon its producing ptyalism: it does not, however, succeed in croup, unless it acts upon the bowels; it operates merely as an irritant of the mucous membrane of the intestinal canal. Be cautious how you repeat the calomel in delicate subjects if the heat of the surface be reduced, lest you affect the mouth.

It is of great moment to remember that in some delicate subjects calomel actually produces inflammation.

In croup if you waste hour after hour by waiting for ptyalism by small doses of calomel, you will lose the patient's life. Purging should be produced, and will have more influence than this delay.

4. A blister is sometimes beneficial.

I do not think blisters of much use in acute or sub-acute inflammation; but when these are removed and chronic inflammation remains, I think they may be of service.

5. Act on the skin, at the same time as on the bowels; by aperients, and tepid drinks. If these be not effectual try the warm bath; and if that should fail you will almost always succeed with ipecacuanha repeatedly given till some degree of nausea is produced. Always watch the effects of this medicine on the alimentary canal. Sometimes colchicum is very beneficial in the same way.

A regulated temperature is requisite; and in some cases steam may be inhaled.

When it is obvious that there is no chance of further relief from the ordinary measures, an operation may be had recourse to: and here you must be guided by the considerations mentioned in speaking of the treatment of laryngitis. If the false lining extend into the bronchia the operation will fail.

Sometimes the false membrane is coughed up.

In the last stage it has been proposed to inject the nostrils with milk to excite coughing.

TREATMENT OF BRONCHITIS.

This inflammation requires the greatest caution with respect to evacuations. In the treatment of this affection I differ from some eminent medical friends of mine, and I think my treatment preferable, judging from an appeal to sober experience.

1. Blood-letting should, generally speaking, be avoided.

I have seen a great deal of inflammation of the mucous membrane of the bronchia, and can say, from observation, that copious and repeated blood-letting in that affection is so destructive that I have hardly ever seen a patient recover after it. The office of the membrane modifies the inflammation as I have explained in a former lecture, and the strength of the patient fails in proportion to the extent of the interruption to the healthy change produced by the natural contact of the air while the blood passes through the pulmonary vessels. This is a physiological and pathological fact, which requires to be taken into account in these cases.

If you bleed copiously you stop the expectoration, and the patient sinks and dies in a few hours.

If you attend to the following rules in bronchitis you will never commit any error with respect to blood-letting.

1st. When the pulse is expanded and resisting, or contracted and resisting; when the heat on the surface of the body is uniformly higher than natural; and when the cough is deep, strong, and sweeping; you may bleed moderately with great benefit, in the beginning of the attack.

2nd. When the pulse is soft and compressible; when the heat is not high on the surface; and when the cough is not strong and sweeping; if you value the life of your patient you must abstain from blood-letting, which is one of the most dangerous means that can be employed, if my observations be correct.

3rd. Confounding this affection with pneumonia is often a fatal error, but bleeding is especially beneficial if bronchitis be combined with pneumonia; and if this occur you may discover the loose diffused cough of bronchitis, and the limited, harsh, grating sound of pneumonia.

In the early part of my practice, when I was taught to bleed in this affection, my success was nothing like what it is now that I never bleed to approaching syncope, but only bleed moderately. It runs a determinate course, and you can only moderate it. These cases generally run a course of two, three, or four weeks.

On many occasions it is a most valuable thing to know the extent of our ignorance as well as what we can do, because it prevents us from attempting what are, in the present state of the science, physical impossibilities, such as crushing bronchitis at once. Many practitioners attempt to subdue inflammation at once by abstraction of blood, drastic purgatives, and blisters; and though these fail to produce the desired effect, they are repeated with as little avail. In fact, they only reduce the patient's strength by attempting to perform impossibilities.

2. Aperients; and—

3. Diaphoretics are most effectual in this form of inflammation.

In adults those measures will relieve this affection, which operate on the bowels, so as to procure three or four stools daily, and keep up a gentle action on the skin; and this is all that is necessary if you diminish the inflammation by emetics in the first instance, with moderate bleeding.

The best diaphoretic is Dr. Sangrado's remedy: tepid, but not

hot, drinks, and a warm temperature. Keep the temperature of the apartment ranging from 90° to 96° Fahr.

A bland diet and rest in bed are necessary. When the patient gets up, a blanket should be wrapped round him, so that the surface may not be chilled.

In old persons be very careful of exciting sickness. Nausea may generally be excited with advantage; but I have seen cases of old persons in whom the expectoration has ceased and the pulse sunk under the excitement of vomiting. I have seen squills produce the same effect. Under these circumstances I prescribe æther, camphor julep, and diffusible stimuli, which appear to restore the expectoration, upon which the life of the patient in some cases depends; for if it be free, with a deep strong cough, the patient will generally do well. When more is secreted than is expectorated, an accumulation necessarily occurs, and suffocation is excited by the bronchial passages being plugged up by mucopurulent matter. In some cases bronchitis puts on a congesto-inflammatory character, and frequently you have this disease simultaneously with an affection of the liver; the patient sinks very suddenly with a purple or dusky lip, a pallid cheek, a feeble pulse, and a weak, hurried respiration. I have known many patients die in this way in twenty-four hours. In these cases you have three objects in view:—to bring a flow of blood to the surface; to excite diaphoresis in the first instance if possible; and to open the bowels, with calomel if the liver be affected.

In bronchitis be extremely cautious in the administration of opium; for it produces a change in the brain, and this by oppressing the lungs aggravates the affection of the bronchia. But if the cough be harassing, short, and ineffectual, you may advantageously give a moderate opiate at night.

Purgatives are beneficial in inflammation of the mucous membrane of the trachea and bronchia, with inflammatory affections of the skin.

If a patient be much burnt, and extensive suppuration occur, open the bowels moderately every day, and you save the strength of the patient by diminishing the irritation on the surface.

The same observations apply to erysipelas. You may give aperients pretty freely in phlegmonoid erysipelas; but in that form of the affection which attacks weak subjects very great care is required: for on examination after death you will very often find the mucous membrane of the bowels, almost always that of the bronchia, and sometimes the brain, inflamed. The best form of medicine in

this case is a grain or a grain and a half of calomel with rhubarb, followed by castor oil.

It is much better to give purgatives tepid than to produce a sense of chilliness. The continental surgeons often do this, and it is an excellent practice. I have frequently known a violent pain induced in the stomach and bowels, even passing on to inflammation of those parts, from giving a cold solution of salts in a morning. The phial may be dipped in hot water, or you may add a little hot water to the medicine.

TREATMENT OF PNEUMONIA AND PLEURITIS.

The nominal definition of pneumonia given by Cullen is exceedingly incorrect. It is a mixture of the symptoms of genuine inflammation of the lungs, and of inflammation of the mucous membrane of the air-passages. With respect to—

1. Blood-letting, which is generally the main remedy, you must consider the presence of pain, of dyspnœa, and of fever; while these remain blood-letting is necessary, until at all events the pain and difficulty of breathing are removed.

Both in pneumonia and pleuritis bleeding is best borne when the pulse is full and expanded, and when the heat on the surface is high. And when the pulse is small, cordy, and hard, it will also be well sustained if the heat on the surface be high. When the pulse is oppressed, bleeding is often, nay, generally, very well borne. A small soft pulse bears copious abstraction of blood worst.

Sometimes the pain and difficulty of breathing are removed before syncope approaches, and then you may stop; but if they remain you must proceed, regardless of the quantity, to approaching syncope.

To show that the shock of the operation produces the beneficial effects of the loss of blood, I may mention a case of pleuritis. The patient was so alarmed at the preparation for bleeding, that syncope occurred, and it completely stopped the inflammation of the pleura.

Sometimes the shock of a surgical operation will at once produce syncope; and I have before mentioned the great care necessary in watching the approach of syncope, and guarding against its fatal effects.

A friend of mine saw a patient placed upon a table for the purpose of having a shattered limb amputated. He became pallid, faint, and convulsed, and died under the shock of the first incision, though he appeared before that to be going on very well.

All acute cases of pneumonia and pleuritis require very decisive treatment. No profession requires such unity of opinion and such unity of action as that of medicine. Nothing is more disastrous than the consequences of inflammation attacking the vital organs if treated with indecision; for if it continue undisturbed for some hours, it will often go on notwithstanding the best treatment.

In abstracting blood in pneumonia, when you are perfectly satisfied of the nature of the disease, be prompt,—bleed the patient to approaching syncope; otherwise, instead of benefiting the patient, you will do him harm.

I will relate to you a few cases which will show you how necessary it is to be decided in inflammation of the lungs or pleura.

I was called early one morning to see a gentleman some distance from town, who had acute inflammation of the pleura and lungs: being very slight, I ventured to put down the quantity of blood to be abstracted. The surgeon not being at home, his assistant saw the patient, and told his wife he thought it was not necessary to abstract blood; but as it had been ordered, he would bleed him. He took away two or three ounces of blood, which he desired might be thrown out before I saw the patient, saying that it would become putrid and taint the whole house. At twelve o'clock I returned, and found the patient at the point of death. Here I committed an error. In all cases of this kind, unless you have a surgeon at your elbow, in whom you can implicitly confide, see the operation performed. It is your duty to do so unless you leave it to some individual on whom you can rely. The father-in-law of this gentleman was a medical man retired from practice; and on consulting together we agreed to bleed the patient till he was relieved if possible. His arm was bound up and we took basin after basin full of blood, till fifty ounces were abstracted, and even then the patient had obtained no relief: had we stopped here in two hours the patient would have died. After abstracting about six ounces more blood syncope came on, from which he recovered convalescent, and had no return of the inflammation. When he recovered from the syncope I gave him eighty or a hundred drops of tincture of opium, which should always be done after copious blood-letting.

In another case a friend of mine had acute inflammation of the brain, and I determined to bleed him in a decisive way. When he had lost only an ounce of blood, from the shock of the operation, syncope came on and as effectually removed the cerebral

affection, as if fifty-six ounces had been abstracted, as in the pneumonic inflammation.

There are many cases where a man might pause, as in the middle stage of this kind of inflammation.

A patient had been once bled, after which the inflammation of the pleura and the lungs returned. The tongue was remarkably dry all over. The patient I was told nearly expired from the first bleeding; the symptoms, however, were so urgent that I determined to bleed him decisively, and I told his friends that he might perhaps even die under the operation, but that it afforded the only chance of relieving him; I bled him decisively, and syncope came on suddenly and continued some time, so that I thought he would have died. He recovered afterward with small doses of calomel and opium.

If you act decisively in the first instance you will rarely have to bleed more than the second time. Sometimes thirty ounces are necessary to be drawn in order to produce syncope. Females in general faint before this quantity has been lost: indeed, so do most adults; but in some individuals you have to take a still larger quantity.

A patient in the Fever Hospital was the subject of acute inflammation in the pleura and lungs, and leeches had been applied before I saw him. I ordered him to be bled to approaching syncope, which occurred from the loss of twenty ounces of blood. This relieved him very much, and I gave him three grains of opium and one grain of calomel; the symptoms returning I ordered him to bleed again, and syncope occurred from the loss of eight ounces of blood. I then again gave him calomel and opium every six hours. This I believe prevented the deposition of coagulable lymph.

When the patient is uneasy, the heat unusually high, and the pulse preternaturally quick, you may repeat the bleeding.

There are four exceptions to the application of blood-letting in pleuritis and pneumonia.

The *first* occurs in pneumonia in very old flabby persons. You will find in these cases that the pulse is remarkably weak, that the breathing is short and feeble, that the cough is very feeble, and that there is great general muscular prostration. In all these cases it is better to avoid copious blood-letting: small and repeated bleedings are better. Towards the close we must be very cautious of bleeding, especially in those who have been dram-drinkers.

I saw an old nurse once bled in this affection, and she died rapidly after the second evacuation of blood.

I saw an old man who sunk with great rapidity after blood-letting had been carried to approaching syncope.

I saw an old lady in whom moderate blood-letting once or twice removed an attack of pneumonia; and lately I saw her again with another attack, from which she was relieved by mild local blood-letting, with rest, a bland diet, and a blister.

I saw a lady sometime since who was the subject of organic disease of the heart, and was suddenly attacked with congestion in the lungs. In that state the family surgeon bled her copiously, and as the pulse rose he bled her again. After that she had inflammation of the lungs, and was again bled; but she never recovered her strength, and I think never will.

Skill in the application of blood-letting may be acquired to a great extent by seeing its effects at the bed-side.

The *second* exception is in the onset, when the attack arises from a depressant, and when the excitement is imperfectly developed: when the pulse is oppressed, fluttering, and feeble; when the skin is cool, or not warmer than natural; and when the respiration is weak. In these cases it is far better either to use the hot air bath; or a hot water bath at the temperature of 100° Fahr.; or to give two grains of opium with three, four, or five grains of calomel, followed by hot drinks; and then you can bleed the patient with very great benefit when the excitement is developed.

The *third* exception arises in pleuritis, occurring in confirmed phthisis pulmonalis; in the progress of which disease it frequently happens that the patient is annoyed with a stitch, with difficulty of breathing, a hot skin, and a quick pulse. In these cases the patient is generally worn down towards exhaustion by the previous progress of pulmonary consumption. You must take into account the previous history of the case, as well as the present condition of the patient. Small bleedings under these circumstances generally answer best. Sometimes the abstraction of four ounces of blood from the arm, or by cupping, or by leeching to the chest, followed and assisted by blisters and opiates, will remove the symptoms.

When you apply leeches to the chest you should avoid exposure of the chest to a low temperature. I am quite confident that a great many children are lost under the careless application of leeches to the chest, from exposure of the chest in cold weather. From the free communication of the vessels on the surface with

those within the chest, when cold is applied to the surface the blood recoils and retires to the interior of the chest.

The *fourth* exception is when inflammation of the substance of the lungs or of the pleura is complicated with the typhoid kind of fever; and then you must be extremely cautious of bleeding. The tongue is glazed and brown; the respiration is weak, even to panting, if you ask the patient many questions; the pulse is soft and compressible; the animal heat is subdued on the surface; the position of the body is sunk; and the voice is feeble. If you bleed the patient in this state copiously he will sink with rapidity. There is in these cases a special bronchitis.

I have sometimes bled in these cases to ten ounces.

I recollect I saw a patient who was twice bled to this amount with benefit.

I saw another individual who was bled copiously and died.

When inflammation takes place in parenchymatous or serous structures, with a parched tongue, the case is very dangerous.

I never saw a patient recover from copious blood-letting in typhoid pneumonia; and this observation applies to other inflammations complicated with typhoid symptoms.

Generally speaking, however, copious blood-letting carried to approaching syncope or to the relief of the symptoms, followed by—

2. A full dose of opium will prevent hemorrhagic reaction, or the return of excitement; will prevent the return of pain; will act on the skin, rendering it moist; and will produce tranquil sleep.

If the symptoms return the bleeding must be repeated to syncope a second or even a third time, and followed by a smaller dose of opium each time than the last: but do not in pneumonia and pleuritis, if the inflammation return, repeat both the bleeding and the opium in the same decisive way as in gastritis, enteritis, and peritonitis, lest you oppress the brain.

When decisive blood-letting does not afford relief it is a very unfavourable sign.

The Italians, assuming *à priori* that opium is a stimulant, say that, therefore, its use is inconsistent with blood-letting. But there is now an independent spirit among men of right feeling, which prevents their taking for granted any man's assertions without investigating facts for themselves; for errors, passively taken up at first, become at length so intimately blended with truth, that it is difficult to disunite them. All opinions which

upon trial are found to be incorrect, should not be the more respected because they are supported by great authorities, or the united prejudices of a whole nation. Those speculations, like this of the Italians, are but traced, as it were, on sand, and Time, like an advancing wave, will speedily wash them away.

3. As long as the fever continues, mild aperient medicines are useful, conjoined with five grains of the powdered bulb of colchicum three or four times in the twenty-four hours; so as to keep the bowels open three or four times in that time. But recollect not to purge the patient too copiously, lest you should chill the surface; for in that way the inflammation is frequently aggravated. In all inflammations of the chest you must be cautious not to check the perspiration; but the skin should be kept warm and moist.

4. Regulate the temperature of the apartment, lest, when the patient gets up, the surface should be chilled. He should, however, use a bed-pan in preference to getting up. After copious blood-letting if the patient will get up, there should be some person present to watch the effects of that posture; for many patients who feel very strong while they are recumbent, upon being raised into the erect posture become giddy, and then blind, and die rapidly.

Never give the patient in these cases cold medicines or cold drinks.

The clothes should be very light: the patient may be put between two thin blankets when he is perspiring freely.

5. After this, ten drops of antimonial wine or ipecacuanha wine, with one drop of laudanum, a dram of solution of acetate of ammonia, and a little water, may be given every six hours.

6. Blisters are useful after bleeding, but before it they do mischief by exciting the heart's action.

7. The French, and the Italians, who imitate the French, are very fond of sedatives, as digitalis, antimony, prussic acid, &c.

Digitalis I have already said is an uncertain remedy, and requires to be given largely to produce any effect, and sometimes even then it is of no service.

I have seen digitalis given in these cases, and have not been satisfied with the results.

With regard to the statement of the continental authors, that large doses of antimony are very useful in many cases of inflammatory complaints, the testimony is so complicated that I hardly know what to say to it. I can derive but little information from it; but, upon the whole, the practice seems to have been unsuccessful.

I believe you may produce all the good effects of antimony, and may also avoid its ill consequences, by the use of ipecacuanha. Antimony sinks the powers of life, and often produces inflammation of the mucous membrane of the intestines; and I have reason to believe that the prussic acid produces the same effects.

8. In these cases attention to the diet is of great consequence.

In the acute form a water diet is best. I have often kept patients for forty-eight hours together by water drinks in febrile diseases. In these cases great mischief is generally done by nurses, who give the patient what they consider nourishing food.

A little thin gruel, thin arrow-root, or barley-water, is all that is required in the sub-acute form of the affection.

9. Calomel and opium, with a small quantity occasionally of ipecacuanha, will relieve the slight traces of inflammation which remain after blood-letting.

Comparing my present with my former practice, the greatest modifications I have made are these:—

1st. In inflammation of the serous membranes, or parenchymata, I bleed more decidedly than ever I did: but—

2nd. In inflammation of the mucous structures, I draw more blood by leeches and less by the lancet.

TREATMENT OF PERICARDITIS.

I have already noticed that inflammation about the pericardium is very often the consequence of a rheumatic affection, occurring with rheumatic inflammation of some external part.

1. When acute inflammation of the pericardium occurs, it requires very decisive treatment to save the patient's life.

1st. Copious bleeding is required.

I drew upwards of one hundred ounces of blood in one case before the inflammation was stopped.

I have seen one blood-letting, followed by opium, answer the purpose; sometimes two, and sometimes three, blood-lettings have been required.

Occasionally a case occurs in which you would be deterred altogether from bleeding; for instance, in extremely exhausted persons.

I saw a patient in the Fever Hospital, who was convalescent from typhus fever. Before he was brought to the Fever Hospital he had worn a flannel waistcoat, which the nurse removed. He was exposed to cold air, and pericarditis occurred. He was so prostrate that I was afraid to bleed him; I, therefore, applied a blister and gave him colchicum, and he recovered.

The rule in these cases is, as in other inflammations, to remove the pain or fever. By fever here I mean that state in which the pulse is quicker than natural, and at the same time the skin is hotter than natural; for a quick pulse alone does not constitute fever.

2nd. The blood-letting should be followed by a full dose of opium as soon as the patient has recovered from the syncope.

When a large quantity of blood has been drawn, hemorrhagic excitement is certain to follow, and in two or three hours the pulse is quicker than before the blood-letting; and the inflammation may return.

I saw a case in which thirty ounces of blood drawn produced approaching syncope; this was followed up by eighty drops of laudanum, which prevented the return of inflammation of the pericardium.

3rd. Diaphoresis is advantageous in all inflammations of the lungs, pleura, and pericardium; if it be not procured by a high temperature, which would aggravate the inflammation.

2. When the inflammation is sub-acute,—

1st. Colchicum, to sicken the patient, will produce relief, if—

2nd. A blister be applied over the region of the heart.

Chronic inflammation frequently supervenes on acute or sub-acute inflammation of the pericardium; and if you overlook it, the forfeit of the patient's life is generally the consequence. "The snake is scotched, but not killed;" and until the pain is removed the patient is not safe.

LECTURE XXVIII.

COMMON INFLAMMATORY FEVER.

TREATMENT OF INFLAMMATION OF THE STOMACH, BOWELS, PERITONEUM, LIVER, KIDNEYS, AND URINARY BLADDER.

TREATMENT OF MUCO-GASTRITIS, AND MUCO-ENTERITIS OF THE SMALL INTESTINES.

1. Generally speaking, blood-letting is required in a decided way, especially if the fever be ardent.

As long as the pain, the heat over the belly, the frequency of the pulse, and the redness of the tongue, continue, bleeding by leeches is necessary.

The only exception to this occurs in cases where inflammation is suddenly and extensively set up from the influence of poisons in one or other, or both, of these seats, and when the system at the same time labours under a general shock.

Sometimes the acute is converted into sub-acute inflammation; and in these cases one moderate blood-letting from the arm in the first instance, and leeching over the abdomen till the pain is removed, will answer better than copious general blood-letting. No patient died of this affection in the Fever Hospital who was seen early: patients only died who were brought in after ulceration had taken place. This success arose from daily leeching till the pain was removed, the tongue became less red at the tip, the heat was diminished, and the fever or frequency of the pulse was subdued.

Pain is sometimes, nay, frequently, absent in sub-acute muco-enteritis of the small intestines. Then if the heat over the belly be pungent, the tongue red at the tip, and the pulse frequent, abstract blood by leeches to the epigastrium or abdomen. I do not limit the number of leeches; but twelve will generally be sufficient. They may be applied twice the first day, and afterwards according to circumstances until the inflammamation is removed.

This state very often goes on two or three weeks before ulceration is produced; therefore you have time to prevent that occurrence.

Many slight cases are spontaneously cured by means of an increased secretion.

2. Harsh purgatives aggravate these forms of inflammation excessively.

It frequently happens that calomel and colocynth are given, and followed up by a grain of tartarized antimony, and an ounce and half of Epsom salts in six ounces of infusion of senna; and the consequence is the aggravation of the inflammation.

I saw a patient in the Borough who brought on hemorrhage from the bowels by purging, and at length died of it.

Upon the whole the best aperient is a grain and a half of calomel with four grains of powdered rhubarb, followed up by about two drachms of cold-drawn castor oil. This is what I generally prescribe. Or you may use the extracts of rhubarb or jalap, made into soft pills, combined with calomel. If the calomel be given in the morning it is less likely to induce ptyalism. A very good saline medicine is a drachm each of sulphate and carbonate of potass taken occasionally with a spoonful of lemon-juice, in a state of effer-

vescence. It is, however, better to unload the bowels by a pint, or a pint and half, injection. All instruments for injection are imperfect: if properly used, nothing answers so well as a common pipe and bladder.

Examine the stools daily, for they are usually morbid, oleaginous, and vitiated as far as the bile is concerned. In muco-gastritis the liver is affected nineteen times out of twenty, and in muco-enteritis of the small intestines the liver is generally implicated in the affection.

Opium is useful in cases which arise from poisons, as I shall afterwards show. In sub-acute muco-gastritis and muco-enteritis it seems to have very little, and I do not know that it has any influence when the small intestines alone are inflamed.

The diet should consist of thin arrow root, and the drink of water.

In these affections I would say my success has been greatest since I have purged less and leeched more than I once did. I believe the French commit a great error from neglecting the influence which purgatives produce in these cases. One friend of mine uses twice the number of leeches I do; but my success is greater than his on account of the mild aperients which I administer.

This combination of measures is very efficacious in the removal of this inflammation. The aperients should not provoke very mucous or bloody stools; if they do, and the tongue become redder, you should leave them off. Nothing is more dangerous than aperient medicines if there be blood in the stools, especially if there be copious hemorrhage from the bowels. If once a portion of blood be lost you must then wholly omit all aperients, at least for three or four days. Such hemorrhage to the amount of a pint or more is by no means uncommon in the advanced stage of muco-enteritis: so that the patient suddenly loses perhaps one or two quarts of blood; and then, provided the tongue be moist all over and not covered with a sticky varnish, opium, absolute rest, and an exceedingly bland diet, answer best, and are all that is necessary; and the patient will almost invariably do well. A small dose of opium may be exhibited occasionally; if the patient be remarkably faint and weak a full dose of opium may be required. Astringents here are of no use. No fruits should be allowed. This hemorrhage is very apt to be followed by excessive excitement. If you give opium it has a very good effect: the pulse becomes softer and slower, and the patient becomes tranquil.

I saw a medical friend who lost two quarts of blood, and was just about to take infusion of roses and sulphate of magnesia, which I believe would have destroyed him.

THE TREATMENT OF THE EFFECTS OF POISONS

may be advantageously considered in this place, though the effects of these peculiar agents differ from those of common occasions.

1. An over-dose of *opium* if given in a liquid form may destroy life very rapidly. It operates much more slowly in the solid form, because it is not so rapidly absorbed.

The first thing is to excite vomiting, by passing your finger down the patient's throat; or by tickling the fauces with a feather, which should never be neglected. A dose of oil or mustard and water may produce the desired effect; but do not lose a moment. If the pulse be sunk, the skin cool, and the respiration oppressed, I am always afraid of abstracting blood, lest the patient should sink rapidly.

If opium be taken in a solid form it produces a very red eye, excessive confusion in the head, a skin extremely hot, a pulse full and bounding, and all the symptoms of intense inflammation of the brain. These symptoms should be treated with reference to the condition, when any poison has been taken.

Sometimes a patient is neither oppressed nor excited to a very great extent, but is in an intermediate state; and the pulse is not oppressed but labouring. Here bleeding is very beneficial, with cold applications to the head, and sometimes even the affusion of cold water will be desirable.

About three years ago I saw a clergyman who swallowed a large quantity of opium by mistake. He was saved by sulphate of copper and tartrate of antimony.

When opium has been taken, emetics require to be very large: for instance, a scruple of emetic tartar and twelve grains of sulphate of copper in divided doses. Their operation is assisted by bleeding, which may be resorted to if the pulse be expanded or labouring. In all these cases the patient should be kept awake by shaking, &c.

2. When the peculiar agent is a copious *spirituous potation*, if you can by an emetic dislodge the spirit the patient will generally recover. Or the spirit may be removed by Jukes' instrument. Such an instrument has long been in use, for the benefit of sailors, &c. in the Liverpool Infirmary.

It is known from the experiments of Magendie that spirit and water taken into the stomach will remain some time, but that spirit alone will be immediately absorbed.

3. *Digitalis* seems to destroy life by a general shock to the system. When it has been taken in an over-dose the best remedy is a strong infusion of a bitter with subcarbonate of ammonia, or a little brandy with opium.

4. *Colchicum* produces universal collapse and extensive inflammation of the stomach and bowels. The tongue is generally covered with a grey fur, somewhat like lichen; and the patient is sick and purged incessantly. In this case there is clearly very great danger. Support the patient in the first instance by opium, with bland warm drinks.

Sometimes colchicum produces universal languor and lassitude without sickness, or purging, which are its common effects. In these cases it should be left off.

5. *Antimony* excites irritation of the whole mucous membrane of the intestines.

6. *Ipecacuanha*, when it destroys life, inflames the bowels.

7. *Prussic acid* operates remarkably on the brain and mucous membranes.

A young man took for experiment, twenty drops, and walked about for an hour, and then suddenly became excessively faint, sick, and giddy. A friend very properly gave him a large quantity of warm water, which produced plentiful vomiting. When I was called to him I found him labouring under a distinct attack of inflammation of the brain and of the mucous membrane of the stomach. He had a remarkably bright eye; a pulse more expanded than natural; a skin hotter than natural; a tongue somewhat red, exhibiting the appearances indicative of inflammation of the mucous membrane of the stomach; with nausea and retching; and ever and anon he had an involuntary shuddering expressive of horror. I treated him according to the symptoms; bled him copiously, and afterwards gave him a moderate opiate, and he did remarkably well.

According to the experiments of Mr. Murray, a respectable chemist, ammonia is almost a specific for prussic acid. But do not hunt for specifics and neglect the symptoms which are present.

8. I saw a person who had swallowed *pearl-ash*, which produced extensive inflammation of the stomach and intestines, which was relieved by bleeding and opium.

9. Mr. P. had a case of poisoning by *arsenic*, which produced

inflammation of the stomach, of the brain, and the bowels—especially of the rectum. He removed the inflammation, and the patient did well.

When arsenic has been taken it will be an object to remove the poison as early as possible by an emetic.

Dr. Thomson got great credit for detecting arsenic in the coats of the stomach when they were digested in alcohol.

10. *Oxalic acid*, *sulphuric acid*, *nitric acid*, and *oxymuriate of mercury*, taken in combination with opium have their effects modified by it. I may state two cases in illustration of this point in reference to sublimate.

A person, for the purpose of self-destruction, took some oxymuriate of mercury; and the more rapidly and effectually to accomplish his intention, he immediately afterwards swallowed a large dose of opium: no bad effect was produced.

A friend of mine put his knowledge of this fact to a useful purpose in a case where oxymuriate of mercury had been swallowed by mistake. He gave opium very largely, and the patient recovered.

These cases are at least sufficient to call our attention to the use of opium under similar circumstances.

In cases of poisoning from over-doses of colchicum and digitalis I have seen opium save the patient; and though I am not in the habit of recommending experiments upon living animals, except for the promotion of objects of great public value, yet when experiments made on the lower animals lead to important results which can be turned to great practical account to society, as on this subject, I think they should be undertaken.

I have read in a paper (which though not very good authority, yet in conjunction with other cases, may at least lead our attention to an examination of the truth of its statements) a case of poisoning by oxalic acid, in which its ill effects were prevented or destroyed by opium.

I was mentioning one of the cases which I have just stated to you to a physician, who told me that it reminded him of a case which he once saw, in which the patient for the purpose of destroying himself mixed opium with aqua fortis. He was surprised that the symptoms were so mild: the inflammation was slight, and the patient recovered.

You will recollect that when any poison produces what I have called a congesto-inflammatory form of disorder, the patient cannot bear blood-letting; but you may use the hot air bath to bring a

flow of blood to the surface, and give in the first instance a full dose of opium, and afterwards mild laxatives.

TREATMENT OF INFANTILE REMITTENT FEVER.

The great object is to remove the irritation of the stomach or intestines at its commencement; by doing which you will in a great many instances save the patient's life, which is almost invariably put in great danger if you allow it to go on. No affection is more controllable than inflammation of the mucous membrane of the intestines, provided you see the case early; no affection is so unmanageable if suffered to go on for some time before a medical man is consulted, especially if ulceration have occurred.

When the pulse is quicker and the skin hotter than natural, but still there is no inflammation, a strictly spare diet, rest in bed, and purgative medicines, will remove it in a few days.

In order to the removal of the inflammation, which I have said is generally sub-acute, nothing answers so well, even in children, as leeches (and in robust children general bleeding may be used), followed up by the mildest aperients, by a bland diet, by an occasional mild alterative, by perfect quiet, and by a regulated temperature.

The application of leeches, five or six or more, according to the age of the child, should be repeated till all the pain is removed.

Recollect one thing with regard to leeching, and that is, you should never leave a very young child after the application of leeches till the bleeding from the orifices is entirely stanched.

I saw a child which I am quite sure would have died in a short time if I had not happened to make a visit at the time. The blood was oozing from punctures made by leeches, and the child was pale, and gasping, and had a sunk pulse; I gave it a little wine, and stopped the bleeding, and it recovered; but had the oozing gone on a quarter of an hour longer the child's life would have been destroyed.

After the leeches give the child three grains of calomel and eight grains of rhubarb, followed by a table-spoonful of castor oil. Calomel has a very beneficial effect in these cases by stimulating the liver, while the rhubarb and cold-drawn castor oil act upon the bowels. In very delicate children it will, perhaps, be requisite to reduce the dose I have mentioned to a grain or a grain and half of calomel with six grains of rhubarb at night, followed up by a drachm, or at most two drachms, of castor oil every morning. From these medicines you will almost always have a great quantity of offensive matter discharged from the bowels.

Put the child into a bath of 96° or 98° Fahr. for a quarter of an hour or twenty minutes; and while it is in the bath soap the skin, and having washed off the soap, let the surface be dried thoroughly. Soaping the skin will have a very beneficial effect on the mucous membrane of the intestines.

Rest in bed, and attention to the diet and drink, are very important. Always cast your eye around the sick room, and if you find fruits lying about, prohibit them most strictly; for the pulps of oranges, and the skins and seeds of other fruits, are frequently fatal in these cases.

I saw a boy who was vomiting at one visit. The nurse said she adhered to my rules; but I found a paper with sweet sponge biscuits, of which I ascertained he had taken at least a dozen, which brought on a fresh attack of inflammation. And this is very often the consequence of the inattention of nurses to these points. Lay down a strict rule, and never deviate from it.

The calomel should be persevered in as long as the tongue continues foul and the stools continue offensive. The removal of these symptoms being accomplished, and especially if the skin have fallen to its natural temperature, omit the calomel; for if you continue it after the skin has become cool, it will most likely produce ptyalism, which in children it is desirable to avoid.

If the child become restless towards night place it in a tub, and pour over it two or three gallons of tepid water; and if the head be not affected, give it a small quantity of syrupus papaveris. An opiate given at night, in the form of Dover's powder, or extract of henbane, is often very beneficial if the head be not affected.

If you suspect ulceration, enjoin a strictly regulated diet, consisting of bland thin arrowroot, &c., and give a grain of calomel with three or four grains of rhubarb in the day.

When there are the symptoms from which you may infer that there is ulceration, the child very seldom recovers; but sometimes it does.

If the stools be sour you may give tincture of henbane and a few grains of carbonate of potass in almond emulsion, with advantage.

If the stools become mere mucus omit aperients and trust to leeches.

If hemorrhage occur discontinue all aperients and give opium.

Beware of doing too much. There are now two great errors in the practice of physic with respect to inflammation. There is one set of practitioners who whenever they find inflammation, bleed,

purge, and give antimonials too much. There are other practitioners who give wine and bark in inflammation, in the face of all pathology and of every principle. In both these cases the fatality is very great. No inflammation requires more delicate management than inflammation of the mucous membrane of the intestinal canal.

A placebo is necessary in the present state of the public knowledge. If I give nothing but calomel and rhubarb at night and castor oil in the morning, and apply leeches, the patient, and his friends too, would lose all confidence in me. The best placebo is coloured water, or any thing simple.

Saline mixtures are very important, because they sometimes do irreparable mischief by irritating an inflamed mucous surface of the bowels. If the stools become more slimy and more copious, you may be sure you are doing harm by your medicines. I saw a lady who was dying of the effects of a saline mixture which was exhibited every four hours. It produced by its irritation great effect upon the mucous membrane of the intestines, which subsided on withdrawing the saline mixture. I have seen the same thing occur from antimonials; and it really is a very important thing for a medical practitioner to do no harm. Cowper has ridiculed medical men for "doing nothing with a deal of skill;" but this very often is the great art of physic. I know nothing in the world which requires a greater combination of intellectual and moral excellencies than to make a medical man. It requires in the first place an excellent elementary education; in the second place it requires experience—not such experience as a dog gets in a wheel by turning a spit to roast a leg of mutton, nor such experience as a horse gets by following the same daily round in a mill (for these animals really have a great deal of experience); but experience which is derived from a careful observation of the phenomena of diseases, and from a minute attention to the effects of remedies under various circumstances during life: connecting those phenomena and effects with the morbid condition or conditions as displayed by examination after death. He should be, too, a man of the strictest integrity, and the most upright conscientiousness. In short, it is almost impossible to meet with an accomplished physician. And since, then, it is rare to find any man who is in possession of all the requisites to make an accomplished physician, all we can do,—and that we ought to do,—is to exert our abilities to the utmost; and a great deal that appears difficult may in that way be accomplished.

TREATMENT OF MUCO-ENTERITIS OF THE LARGE INTESTINES.

When inflammation occurs in the upper part of the mucous membrane of the large intestines it assumes the character of diarrhœa, with fever; when in the middle part, that of dysentery.

In these cases, if the inflammation be acute, general blood-letting is demanded, proportioned to the duration of the attack; and when you have converted it into the sub-acute form, local blood-letting by leeches will answer the purpose, and must be continued, in the one case, while diarrhœa continues; in dysentery, as long as the tormina, tenesmus, and slimy bloody stools, continue.

But it will be necessary to attend to the following circumstances in reference to the—

TREATMENT OF DYSENTERY.

If you see any case of dysentery at the onset in which there are a cold skin, pain in the lower part of the body, and tenesmus, the best thing to be done is to immerse the patient in a bath at the temperature of 100° Fahr. After keeping him there some time, dry the surface of the body, lay him between two blankets, and immediately give him two or three grains of opium, and from three to five grains of calomel, allowing him bland, tepid drinks, and these will very often arrest the disease, by exciting a flow of blood to the surface and producing perspiration.

Opium, if given early, is extremely beneficial: in the onset, after a hot bath, three grains of opium and one grain of ipecacuanha will sometimes stop its progress at once. In cases where the stomach is very irritable it may be administered in proportionate doses in the form of enema, or suppository, or by friction on the skin.

If you see a patient with dysentery after its commencement be guided entirely by the symptoms. If the patient have symptoms of inflammation, that inflammation will be acute or sub-acute. If you be called early your object is to arrest the inflammation, whether acute or sub-acute, at once; or at any rate so far to subdue it that it will readily yield to mild means. Bleed the patient to approaching syncope; and if the tongue be moist give him not less than three grains of opium, with calomel. And these means will often be followed by great benefit to the patient.

Most of the cases I have seen have been mild. In many instances this complaint becomes very embarrassing; for, unless it be checked in the onset, it seems to have a determinate duration, and goes on sometimes to ulceration. In order to prevent this the

American practitioners affect the mouth by calomel; and generally this answers, but sometimes it fails.

If it proceed from malaria, or if it be complicated with an affection of the liver, use blood-letting to approaching syncope, and a bath of 100°, as before, and then put the system under the influence of calomel. Calomel may be regarded almost as a specific for diseases arising from peculiar occasions. This is the reason why practitioners in hot countries speak so much more highly of it than medical men in this country. The bowels in all cases should be opened by mild means; and for this purpose nothing operates so well as cold-drawn castor oil.

The treatment I have advised in dysentery arising from common occasions will generally arrest the disease at its onset, or lessen its force so that it can be subdued by mild means, as local blood-letting. If the stools be morbid put the system under the influence of calomel. When the liver is not affected there is no occasion for more than common aperient medicines, followed up by cold-drawn castor oil.

One of the first indications of recovery is that the patient passes stools like meconium; and then the mildest aperients, such as castor oil, are the best.

I am now disposed to give calomel in small doses; and I think I formerly committed an error in giving too large doses of it. This is the only practice I have changed since I came to London, except that I give large doses of opium in common inflammatory fever.

In these cases of dysentery I would not give more than three grains of calomel repeated every six hours,' or two grains o calomel repeated every four hours. Formerly I should have given ten grains, or even a scruple, for a dose. This is to be continued until the mouth is affected.

The calomel sometimes produces a state of profound relaxation, which is more oppressive and intolerable to the patient than the pain itself; and its further employment must then be abstained from.

When you want to affect the system rapidly with mercury always premise blood-letting. If the heat on the surface be high you may pour in dose after dose of calomel without producing the effect you have in view; but it is astonishing how small a quantity of calomel will affect the system if blood-letting have preceded its exhibition.

You will do no good in dysentery unless you attend to the diet.

Keep the patient cool, let him rest in bed, and let him eat nothing. A small cup-full of thin arrow root, gruel, or barley water, with a sprinkling of lemon-juice, three times a day, is quite sufficient. If he have any thing else let it be water.

No college has produced such an admirable work as the Dublin Hospital. In the Dublin Hospital Reports there is a good paper upon dysentery by a very respectable physician; but his treatment in one particular, I think, was very injudicious. In the case to which I allude pounds of food were given in a day, which I think was a great error, sufficient to account for the great fatality of the disease; and it is one which I myself formerly committed. The diet should be as spare as possible. Patients often crave all sorts of things. When the desire is urgent more firmness is required on the part of the practitioner.

One of the most common causes of the fatality of inflammatory diseases is the inattention of medical men to the diet of their patients.

When dysentery becomes chronic; when the patient becomes weak; when the disease continues week after week; when the belly is tense, with the integuments drawn inwards; when the pulse is quick and small, and the eyes are drawn inward; when there is a more offensive, loathsome, sickly smell than in the first stage; and when, therefore, you have reason to believe that ulceration has taken place, there is very little hope; and, therefore, all harsh treatment should be abandoned, and calomel given in very small doses,—as half a grain of calomel or two grains of blue pill every other night, at bed time, to keep the liver in action; and one or two drachms of castor oil for a dose will be sufficient. Leeches may be applied to the abdomen occasionally if there be pain. The diet should be bland and farinaceous: the best is a milk diet, which sustains the strength without much increasing the heart's action. Rest in bed should be directed, and the patient should be placed in a fresh atmosphere, and use a tepid bath. The surface should be well soaped, and afterwards carefully dried. After it has advanced to ulceration opium is the only palliative you can employ, and the only thing you can then do is to mitigate the pain. In that state patients will call opium a heavenly, a divine remedy; which gives them not only a respite from pain, but sends them into a world of pleasures, and creates in them illusions which they very unwillingly exchange for the bitter realities of life, or for the waking hours of pain.

In some cases where there have been signs of ulceration I have seen the patients do well under the following remedies: ten grains

of sulphate of magnesia, with five, six, or eight drops of tincture of opium, or of tincture of henbane, every four or six hours. It will save some patients when every other means fail. This plan was used by Dr. Pemberton with great success in cases of inflammation of the mucous membrane of the small and large intestines. The doses I have mentioned are proper for adults, and must be lessened for children.

In some cases of this kind I have seen great benefit derived from sulphureous waters, as those of Harrogate. They move the bowels gently, and act on the skin; they stimulate the liver, and have all the good without the unpleasant effects of mercury. A friend of mine, Mr. George Vaux, of Ipswich, has tried a remedy for sixteen years in about two hundred cases; and the result has been so successful and so remarkably uniform, that I feel it my duty to mention the treatment here. This gentleman gives in dysentery, or inflammation of the mucous membrane about the colon, seven grains of nux vomica thrice daily. It neither purges nor constipates, but removes the inflammation, and healthy evacuations follow. Mr. Vaux, who resides in London, bears similar testimony to the value of this remedy, and I strongly recommend it to your notice. I shall certainly try it in the next case I meet with. It seems to operate as a sort of specific. It was first mentioned by Hagstroms, and has been very much neglected since his time.

In congesto-inflammatory attacks of dysentery the following treatment will be proper. A hot bath should be used in the first instance, and in the next place leeches should be applied to the abdomen, and three grains of calomel combined with a grain of opium given every six hours.

It sometimes happens in dysentery that the tongue becomes brown and parched; and when this occurs you will find no good from opium, but you may give a grain of calomel twice a day with a little rhubarb and cold-drawn castor oil. If the patient pass more blood by stool under this treatment, the calomel must be abandoned, and then the best remedy is lemon-juice; and chlorine, I believe, has a very good effect.

When dysentery goes on, under any form, to produce disorganization, the case generally is hopeless. If you be called early, or in the middle stage, you may generally prevent this effect. It is humiliating to consider how little efficacy occurs from any treatment at a later period.

Dysentery has been very common in London in the Peniten-

tiary, which is built below the bed of the river, and is surrounded by a marsh.

It is remarkable that no disease of consequence prevailed there while the inhabitants were allowed a full diet, but within six months after a spare diet was made use of, half the inmates were the subjects of disorders. And those disorders put on the character of dysentery, which was treated very successfully by the physicians with calomel and opium, which, in fact, is the common mode of treating it.

TREATMENT OF DIARRHŒA.

If it depend upon an over-loaded state of the colon, no advantage will be derived from the remedies usually prescribed for diarrhœa,—chalk mixture, aromatic confection, catechu, opium, &c., but they may do harm. If it arise from congestion of the liver they will do no good; and if from offending ingesta they will be injurious. If any man impartially trace the consequences of such treatment, he will find that they are often fatal.

1. If diarrhœa arise, as it most commonly does, from scybala in the colon, a dose of calomel, rhubarb, and jalap, followed by castor oil, is the best remedy; but it will often require to be repeated. If the skin be cool, however, do not repeat the calomel, but give the rhubarb and castor oil without it, or add a little compound decoction of aloes.

2. If it arise from offending ingesta, such as fruit, pastry, pickled pork, &c., and flatulence and acid eructations occur, some persons stop it immediately by a glass of brandy. But before this should be had recourse to you should be sure that there is no inflammation. Dislodge the offending substance by the administration of cold-drawn castor oil, followed by opium.

Sometimes it arises from acidity in the stomach or bowels; and then castor oil first, and a small quantity of chalk mixture with a little opium, answers the best purpose. These are the only cases in which cretaceous mixtures should be given.

3. When diarrhœa arises from a chill of the surface, two or three grains of opium should be given with four grains of calomel; and a bath of the temperature of 100° Fahr. should be used.

4. When it arises from a copious secretion and sudden gush of bile, nothing more will be necessary than bland diluents, the use of a tepid bath, rest, and an occasional opiate.

5. When diarrhœa arises from inflammation, which it very often does, especially of the upper part of the colon, it will require the

treatment which is applicable to acute or sub-acute inflammation, according to its seat, duration, &c., namely, local bleeding, with small doses of calomel and rhubarb, foilowed by castor oil. Sometimes a diarrhœa comes on suddenly from mercury, and requires opium in very large doses, and afterwards castor oil.

I shall advert to the treatment of colliquative diarrhœa when I speak of consumption.

In diarrhœa arising from the effects of the tainted air of a dissecting room, the best thing is to take a dose of castor oil, and afterwards calomel and opium, and to absent yourself from the dissecting room for a time.

Opium and the hot bath are almost specifics for the watery gripes in very young children, with a little medicine to counteract the wind in the intestines.

The principles I have mentioned with regard to inflammation of the mucous membrane of the intestinal canal you must apply to the—

TREATMENT OF CHOLERA MORBUS,

bearing in mind that the liver is affected, and also the skin.

1. The congestive form of cholera is nothing more than a modification of congestive fever. In all these cases the powers of life are so exceedingly sunk that you cannot bleed in the first instance, and the indication is to bring a flow of blood to the surface of the body. This is to be attempted by the administration of stimulants, &c. The time in extreme cases is, however, so very brief that many patients may die before the proper remedies can be had recourse to. The hot air bath should be applied thirty or forty minutes, and that almost always saves the patient. When this cannot easily be procured, the next best application is the hot vapour bath. When neither of these is at hand, the patient should be laid in hot blankets before a fire, and bottles of hot water should be applied to his feet and epigastrium. The patient has an instinctive desire for cold drink; but the gratification of this should never be indulged. The drink must be tepid, and very sparing in quantity, and should consist of very thin gruel. Two to three grains of opium, with five grains of calomel, should be given in the form of small pills, and very little fluid should be taken after them: in this way they will generally be retained. Whenever the stomach is irritable medicine should be given in form of as small pills as possible, and the drinks in this case should always be hot. The doses may in some instances be greater or less, according to circumstances.

Afterwards small doses of calomel and opium, and small quantities of brandy, may be given till perspiration takes place. In this form of cholera there is deficiency of bile, and it is not until excitement takes place that a flow of it occurs.

When the hot stage has been produced there is either simple or inflammatory fever, which must be treated accordingly.

2. When the case merely puts on the character of simple excitement, bland diluents are all that are necessary, and perhaps a dose of opium; for the patient may sink from the exhaustion produced by vomiting and purging if you do not sustain him by opium and cordials. In this way I have seen individuals rescued from the very jaws of death.

3. When cholera morbus is combined with symptoms of inflammation, bleeding is necessary: general, if the fever be fully developed, and the inflammation acute; local, if the inflammation be sub-acute. And after that small doses of calomel and opium should be given. Remember that after inflammation great exhaustion is likely to come on; and then opium, if the tongue be moist, will be found very beneficial. Endeavour to guard against this collapse, which sometimes sets in very suddenly and very severely, and requires very prompt treatment.

4. When cholera puts on the congesto-inflammatory character, the patient is very cold in the first instance. Apply the hot-air bath, and give three grains of calomel with one grain of opium every six hours, and tepid drinks to keep up the perspiration.

In all these cases of cholera morbus and dysentery make minute observations at the bed-side of the patient; think and observe for yourselves: and having obtained the desirable art of doing this you have gained the great secret of the base on which human knowledge has its foundation.

Systematic writers say that cholera morbus consists of a vomiting and purging of bilious matter. This is the case sometimes, but not always. Mere bilious vomiting and purging without disorder in the circulation I call simple excitive fever.

TREATMENT OF SERO-GASTRITIS, SERO-ENTERITIS, AND PERITONITIS.

1. The first and main remedy is blood-letting, carried to approaching syncope or to the complete removal of the pain.

2. As long as the tongue continues moist, opium, with blood-letting, may be considered as a sovereign remedy: it is in these cases more successful than any other plan that has ever been adopted.

As soon as the patient recovers from the syncope induced by the

blood-letting, give him, if an adult, from three to five—not less than three—grains of opium; or from eighty to an hundred drops of tincture of opium with very little or without any water. The patient should be kept quite quiet, so that, if possible, sleep may be induced.

If one blood-letting remove the pain so much the better, because you save the patient's strength by avoiding further depletion.

If on a second visit, in four hours, the pain have returned, the abstraction of blood should be repeated, and carried into effect in the same decided way; and you may give two grains of opium, combined with calomel, after recovery from the faintness. In two hours more, if the inflammation be not removed, bleed the patient again, and give a grain and half or two grains of opium, with calomel.

In gastritis, if the stomach be very irritable, a suppository of opium may be used, or an hundred drops of tincture of opium with a very small quantity of water may be injected into the rectum.

It is constantly to be borne in mind that the patient's life is in the most imminent danger. If you lose time the patient will sink rapidly. Gastritis, with the exception of laryngitis, depresses the powers of life more than any other inflammation; and in this affection the patient is never safe so long as an irritable stomach remains: you must, therefore, bleed till the vomiting is removed.

Most frequently one blood-letting will suffice; sometimes a second, and occasionally a third, may be necessary, but rarely beyond that.

Sometimes cases of this kind are fatal from waiting too long. Some practitioners will bleed a patient to-day, and not bleed again before to-morrow, when I should abstract the same quantity of blood in four hours.

Opium seems to have nearly as much power as, or even more than, bleeding. If I were the subject of either of these affections, and were only allowed to have opium or blood-letting, I would choose opium, though I should prefer both together; and this combination I recommend to you.

Recollect that small doses of opium, in these cases, do no good, but harm; they operate as stimulants. Full doses act as direct sedatives: they produce copious perspiration, allay the pain, tranquillise the pulse, prevent hemorrhagic reaction, and generally procure profound sleep.

The opium tends to arrest the secretions of the liver; but when

combined with calomel it has not that effect. And whenever, therefore, you repeat the opium, give calomel with it.

This plan answers better than any other: it will almost invariably remove the affection in the first eight or ten hours; and you should then treat the case very mildly. I have treated nearly three hundred cases with a success far greater than I have heard of from any other plan; and I could defy all the physicians in this country to show any more successful practice. There is no success on record at all comparable to it. All those individuals who have given it a fair trial have added their testimony to its complete efficacy, which, therefore, does not rest upon my own assertion alone.

In inflammation of the serous membranes of the abdomen, since I have purged less, but have bled more and given opium, my success has been infinitely greater than it formerly was.

Remove the inflammation very nearly or altogether before you purge the patient. It may seem strange that I should give opium, but it is exceedingly useful: it does not constipate the bowels, but tends rather to open them; so that afterwards cold-drawn castor oil will empty them. Connecting together cause and effect, you will see the propriety of avoiding drastic aperients; for constipation is the effect of inflammation; and, to use the expressive language of Dr. Saunders, you must open the bowels by the lancet, and if that be not sufficient a full dose of opium will relieve them.

No greater error is committed than that of attempting to remove the constipation by drastic purgatives. You should subdue the inflammation before you give aperients, except by the rectum, such as a mild enema to unload the colon. The mildest aperients will then operate.

In some cases the colon is remarkably loaded with scybala. If there be a sense of distention of the abdomen, and of uneasiness about the rectum, and a frequent disposition to go to stool, the rectum should be examined, as it is often plugged up by scybala, which may be removed by the shank of a spoon.

The exhibition of a large injection will allay irritation of the stomach if it arise from overloaded intestines; and the quantity of fluid should never be less than a pint and half, or a quart, for I believe it operates chiefly by the stimulus of distention. The injection will operate better if mixed with soft soap and muriate of soda.

Nausea frequently remains in gastritis after the removal of the inflammation and fever: the stomach should then be left at rest, or you may give an effervescing saline draught.

Many individuals think that a combination of opium, calomel and antimony, must be a more certain sudorific than opium alone; and I once was of that opinion. It sometimes answers better than calomel separately; but after bleeding and the warm bath, no sudorific is so certain as a full dose of opium.

When the inflammation has been rendered sub-acute, or chronic, fomentations are very beneficial.

In inflammations of the chest or belly, and especially of the bladder, warm applications are beneficial; but I am perfectly confident that a great many patients die in internal inflammation from exposure to cold and damp in leeching, and in the common careless way of using fomentations. If you can possibly spare time, see your directions about fomentations carried into effect; for they sometimes do a great deal of injury if indiscriminately applied.

Poultices made with chamomile flowers are very beneficial: sprinkle them with cold water, and then heat them, and put them in a bag. Bran, moistened with hot water, may be used in the same way. A linseed-meal poultice affords another method of applying warmth; but the following is the best plan:—a flannel should be put into hot water, and then placed within a cloth made like a round towel, with a stick at each end; the sticks are to be turned in contrary directions to wring it out perfectly dry. In the way the flannel retains the heat, and prevents any chill of the surface to which it is applied. A napkin should be placed over it.

I seldom employ blisters in acute inflammation; for by their use you lose a valuable indication of the condition of the parts, and the best test of the inflammation, namely, the pain on pressure; and you are then obliged to trust to the patient's account of his feelings, which may be some guide, but not a certain one. Leeches are more effectual than blisters, and may be applied when the pain is nearly subdued.

Inflammation of the stomach, intestines, liver, or peritoneum, but especially of the peritoneum, sometimes puts on a chronic character, and then you will find blisters of service. But though I may, like any other teacher of medicine, stand here and lay down general principles for the treatment of various affections; yet the only place for lecturing with complete effect is the bed-side of the sick. It is necessary, in order to reap the full benefit from oral instruction, that you should yourselves observe the symptoms during life, that you should note the effects of remedies, and that you should assist in the dissection of bodies after death for the purpose of seeing the morbid conditions on which the symptoms during life

depended. The mode of conducting medical examinations in this country is very deficient, inasmuch as it is not sufficiently practical. Our continental brethren are fully aware of the importance of a practical education; and they are careful to make the attainments of students as valuable as possible by lecturing at the bed-side of the patients. Mere verbal examinations are of no use, especially carried on in Latin as they absurdly are in some colleges. By such means they may confuse an individual, or cavil about the mere meaning of words; but, for the legitimate purposes of such examinations, those on surgery, and especially those on medicine, should be conducted at the bed-side of the patient, and those on pharmacy should be made in the shop.

Strangulated hernia often puts on all the symptoms of enteritis; therefore, in these cases, invariably examine the groin. Never be satisfied by a female telling you that she has no swelling there; for women will not tell the truth upon this subject, if by a falsehood they can avoid such a wound to their feelings of modesty as might occur from an examination. Always, then, ascertain if there be any inguinal tumour, and be not prevented by any false delicacy when the life of a fellow creature is in danger. If you find a strangulated hernia, it will be your next object to consider the propriety of an operation.

In some instances, when all the signs of abdominal inflammation have disappeared, the pulse continues quicker and the skin hotter than natural. So long as this state exists the patient should be kept in bed, the diet should be spare, the bowels should be opened daily; an opiate should be administered at bed-time, and the temperature of the apartment should be properly regulated. If this plan should fail, digitalis, in small doses, repeatedly and cautiously given until the pulse is reduced, is a useful auxiliary.

TREATMENT OF HEPATITIS.

1. The main remedy in the first instance is blood-letting, unless it be very far advanced.

If the inflammation be acute, decided bleeding is necessary, and should be carried to approaching syncope.

2. In all hepatic affections be careful of the exhibition of opium.

If there be great pain in the liver, in acute hepatitis, and you have bled the patient freely, you may often give a full opiate with a large or a moderate dose of calomel with great advantage. It prevents hemorrhagic reaction; and afterwards local bleeding, and calomel, followed by saline purgatives with which col-

chicum may advantageously be joined, and lastly blisters will remove the affection. Purgatives are exceedingly beneficial; and here a combination of calomel, rhubarb, and jalap is best, followed by saline purgatives twice a day, and by calomel which it is best to give twice or three times a day.

As long as there is pain on pressure in the region of the liver, so long you have distinct evidence of inflammation, and bleeding must be repeated; but the opium must not be repeated above twice, as it tends to lock up the secretions of the liver.

Immediately afterwards give calomel; and three grains every six hours will be abundantly sufficient if you premise blood-letting. A very low diet should be allowed.

There are some exceptions to this plan.

1. When the inflammation is sub-acute, if the pain be not severe, and the other symptoms not pressing, moderate blood-letting will be sufficient.

2. In old persons especially, and in drunkards, be very careful about blood-letting. Recollect that you have almost a specific for this affection in mercury. Give calomel in the first instance, and push it on to salivation.

Some physicians say, "We will first remove the inflammation by abstracting blood, and then we will give calomel;" but if you wait till you have subdued the inflammation, there is no necessity for the exhibition of calomel, for calomel is given with the view of curing the inflammation: by it you imitate a natural process, by which a spontaneous cure sometimes occurs; you produce an increased secretion from the part.

Those drunkards who live, like certain birds, entirely by suction, bear blood-letting very badly.

On the contrary, those drunkards whose appetites are very great, and who eat large quantities of meat, bear blood-letting very well. They are often sustained remarkably well by opium, which may be given in small doses with tolerable doses of calomel.

Blisters have considerable influence, both in acute and sub-acute hepatitis. When it is chronic, rest and aperient medicines will often cure it; if not, affect the mouth by mercury.

When abscess forms and points externally, it should be opened with a lancet. When it opens internally the case is mostly fatal.

TREATMENT OF NEPHRITIS.

1. Bleeding must be adopted in a decided way if the inflammation be acute.

Sometimes it happens that blood-letting carried to approaching syncope will not relieve nephritis; and this is always a very unpleasant and unfavourable circumstance.

The late Mr. Edward Grainger had acute inflammation first of one and then of the other kidney. It was not relieved in the usual way by bleeding; and as calomel relaxed him very much, I prescribed it for him. In this way there remained only a slight trace of the inflammation; of which, however, he died, from his great anxiety to return to his duties.

When the kidney is inflamed acutely it frequently puts on in its progress the sub-acute character; and then cupping or leeching the back will very often remove it. But in acute nephritis or cystitis never use cupping over the part, for it always makes the patient worse. I believe it is very injurious to cup over a soft part, when the organs within are the seat of acute inflammation.

2. The bleeding should be followed by a full dose of opium with a moderate dose of calomel; and these measures will frequently cut the inflammation short. If, however, the inflammation return, you should repeat the bleeding, and follow it by opium and calomel as before. Afterwards local bleeding may be used if necessary.

3. The relaxation of calomel sometimes is exceedingly beneficial in nephritis, as well as in inflammation seated in other parts.

4. You should use the very mildest aperients; and castor oil is one of the best.

Avoid the exhibition of salts in large doses, which generally tend to aggravate the inflammation. I never give more than a drachm of any aperient salt in these cases.

5. If there be obscure pain in the back, use a tepid bath, and let it be followed up by a dose of Dover's powder. Never desist until the pain is entirely removed; and never suffer sub-acute inflammation to remain long, for it has a tendency to disorganize the kidney.

6. Blisters are exceedingly beneficial when the inflammation is nearly gone.

When you apply a blister in nephritis, you should always interpose a piece of silk-paper, or gauze, between the plaster and the skin to prevent the absorption of the cantharides; and it should be removed in ten or twelve hours at most. The French blistering plaster is far preferable to ours.

TREATMENT OF CYSTITIS.

The treatment of cystitis is the same as that of nephritis.

1. Most benefit is to be expected from local blood-letting, if the mucous membrane be inflamed, but most from general blood-letting if the serous membrane be the seat of inflammation. If there be sub-acute or chronic muco-cystitis, I find most benefit from leeches above the pubes; they are of considerable service as palliatives.

2. Opium in full doses after general blood-letting is equally beneficial in sero-cystitis as when other serous membranes are inflamed. It has less effect upon muco-cystitis. It may in these cases be used in the form of suppositories or glysters, especially if the stomach be very irritable. Eighty to a hundred drops of tincture of opium may be used as an anodyne injection, taking care that the quantity of water be small, so as not to distend the rectum too much.

3. The mildest aperients are proper, to unload the colon.

Sometimes calomel operates very much on the intestines, irritates them exceedingly, and aggravates the inflammation. All purgatives that act on the rectum, and large doses of salts, should be avoided. Castor oil answers best.

4. Very great relief will be obtained from the use of the tepid bath.

Warm fomentations give great temporary relief; but they are merely secondary means, and only a secondary importance should, therefore, be attached to them.

5. If the bladder be distended be sure to draw off the water frequently; or, by leaving a catheter in the bladder, allow it to run off as fast as it is secreted; in order to prevent a painful distention of the bladder. Retention of urine is sometimes remedied by throwing up an injection by the rectum.

6. The diet in all these cases should be very bland.

The success of the practice of physic, then, obviously depends more on the combination of measures than on any one singly. Chronic inflammation is very apt to arise out of, and to remain after, acute or sub-acute muco-cystitis is subdued; generally from the neglect of the practitioner, but sometimes from the urgency of the disease; and this is very likely to occur if the diet be not regulated with great strictness. You should, therefore, watch the patient, and manage the case very carefully. Many cases of acute and sub-acute, are converted into chronic, inflammation by some error in the diet or regiminal management, which will both occasion and prolong the chronic disease. Self-denial is very difficult to practise; but if not exercised in these cases the most unpleasant effects will

probably be the consequence. It is of great importance to have the health completely restored before the patient returns to his previous habits of diet, exercise, and business. When the urinary organs have once been inflamed, relapses are very liable to occur.

When a white sediment occurs in the urine, dilute muriatic acid will be very serviceable; and when a red sediment, the alkalies will be useful.

HEMATURIA.

Bloody urine not unfrequently attends inflammation of the kidneys and bladder, either when small calculi exist in them, or when there are no calculi, especially if the mucous coat of the bladder be inflamed. The presence of blood in the urine may be ascertained; for sometimes distinct clots may be observed. Sometimes it is diffused through the urine; and then if the urine be boiled, a coagulum will be obtained; or a cloth immersed in it will be reddened.

SUPPRESSION OF URINE

sometimes depends upon inflammation of the kidney, and then it is relieved by subduing the inflammation. Sometimes it depends upon an affection of the head, and then it can only be relieved by removing the cause.

In a case in which calculi plugged up the ureters, the patient became threatened with an attack of apoplexy. This was removed by copious bleeding, and during the relaxation produced by the abstraction of blood the calculi passed into the bladder and he recovered.

In one case it was produced by arsenic.

LECTURE XXIX.

COMMON INFLAMMATORY FEVER.

PROGNOSIS OF INTERNAL INFLAMMATION.

NOTHING requires more minute observation than to give a prognosis with general accuracy; and the importance of the subject I need scarcely point out to you. But a few general remarks upon the

subject may be of service, before I advert to the prognosis in those affections, of which I have already described to you the symptoms and treatment.

If you be careless in the delivery of your prognosis you will never be successful. I never met with any individual who was careless on this point who maintained the public confidence for any length of time.

There are four points to be considered in delivering your opinion as to the probable issue of any case. It is very necessary that you should show—

1. A deep interest in the welfare of the sick.

Your own personal interest should be a mere secondary consideration; and you should consider your patient's welfare as in your estimation paramount to every other consideration. This can only be shown by the most devoted attention, of which the patient must be rendered conscious by its simplicity and its sincerity. Celsus long ago observed that one medical man could not properly attend many patients at one time; and I believe that his remark is perfectly just.

Seeing, then, the necessity of cautious investigation in order to precision of opinion, when you are called to a patient always make your first visit a long one; for if you be not minute in your inquiries then, you will form perhaps an incorrect opinion, and you will seldom be undeceived in your subsequent visits. You should review at every future visit the grounds of your opinion, which will also enable you to state whether the patient is better or worse.

2. A proper sympathy with the feelings of the friends,—and especially if the case be serious; for you should ask yourself "What are involved in the event of this case?"—The life of the patient and the happiness of the patient's friends. It becomes you, therefore, in all cases of a serious character to show the most sincere attention to and sympathy with the feelings of the friends, more particularly about a dying bed or if the case be one which is at all likely to terminate fatally. Then you should redouble your attentions, and recollect that the death of the patient involves not only the parting from his friends; but it is the desolate hearth for years to come; the absence of that form which never can be seen again; of the sound of that voice, of the echo of that tread, which never can be heard again; it is the dull and melancholy chasm which must remain through the rest of this life. Nothing is so repulsive as the slightest display of any thing like inhumanity or the want of sympathy, under these circumstances. It is well to study human

nature so as to enable you to suppress your own feelings and preserve your temper, unless when your honour is affected, and then you may display all the energies of your mind.

3. Due caution with regard to your own reputation.

You must have a proper regard to your own character, recollecting that your opinions completely involve your reputation. I recommend you never to entirely give up a patient for lost; for what Bacon called "the accidents and issues of disease" are extremely uncertain. You should also take into account the uncertainty of all human opinions. The most enlightened men now and then commit errors; and if you carelessly say that any case is entirely hopeless, the friends will immediately call in another practitioner, and conclude you must be mistaken entirely if the patient recover.

Miss Seward, in her Memoirs of Dr. Darwin, mentions an anecdote, which will illustrate this subject:—When Darwin went to Lichfield he was a very young man. An old physician having a patient very ill gave him up entirely. The friends, however, sent for Darwin, and the patient ultimately recovered. The consequence of this was that Darwin soon "eclipsed the hopes of an ingenious rival, who resigned the contest; nor afterwards did any other competitor bring his lamp into that sphere in which so bright a luminary shone."

And I have seen a similar instance since my residence in London. One morning I was sent for to see a gentleman who was labouring under fever, with some degree of collapse. I made an engagement with his physican to see him at a certain time, but he did not keep his appointment, and I waited half an hour longer than I should have done. I went up and saw the patient as his physician did not arrive, and, as a point of delicacy, I stated my opinion in writing. When the physician saw it he flew into a great passion, and left the house, saying, "You may do what you please, and the patient will die." The patient, however, recovered. This shows the absurdity of abandoning all hope.

One medical man should pay that respect to another which he himself expects to receive. Besides, he should remember the value of a medical man's time. Time is his estate; and, therefore, I recommend you always to be very punctual in your engagements.

Independent of meeting other medical men in consultations, you should, when you make an engagement, endeavour to avoid being after the time. Remember that your patient may be anxiously waiting your arrival, and his friends may be expecting you.

And, above all things, be punctual for your word's sake; for if you do not speak the truth and perform your promise in trifling matters, your patients and their friends will be apt to suspect your veracity on more important subjects.

Always state your opinions in that oracular manner which never excludes hope. Say, for example, that your fears greatly preponderate over your hopes, though the patient may possibly recover. Never exclude hope entirely; for sometimes it may happen that the patient will recover, and such a circumstance may destroy your reputation. Another point of great importance is—

4. The communication of confidence in your judgment.

The man who mistrusts himself can never possess the confidence of the public. It is surprising how much the manners of different individuals tend to communicate confidence in their opinions; and, indeed, that is an acquisition which it is very important to obtain. If any man want confidence of manner it is very soon perceived. The public, too, will very soon discover it, if his opinions be not clearly given, and especially if he be an alarmist. If he express any doubt about the issue of the case, or about the nature of the case, another practitioner will be called in, most probably to the injury of his reputation.

Nothing betrays greater ignorance than to be relying constantly on consultations. If a general practitioner be constantly calling in a physician, he never can expect to gain the confidence of the public; for he loses all the occasions of communicating confidence in his own judgment, by appealing incessantly to the opinions of others.

You should consider three things with respect to consultations.

In the *first* place, the medical man should have the most correct acquaintance with himself. If the medical man feel that he understands the case clearly, and if he feel certain that he can bring modern medicine to bear upon it, then it is far best to take the risk, both for his own reputation and for the welfare of the patient.

Nothing has shocked me more than to see three or four or half a dozen men meeting together in consultation upon any case; for, generally speaking, what is done best is that which is done by one or at the most by two individuals.

In the *second* place, if you have the slightest doubt in your own mind, either of the nature of the case or of the proper treatment of it, it is your duty to mention it to the patient's friends. You may say that there are one or two points about which you would wish to have some conversation with a second person. Always fix upon a

person of talent and integrity, for the sake of your patient and for the sake of your own character; for there are some men who are constantly striving to raise themselves by depressing others.

In the *third* place, you should request a consultation (especially if you be a young practitioner) if you see the patient is going the wrong way. Under these circumstances the friends will wish to see some other medical man; and it will be some consolation to them that the patient, before he died, was seen by some practitioner of established reputation and character. If, therefore, you think it at all likely that the case will terminate fatally, always request a consultation, as a point of safety with regard to your own character, and of consolation to the friends.

A great deal may be done by careful observation with regard to the prognosis or probable termination of diseases. By attentive observation we acquire a knowledge of the cause and constitution of natural phenomena as displayed in the material world; and if we notice the particulars of many cases minutely, by close observation of the symptoms of diseases and of the effects of remedies, we arrive at certain general results as to their terminations, and are enabled under similar circumstances to predict with very great certainty how the case will end. The public deem this prophetic power almost intuitive; but it is only to be acquired by most laborious investigation; and it should be used with caution, lest you excite false hopes or groundless fears. To give a correct prognosis a medical man should possess an acquaintance with the principles of pathology, which he must bring to bear on the particular case, having examined minutely all the circumstances of it. So, too, he must ascertain what have been, and probably will be, the effects of remedies in that instance.

Two great errors are committed in the delivery of prognosis.

One set of men, who are generally weak in intellect, are great alarmists. And some well-informed men, who dislike the profession and are ignorant of it commit the same error. They are like the boy in the fable, continually crying "wolf," till no one heeds what they say.

Not one person in ten thousand can, without injury, be told that he will probably die. Be candid, however, to the friends.

Be not too desponding, or you will never maintain the confidence of the public; but you will in fact be superseded by others less timid and less desponding than yourself.

Another error is being too sanguine; and this extreme will often lead you into great difficulties. I know a physician who, after great experience, was excessively sanguine, so that he was con-

stantly getting into scrapes, and was at length ousted by a young man.

Old women are generally excessively inquisitive on the subject of the prognosis, and frequently tease the practitioner on leaving the house. They take no interest in the welfare of the patient; and, without caring a straw for his life but from sheer curiosity to know the event, they pester the medical man for his opinion. They look upon him as a fortune-teller, and expect him to gratify their idle inquiries. The best way to manage these persons is to speak oracularly, and to treat them with civility, for they often have great influence. A slanderous tongue frequently does a medical man a great deal of mischief. Although, therefore, I would not have you reverence any thing solely because it is old, yet I recommend you to venerate the old ladies.

PROGNOSIS OF PHRENITIS.

In the first stage there is generally very considerable hope of recovery if the patient be rightly managed, and if there be no traces of organic disease. The effect of remedies is generally remarkably powerful in this stage.

As long as the pain and fever remain the prognosis should be cautious, but if they both decline, the patient will generally recover well.

If the vomiting be urgent and the bowels be remarkably constipated in the first stage the case is always serious.

In the second stage, as long as you can rouse the patient, by loud speaking or shaking, into a sensible state, so long the prognosis is not hopeless. But when utter insensibility occurs the case is generally, though not always, hopeless.

With respect to delirium, consider whether it be constant or occasional; whether it occur in the first or in the second stage. If constant, night after night and day after day, it is always extremely alarming; if only occasional, it is seldom alarming if rightly managed. It is more alarming in a confirmed drunkard than in a person of sober habits. Very few drunkards recover from inflammation of brain compared with those of temperate habits.

As long as ever and anon a pause in the inspiration is followed by a deep-drawn sigh, the prognosis should be cautious. When the breathing is embarrassed in all affections of the head the prognosis should be very guarded.

Towards the commencement of the stage of torpor, the pulse, from being one hundred and thirty in the first stage, in adults,

falls to one hundred and twenty, one hundred and fifteen, one hundred and ten, and then, perhaps, to one hundred; and if you were guided by this you might expect recovery: but when the pulse becomes slower and the brain is more and more oppressed, it is generally a sign of effusion into the ventricles and between the membranes of the brain. The pulse generally becomes quick again before death. The quickest pulse I have felt was in this stage of phrenitis: it could not be numbered. I can count a pulse of one hundred and eighty. In one form of inflammation of the brain where the substance is inflamed, the pulse at first is very little quicker than natural and the heat scarcely above the natural standard. In these cases the prognosis generally is a very serious one.

So long as the head continues hotter than natural you may be certain that inflammation exists in the brain; and as long as it exists, especially with throbbing about the carotid arteries, be cautious in the prognosis.

If the patient be preternaturally quiet or preternaturally restless, from turgescence, in the one case of the brain, in the other of the membranes, be guarded in the prognosis. Far more patients, however, recover who are preternaturally quiet than who are preternaturally restless. The quietude frequently arises from a coexistent bronchitis. The patient lies as if asleep, but you can rouse him and he gives precise answers while there is no danger.

If the bladder have not the power of expelling its contents the case is generally very serious.

If the pupil be preternaturally contracted throughout inflammation of the brain; so, also, if it be extremely dilated, the prognosis is unfavourable.

If in the advanced stage a swinging motion of one arm or leg occur, and if one arm or leg be moved more than the other, it is an unfavourable circumstance.

A squint is generally, but not always, mortal; a vacant stare is mostly a mortal sign.

Tremor of the hands hardly ever occurs till the last stage. I have known the patient recover after excessive tremor; but when it occurs be very cautious in your prognosis.

A patient will lie insensible, blind, deaf, and lost to all surrounding objects; yet suddenly he sees, hears, recovers his intellectual faculties so far as to inquire about his friends, and then suddenly he sinks and dies. Nurses call this "lighting before death."

You frequently find very great mischief in these cases.

In all cases of phrenitis trace the history backwards, to ascertain

if there were any organic disease previously; because it very often happens that when acute inflammation suddenly arises, it is only the winding-up of a chronic disease existing long before. This is most frequently the case with persons advanced in life; and, upon examination after death, organic disease is found.

In many children inflammation of the brain is preceded by bronchitis or sub-acute muco-enteritis.

In bronchitis the child becomes more and more heavy. When quite insensible and torpid the prognosis is unfavourable, especially if the veins on the forehead be much distended.

Inflammation of the brain in muco-enteritis sometimes comes on slowly, sometimes rapidly.

Ulceration of the mucous membrane of the small intestines is very frequently the cause of fatal phrenitis in young children.

PROGNOSIS OF THE BRAIN FEVER OF DRUNKENNESS.

If the pulse be very small and very rapid give the prognosis guardedly, especially if the patient be a confirmed drunkard.

So, also, you should give a guarded prognosis if the skin be excessively damp and relaxed, and still more if the breathing be weak and hurried.

If the pupil be contracted with strabismus, or if it be excessively dilated, be very much on your guard to sustain the patient's strength; for if he then be kept too low, or be confined and struggle, very frequently he dies in convulsions. You may frequently prevent convulsions, or remove them, by wine: they are often announced by dilated pupils, very feeble respiration, a pallid face, and a very small pulse.

PROGNOSIS OF INFLAMMATION OF THE SPINAL CORD.

If there be violent pain or numbness in the extremities, with loss of power; if the bladder have lost the power of expelling its contents; if there be dribbling of the urine; if the breathing be weak, the pulse small and rapid; and especially if there be a tendency to convulsions, the case is very serious.

PROGNOSIS OF CYNANCHE TONSILLARIS.

If it occur singly, the tonsil and adjacent mucous membrane alone being inflamed, the prognosis is generally very favourable.

When it happens that first one and then the other tonsil is inflamed and suppurates, even in strong subjects the irritation is sometimes so great as very much to affect some other organ, espe-

cially the brain. And if not, yet the strength may be excessively broken up, and if it occur in cold weather, consumption, or some other tubercular disease, may supervene if the patient be not cautious after the attack.

If ulceration take place in cynanche tonsillaris when the individual is weak, the inflammation is very apt to invade the larynx, especially in young children. The continuity of mucous membrane is a very important subject both physiologically and pathologically. You have an example of this in simple excitement or in inflammation of the mucous membrane of the ilium; the effect of which in children is itching of the nostrils, so that the child is incessantly scratching or picking its nose. Sometimes it extends over the whole skin, and the child picks pieces out of its flesh.

PROGNOSIS OF CYNANCHE LARYNGEA.

Be guided by the continuance or the abatement of the pain, and by the mode in which the patient breathes.

He breathes as though he were sucking the wind up, with a dry sort of sound, as long as the inflammation continues.

In the worst cases the voice is suppressed, or is a mere whisper, or a hoarseness.

While the breathing continues to get quicker and more laborious, and while the pulse increases in frequency, be extremely guarded in your prognosis; for the inflammation then is advancing.

If the inflammation be about the epiglottis and the rima glottidis the voice is becoming more distinct as the complaint abates; and there is generally a very prominent, enlarged, and alarmed expression of the eye as long as laryngitis goes on.

When the respiration has become more and more laborious; when the prostration of strength is evidently increasing; when the pulse is quicker and quicker, and the cough continues suffocating, with a whisper or hoarseness of voice; and when all ordinary remedies fail; I would in every such case recommend an operation.

Sometimes the patient dies very suddenly in these cases, apparently of a spasm.

The great objection in general to the operation is the co-existence of a bronchial affection with that of the larynx.

In one case it was successful though a bronchial affection did exist.

PROGNOSIS OF CYNANCHE TRACHEALIS.

Be guided chiefly by the sound. As long as the crowing, barking, croaking raven sound exists with a hot skin, a quick pulse,

and difficulty of breathing, so long be guarded in your opinion as to the result.

The abatement of these symptoms are all favourable signs.

PROGNOSIS OF BRONCHITIS.

Almost all patients do well who have a cough so deep, so strong, and so sweeping as to clear out the bronchial passages from the accumulation there, especially if too much be not done by the physician. The cough is the only means of expelling the mucus, and the patient's safety depends on the cough. If the quantity of mucus secreted exceed the quantity expectorated, suffocation will be the result; and the danger is in the direct ratio of the secretion and expectoration. I believe that large opiates kill many patients in bronchitis.

The expectoration in bronchitis becomes more and more transparent as the patient verges towards recovery, until at last it becomes as clear as water. In bad cases the expectoration is generally opaque.

If the respiration become less and less laborious it is very favourable.

If the lips be purple and leaden, the nearer they approach to the natural colour the more favourable is the prognosis.

The face is of three colours in bronchitis.

1. In pale infants there is a leaden pallidity while bronchitis continues. When it disappears it is all the more favourable; and so in adults.

2. In many adults the cheek has a purple or plum colour, and the deeper it is the more dangerous is the case.

3. In some swarthy individuals there is a remarkable tawny appearance, which is generally an unfavourable circumstance while it continues.

If the pulse grows quicker and quicker the prognosis is unfavourable, and especially if the patient lose strength.

PROGNOSIS IN PNEUMONIA AND PLEURITIS.

If the pain be removed by remedies it is favourable. If the cough, if the catch, if the difficulty of breathing, be removed, it is favourable.

If the cough continue; if the catch continue; and the respiration become more laborious and more quick, all these are unfavourable signs.

If the pulse become quicker and quicker, if the fever increase, or the anxiety of countenance increase, it is unfavourable.

If the colour of the face or lip become more purple or leaden, it is unfavourable; and the contrary are favourable signs.

Be guided by Laennec's instrument too, taking care neither to expose the chest to cold air nor to fatigue the patient.

In the third stage of pneumonia shivering sometimes occurs, and announces the formation of pus or infiltration into the cellular connecting membrane of the lungs in some cases, but not in all. Some patients spit very copiously of pus without injury; nevertheless, be very much upon your guard.

In all cases of cough with fever never allow the patient to go about till the cough has entirely left him; for, in chronic inflammation of the lungs the pleura or the bronchial lining, if the patient go about, a serious and permanent chronic disease is often established. Many patients lose their lives from chronic inflammation of the lungs supervening on pleuro-pulmonitis.

PROGNOSIS OF PERICARDITIS.

If the pain be removed, the prognosis is favourable; if it continue, it is unfavourable.

If motion create pain in the side or a tendency to syncope, it is unfavourable; if not, it is favourable.

If the pulse be slow and of standard frequency, if the fever lessen, and the breathing cease to be anxious, and the patient cease to have an anxious expression of countenance, it is favourable.

PROGNOSIS OF MUCO-GASTRITIS.

If vomiting be absent, the prognosis is generally favourable; if present throughout, it is very unfavourable.

If pain be present, it is unfavourable; if absent, favourable, especially in acute inflammation; but sub-acute inflammation frequently goes on in mucous membranes without pain. Mucous surfaces generally are not very sensible.

If the pulse become quicker and quicker, and the tongue vividly red at the tip; the breathing disturbed, and the strength more prostrate; if the heat of the epigastrium become higher and higher; be guarded in your prognosis.

PROGNOSIS OF MUCO-ENTERITIS OF THE SMALL INTESTINES.

If pain be absent, the prognosis is favourable, if all the other symptoms be favourable.

If the tongue be red at the tip and round the edges, or down the centre, or over the whole surface; if the heat of the belly con-

tinue pungent; if the stools be bloody; if the pulse become quicker and quicker; if the skin continue hot, and the face have a sunk expression; you may be certain then that the patient is going the wrong way.

PROGNOSIS OF MUCO-ENTERITIS OF THE LARGE INTESTINES.

If it assume the form of—

DYSENTERY,

so long as the griping pain and desire to go to stool continue, with straining and blood, the case is dangerous.

The absence of tormina, tenesmus, straining, and blood, are all favourable circumstances.

The discovery of any degree of pus in the stools is a very alarming circumstance. I have seen pus, after death, both in the small and large intestines in these cases, the ulceration having extended upwards as far as the ilium.

It sometimes winds up by exciting peritoneal inflammation: the pain is acute, and the pulse becomes very rapid, and the breathing extremely hurried; the belly becomes more hard; the tongue either very remarkably red at the tip and edges, or particularly smooth and not very red; the countenance is very anxious, with very often a degree of reverie; and the patient sinks and dies rapidly.

PROGNOSIS OF SERO-GASTRITIS.

If the vomiting cease, it is favourable, with other favourable circumstances; if it continue, it is the most unfavourable circumstance you can have.

If the pulse become quicker and quicker, the prognosis is unfavourable; if slower, it is favourable.

If the breathing become more rapid, it is unfavourable; if slower and slower, it is favourable.

If the skin become cooler and of a natural warmth, it is favourable. If the surface be cold, provided the pulse become small and quick and the breathing hurried; if the expression of the face become more and more anxious and sunk, and the strength fail; it is very serious.

In sub-acute inflammation pain may be absent, with all the other signs unfavourable.

PROGNOSIS OF SERO-ENTERITIS.

Be guided by the vomiting: the presence of which is unfavour-

able, and its absence favourable; by the pulse: which, if the prognosis be favourable, is slower; if unfavourable, quicker; and by the breathing: if it be quicker, it is unfavourable; if slower, favourable.

So, also, if the skin continue hotter in the first stage, and clay-cold in the last, it is unfavourable.

Constipation throughout the progress of the case, especially with extreme distention of the belly, is very unfavourable. This distention arises from a large generation of flatus in the intestines.

In all abdominal inflammations, if the belly feel hard, like a board, it is a very suspicious circumstance.

If the patient lie on his back, with his legs drawn up, and a very rapid pulse, you may conclude that there is some very destructive inflammation.

In abdominal inflammation there are two stages;—a stage of excitement, and a stage of collapse.

In the stage of collapse it is invariably mortal.

The stage of excitement, generally, is much more rapid in serous inflammation than in mucous inflammation, except in sudden inflammation of the mucous membrane of the stomach and intestines. But inflammation of the mucous membrane is generally sub-acute, and goes on two or three weeks.

In the stage of excitement there is pain if the inflammation be going on; in the stage of collapse it is generally absent.

In the stage of excitement the pulse is quicker than natural, but generally has considerable power and is stronger than natural, especially if serous inflammation exist; in the state of collapse it is quick, but small and thready.

In the stage of excitement the heat is higher than natural in all parts of the body; in the stage of collapse the skin becomes damp and clay-cold, first in the extremities, and then in the trunk.

In the first stage the breathing is quicker than natural; in the second stage it is more and more rapid, and more and more weak.

In the stage of collapse the belly is more distended in serous, more contracted in mucous, inflammation.

In the stage of excitement the expression is anxious; in that of collapse it is sunk, and there is a hollowness about the eyes.

In many of these cases you may perceive a peculiar odour about the patient several hours before death.

I saw a patient with Mr. Johnson, of Rotherhithe: when I first entered the room and stood at the bed-side, I smelt this faint, earthy, sickly odour, and I became so sick that I was obliged to

sit down. I have never known a patient recover from this. It is so sickening to me that the impression remains three or four hours. When you perceive it be exceedingly upon your guard.

Be exceedingly cautious with respect to the pain.

I once attended a patient with a very eminent physician, who is now dead, and for whose opinion I had the highest respect. He was deceived because there was no pain. He examined the patient and coming down stairs told me that it was evident there was danger, but he thought not immediate danger. He asked my opinion, and I told him I was sure the patient would live at most but very few hours. He returned to the patient, and having examined him more carefully, told me that what I had predicted was quite correct for the patient was certainly dying.

This shows how necessary it is to pay great attention to the patient before you should venture to give an opinion as to the issue of a case; for a false opinion will tend very much to injure the medical man in the opinion of the patient's friends; and their influence may be extensive.

PROGNOSIS OF HEPATITIS.

Remember that chills frequently occur without suppuration: these ague-chills are followed by a hot stage. When suppuration takes place after acute or sub-acute inflammation, the cold shiverings are generally very distinct and complete.

So long as pain on pressure remains be on your guard; for chronic inflammation often remains.

If abscess of the liver form, the case is not necessarily fatal. Sometimes the pus is passed by stool by ulceration through the intestines. Sometimes the abscess breaks through the diaphragm, and the patient spits up pus and bile, but recovers. Sometimes the abscess points externally. I had such a case: an immense quantity of pus was discharged from a large tumour, and the patient became emaciated and hectic, but afterwards was as strong as ever again. Yet it very often is fatal.

PROGNOSIS OF NEPHRITIS.

If the pain and fever leave the patient, the prognosis is favourable, provided there be no pus in the urine.

Sometimes one kidney suppurates and opens externally, but more commonly the pus passes by the ureter.

PROGNOSIS OF CYSTITIS.

Be guided by the pain, and desire to make water, and slime or

blood in the urine. If these be absent the prognosis is favourable. If they continue, and the fever continue, the case generally ends mortally.

Generally speaking, inflammation of the internal organs is more fatal in weak subjects than in strong subjects.

1. Because it runs a more rapid course in persons who are weak than in strong individuals.

2. Because in the mucous membranes it is more apt to run into ulceration.

3. Because the remedies we employ have a less effect locally, and a greater effect generally.

If common inflammatory fever occur early in the stage of congestion, we must not be so much alarmed as we should when it occurs very late in congestive fever, when the patient's strength is worn down; for then it is generally fatal.

If it arise in an early stage of simple fever it is not of so much consequence as when it arises in a later stage; for then it is very dangerous, as the strength is then subdued.

LECTURE XXX.

COMMON INFLAMMATORY FEVER.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, PATHOLOGY, DIAGNOSIS, PROGNOSIS, AND TREATMENT, OF ACUTE, SUB-ACUTE, AND CHRONIC RHEUMATISM.

IN this lecture I shall make some observations on Rheumatism, or what is often called Rheumatic Fever.

The word rheumatism implies an hypothesis, the affection having formerly been supposed to depend upon some disorder of the fluids.

PREDISPOSITION TO RHEUMATISM.

Rheumatism prevails in the different members of some families very remarkably; and when this tendency exists hereditarily, inflammation of the pericardium, enlargement of the heart, and inflammation of the sclerotic coat of the eye, are very common, and inflammation of the iris is not uncommon.

The tendency to rheumatism, however, is generally acquired, and that from four sources.

1. From a break-up of the general strength.
2. From exposure to a high or low, but especially to a variable temperature.
3. From disorder of the stomach, liver, or bowels.
4. From previous attacks.

REMOTE OCCASIONS OF RHEUMATISM.

The common exciting occasion of rheumatism is cold—a low temperature, but especially a variable temperature.

At Demerara it is very prevalent; for there the variations of temperature throughout the day are very great. It is most prevalent in this country in winter and spring, when the temperature is very variable; but it sometimes is prevalent in summer, especially in those summers when north-east winds prevail; for then the mornings and evenings are very cold, but the middle of the day is often excessively hot, and there is a range of 10° or 12° of the thermometer in a day.

Rheumatism occurs most frequently either in frosty or in rainy weather. In frosty weather additional clothing should be worn; and in rainy weather the clothes if wet should immediately be changed.

If an individual get drenched with rain and rest while he is wet, he is very liable to an attack of rheumatism; but if he continue walking and change his clothes immediately he gets home, he may probably escape without this affection. Therefore a person getting wet on the top of a coach is very liable to an attack of rheumatism. And it arises in individuals who are predisposed to it from putting on damp linen.

A friend of mine was very curious about his linen, and was accustomed to weigh it when it came home from being washed; and then, after drying it before a fire, he weighed it a second time, and always found a considerable diminution of weight.

Persons travelling often contract rheumatism from changing their beds. At some inns they have an abominable habit of wetting sheets and placing them between a press, and then putting them on a bed a second and a third time. Therefore, persons sleeping at inns, particularly those who are predisposed to rheumatism, should see that the sheets are well aired before they are put on the bed, or they should sleep between the blankets.

Currents of air produce rheumatism.

A medical man, a friend of mine, has had several attacks of rheumatism from sitting in a small study, through which there were several currents of air; but he has never had an attack since he has been in the habit of sitting in a large room.

Commercial men, by exposure to currents in small offices, and studious men living in small apartments, are liable to rheumatism.

A medical man once told me that rheumatism occurred less frequently in Germany than in England, and he believed one reason of this was the different method of heating rooms. Our apartments certainly have a very considerable range of temperature.

The affection called rheumatism, like gout, assumes three characters: 1. An acute character; 2. A sub-acute character; and 3. A chronic character.

When the external inflammation has the acute or sub-acute character there are pain and fever, both of which are considerable: being most urgent in the acute, and less so in the sub-acute form. When the external inflammation is chronic it is distinguished from the acute and sub-acute, generally speaking, by the absence of fever.

SYMPTOMS OF ACUTE AND SUB-ACUTE RHEUMATISM.

If the inflammation of an external part be seated about a joint, when the limb is at rest the uneasiness is a numb aching pain, attended, in the acute and sub-acute character, by, generally, a slight degree of redness and swelling, and higher heat in the part affected than in the surrounding parts. The pain is increased especially by motion. The blood drawn from the arm is remarkably buffy; and if you abstract blood, as long as the pulse is quicker and the heat higher than natural it will show the buffy coat. The pulse is quick, and generally very expanded; the heat on the surface is generally very high; and the skin generally damp, at least at times. There is considerable thirst; a thick white fur on the centre of the tongue; and the urine is almost always scanty and high coloured, depositing a pink sediment.

The fever has a tendency to subside very remarkably toward the morning, and to increase toward the evening. This abatement generally comes on in the morning with perspiration; and in the evening again the skin is hot, and there is an increment of the fever.

The pain has various seats. Rheumatism especially attacks the larger joints and the fibrous membranes; the ligaments and fasciæ covering the muscles are often the seat of the affection

Sometimes the serous membranes, the bursæ, and synovial membranes, are affected; sometimes the muscles themselves are the seat of the disease. Sometimes it attacks both external and internal structures—the intercostal muscles, the pericardium, the muscles of the bowels; and sometimes it distinctly follows the course of the nerves, existing either in the sheath or in the substance of the nerves, or in both; and in some cases slightly attacking the skin, though the skin is less affected in rheumatism than in gout.

The pain in the muscles is sometimes spasmodic; and it should then be attentively watched; for it is very likely suddenly to become inflammatory. When this spasmodic pain is situated in vital parts you should observe it very particularly, that if it become inflammatory no time may be lost before you attempt to arrest it.

The duration of acute and sub-acute rheumatism is various: if not checked in the very onset it very often is protracted. If it have gone on four or five days without interruption you may diminish its violence, but you cannot remove it in a few hours as you can inflammation of a serous membrane. It has then generally a determinate duration.

PATHOLOGY OF ACUTE AND SUB-ACUTE RHEUMATISM.

Rheumatism, like gout, is sometimes a complicated affection, though very frequently it is a simple affection.

1. It may be considered as a simple affection when the inflammation is seated externally, as in the joints, ligaments, bursæ, fasciæ, muscles, and nerves which are running externally. Here you have fever, with inflammation in some external part only.

2. It may be considered complicated when, in addition to this, there is some internal inflammation. This is very common; and, therefore, it is important that you should investigate the internal pathology in every instance.

There are two ways in which a patient may have an attack of internal inflammation in rheumatism:—

1st. From excitement. The heart's action and the animal heat being increased when the external inflammation is acute or sub-acute, the predisposed part may suffer.

2nd. From what has technically been called metastasis, or translation.

It sometimes happens that translated rheumatism occurs, like translated gout; but it hardly ever occurs, except when disorder of

the alimentary canal is joined with it, or the individual is suddenly exposed to a chill.

The internal inflammation is mostly seated in some fibrous membrane, as the dura mater, or the pericardium; but it may spread to the serous membranes; for instance, the pleura, and peritoneum.

I saw an army surgeon who was in the first instance the subject of simple rheumatism. In a short time his liver was inflamed, because it was predisposed, for he had long resided in hot climates; and the inflammation of the liver soon became so violent as to form the leading point of the affection.

I was called to attend a lady who had simple rheumatism. In the progress of the affection the bowels, which were previously disordered, became distinctly inflamed. She afterwards became hysterical, and after that maniacal.

Remember, that however a disorder begins it does not follow that it shall assume the same character throughout its progress; it may be combined with some other affection as it proceeds.

I saw a gentleman who laboured under a very slight attack of rheumatism. He had a sister-in-law in the house who was in the last stage of consumption. A violent shriek from some part of the family led him to suppose that the fatal event had taken place, and this suspicion was confirmed on inquiry. The shock communicated by the intelligence was so great that he sunk into a state of extreme depression, which was succeeded by a stage of excitement, and he had inflammation of the bowels, of the air-passages, and of the pericardium, and, in fact, of almost every structure in the body, and sunk and died with great rapidity.

I have seen many cases where the internal inflammation has arisen from what has been called a metastasis or translation,—terms which we do not distinctly comprehend. This metastasis frequently happens when the stomach, liver, and bowels, are affected. There seems to be some strong connexion between these organs and the animal heat and nervous fluid (for there seems to be such a fluid). It generally happens that there is a retrocession of external heat; and thus the internal parts become affected. By increasing the temperature of a foot in gout, the affection may be translated to it from the hand.

I know a gentleman who can at pleasure translate gout from the hand to the foot, by increasing the temperature of one foot and decreasing that of one hand.

The fact at any rate is indisputable, that these inflammations do occur, and sometimes suddenly and to a great extent.

I was called to attend a lady in the morning, and she then had inflammation of the hip. In the afternoon I was again sent for, and found that the pain had suddenly left the hip and was fixed in the bowels: and she had acute inflammation of the bowels, which required copious blood-letting for its removal. She ultimately recovered, although she had simultaneously inflammation of the peritoneal and mucous coats of the intestines.

I had a patient, who was admitted into the Fever Hospital while labouring under typhus fever, from which he recovered. As I had not then a convalescent ward, he was, during his recovery, exposed to a current of air, and had rheumatism of his right elbow and shoulder. For some hours daily the affection left these parts, aud attacked the dura mater, returning again to the elbow and shoulder after a time. At last it became permanently fixed in the dura mater and brain, which were violently inflamed, and he sunk with great rapidity. On examination after death, the dura mater, pia mater, and tunica arachnoides were very much inflamed. The brain was inflamed, soft, and pulpy, resembling custard pudding.

A patient in the Fever Hospital, who had been accustomed to wear a flannel waistcoat, left it off when he was admitted. He had typhus fever, and during his recovery he had inflammation of the pericardium, so as to have a very narrow escape.

The pericardium is the part most frequently attacked by this translation.

In the progress of scarlet fever there is an affection occurring which precisely, or at all events very closely, resembles rheumatism, and which I think is the same thing. It arises commonly from cold.

A patient whom I attended had scarlet fever. He was an upper servant in the Charter House School, and was put under my care in the Fever Hospital. With the scarlet fever he had rheumatism in the ankle. He got up to a night chair during the night while the air was cool, and the inflammation left his ankle but the pericardium became inflamed. One hundred ounces of blood were necessary to be drawn in order to remove that inflammation.

I was called to see a gentleman the history of whose case is as follows:—He had long had disorder of the stomach, liver, and bowels, and had recently come to London to superintend an important concern. He contracted an attack of rheumatism, from which he was convalescent; but being very anxious to return to his business he went out too early, and had wandering pains particularly about the region of the heart, and a disposition to faint when he

moved. The family medical attendant found him on Sunday night with these symptoms, and a feeble pulse. He therefore thought proper to wait before he bled him. Next morning I saw him, and then he had an irregular and in some degree an expanded pulse, and pain in the region of the heart. When he talked he panted, and appeared out of breath, like a person who has been running; but on ceasing to speak his breathing was less troublesome. I directed him to turn on his left side. He did so, but turned himself very cautiously, and panted and heaved. The difficulty of breathing was somewhat relieved again by lying on his back, and keeping himself very quiet. His pulse was rather expanded; and though expanded, yet it was a compressible pulse. In the region of the heart the pulsation was very strong. He was bled to approaching syncope, and immediately afterwards took three grains of opium and one of calomel; which relieved him for a time. On visiting him in a few hours we found that he had the same symptoms in a subdued degree. We bled him again in the same decisive way, giving him afterwards two grains of opium and one grain of calomel, followed by colchicum. The next day he was quite convalescent.

These translations generally arise from cold; therefore remember to keep the apartment at a certain temperature by the use of a thermometer, and have a nurse in the same room with the patient during the night.

The sequelæ of rheumatism are various.

Rheumatic subjects are not only liable to acute pericarditis, but chronic inflammation of the pericardium not unfrequently occurs, and goes on under a very insidious character, as I shall illustrate hereafter; and chronic enlargements of the heart itself are not uncommon after repeated attacks. Chronic inflammation of the dura mater sometimes takes place; sometimes chronic inflammation about the joints, which in some instances assumes the character of strumous inflammation, or what is called white swelling. The bursæ sometimes become chronically enlarged; and this occurs especially in women. Sometimes the joint is remarkably twisted at the same time.

SYMPTOMS OF CHRONIC RHEUMATISM.

The most common form of sequela is chronic rheumatism, which is generally then more obstinate. But it should be remembered that chronic rheumatism very frequently arises as an original affection, independently of acute or sub-acute rheumatism, and

sometimes there is a slight degree of fever with it; but the general diagnostic between acute and sub-acute and chronic rheumatism is fever.

The pain in acute or sub-acute rheumatism is generally aggravated, but in chronic rheumatism it is sometimes alleviated and sometimes increased, by the warmth of the bed.

I saw a gentleman last winter who had chronic rheumatism, and the warmth of the bed prevented him from sleeping. On examining the quantity of the bed-clothes I found that he was loaded with blankets; and when some of them were removed his nights were comfortable.

Sometimes, however, in chronic rheumatism the pain is increased by the warmth of the bed. The part affected is stiff, cold, and slightly swelled, especially about the bursæ. The pain is increased by motion. There is very often a deposition of synovial fluid in the joint, which may be heard by moving the limb. The pain is almost always increased when the weather is changeable.

Chronic inflammation often breaks up the health, but especially when the sleep is disturbed; for then the stomach, liver, and bowels become affected. The term arthritis has been used as applicable to all forms of chronic rheumatism.

It affects principally the hands and feet, but sometimes various other parts of the body. Sometimes it attacks the muscles of the neck, sometimes those about the shoulder, sometimes the elbows, or ankles, but especially the knees. Sometimes it attacks the muscles and fasciæ of the back, and then it is called lumbago.

Sometimes it follows the course of the nerves, especially the sciatic nerve, and then it is called sciatica. This probably depends upon inflammation of the sheath of the nerve.

DIAGNOSIS OF SCIATICA.

I. FROM INFLAMMATION OF THE HIP-JOINT.

Be careful not to mistake this for disease of the hip-joint. You may distinguish these affections by attending to the following points:—

1. In sciatica there is no swelling; but when the hip-joint is inflamed there is some degree of enlargement of the joint, which will be evident if you compare the two hips together.

2. If you make pressure in the groin, especially in the direction of the trochanter minor, it invariably gives pain. Pressure suddenly applied under the foot gives pain, and that considerable, for then the head of the bone is pushed against the acetabulum.

3. The patient lies in a peculiar position so as to favour the hip-joint. Generally the spine is twisted in a contrary position, different to what happens in sciatica.

4. The pain in hip-disease is increased by motion of the joint.

5. The limb becomes first longer, and at last shorter, than the other. As the disease goes on for three weeks or a month, the leg is drawn up: in the first instance generally by a muscular affection; and then there is a sort of dislocation, so that the limb becomes permanently shorter; but sometimes, if there be a large effusion about the joint, the limb becomes longer. When ulceration has occurred the limb becomes permanently shortened.

6. And as the disease advances, you have almost always a wasting of the glutei muscles, arising from their state of inaction.

7. In inflammation of the hip-joint the pain is frequently more conspicuous about the knee than about the hip-joint. In sciatica the pain at first is felt in the hip, and afterwards extends to the knee.

Make a minute examination, and be not deceived by this circumstance, and you will be at no loss to detect the nature of the disease. Use your own eyes, ears, and head, and by all means get the history of the case from the patient himself.

II. FROM OVERLOADED COLON.

A circumstance which it is very important that you should remember is, that when the colon is overloaded with fæces, the leg is sometimes drawn up, with pain in the hip; and an affection is produced similar to scrofulous enlargement of the hip-joint. Even a thickening may arise about the hip-joint, if the patient lie on it long. Recollect, then, to examine the state of the bowels, and ascertain whether the colon is overloaded with scybala.

I have already alluded cursorily to one form of rheumatism of the chronic kind, situated in the back and called lumbago. Here you have pain on motion of the back with no swelling.

DIAGNOSIS OF LUMBAGO.

Lumbago may be distinguished

I. FROM PSOAS ABSCESS;

in which there is a pain about the back and loins, referrible to the spine generally; and the part especially affected is to be made out by pressure. But if you attend to the following points you will be in no danger of confounding the two affections:—

1. In psoas abscess there is uneasiness in the back with a sense of pain or weakness when the patient stands or walks; and this pain or weakness comes on very insidiously.

2. This generally is increased when the toes are turned far inward or far outward by rotation.

3. With your knuckles strike, but not violently, each vertebra separately, and you will find that when you touch that which is diseased the patient will flinch; and you may very often distinguish it by slight pressure.

4. The patient cannot use the lower limbs much without producing pain in the back.

5. Flexion and extension of the limb give a still more correct diagnosis, especially extension which produces distinct uneasiness in the back.

6. My friend Mr. Grainger has observed, that patients under this disease, in extending the limb from the back, draw the body at the same time forward to avoid giving themselves pain. If you tell the patient to extend the thigh, he generally does it very gradually, keeping the extension of the extremity and the flexion of the limb in a direct ratio to each other. Therefore, in drawing a diagnosis from the pain excited by extension, do not allow the trunk to be brought forward.

7. As the disease advances there is generally a tumour, with distinct fluctuation on coughing, either above the groin, as when the patient lies in bed; or sometimes below the groin, or in the thigh, as when the patient is erect.

When the patient has lain in bed the pain occurs sometimes in the loins.

II. FROM CHRONIC HEPATITIS.

One other affection may be confounded with lumbago, and that is chronic inflammation of the root of the liver. I once made this mistake.

I saw a naval captain with lumbago as I thought. He had rheumatic inflammation in other parts. I examined him minutely, and near the spine I found the root of the liver was inflamed; and this was made still more evident by an examination of the stools.

By pressing the liver backward and forward from the spine to the ensiform cartilage, and by inspecting the stools and urine, you will soon see whether the root of the liver is inflamed.

III. FROM OVERLOADED COLON.

An overloaded state of the colon is sometimes attended by pain

in the back as well as by pain in the hip. I have seen many cases of this kind, and the pain has ceased when the scybala have been dislodged. The overloaded colon may be known by signs which I have several times mentioned: by the irregular feel of the abdomen in the direction of the colon, and by the examination of the stools.

IV. FROM CHRONIC NEPHRITIS.

Do not confound lumbago with chronic inflammation of the kidney, but attend to the symptoms of that affection as they are enumerated in these lectures.

One of the best guides in the diagnosis is the effect of rising up and sitting down. In lumbago when the patient first attempts to rise the pain is extremely great.

V. FROM SYPHILIS.

Again, be careful in every case resembling chronic rheumatism to find out whether the patient labours under ternary syphilis.

I was consulted by a gentleman who said he had chronic rheumatism of the head; I found that he had a large node, and that he had been the subject, consecutively, of the primary, secondary, and ternary forms of syphilis.

In another instance a gentleman told me that he had suffered for a long time from chronic rheumatism of the leg; and he had also a syphilitic node, and had previously suffered from chancre, eruptions, and sore throat.

Be cautious, therefore, in your investigations, and if you find the patient has had all the three forms of syphilis, there can be no doubt of the nature of the case; and, besides, the aspect of the patient is usually unhealthy, attended with a faded, sickly, sallow, appearance of the skin; and with this alteration of the complexion there is some disorder of the mucous membrane of the alimentary canal.

There is another affection, differing in its pathology from chronic rheumatism, and of which I shall speak at length hereafter. It occurs, in persons who have disease of the stomach, liver, and bowels, that gout and rheumatism go together, and the affection is called rheumatic gout.

If the brain and spinal cord be chronically inflamed, the affection is sometimes called rheumatic palsy.

Be upon your guard in affections having a rheumatic character. Whenever disorder or disease of the spine exists, it always imitates rheumatism. Many cases which pass for chronic rheumatism are

really examples of pains which arise from chronic affection of the brain or spinal cord. When you are called to a case having either the acute, sub-acute, or chronic character of rheumatism, be on your guard; for serious affections of the brain and spinal cord are often first announced by wandering pains of the trunk and limbs, with some deficiency of power, perhaps, in the upper and lower extremities. You should, therefore, I repeat, be careful in examining, physiologically and pathologically, all cases which partake of the appearance of rheumatism. And if you compare what I have said of the indications of a sound and morbid condition of the nervous system with the symptoms as they occur, you will have no difficulty in making this important distinction; for if these cases be properly treated an attack of palsy or apoplexy may often be prevented.

PROGNOSIS OF ACUTE AND SUB-ACUTE RHEUMATISM.

If it be simple rheumatism the case is not dangerous, but if it be complicated with some internal inflammation it is very alarming.

In considering the

TREATMENT OF ACUTE AND SUB-ACUTE RHEUMATISM,

you will recollect that these forms differ only in degree, and require to be treated accordingly.

If the inflammation be external only, in the acute and sub-acute characters; if the patient be strong, and not far advanced in life—for instance, not past his fortieth year; if he be robust, and if he have been tolerably temperate, the best thing you can do will be to bleed him decisively. If you see the case early you will in this way almost invariably cut it short at once. But if the attack have been established for many days, especially if the weather be cold, it has a sort of determinate duration, and if you do not make an impression early, it is apt to be very protracted. If at an early period you abstract blood moderately from the arm so as to lessen the force and frequency of the heart's action and diminish the heat, purge the patient every morning, and give a drachm of vinum colchici at night: you will remove it in a few days.

If, however, the individual be weak, and have a pallid countenance, you will by such treatment do mischief; you will reduce the strength, perhaps, without removing the inflammation; and fever having the character of typhus may follow, and destroy the patient, who is already reduced in strength by previous disorder.

If the patient be robust and not very old, do not regard the quantity, but bleed him to approaching syncope.

If he be delicate, use local blood-letting by means of leeches, and use it till an effect is produced on the heart's action.

Then exhibit purgatives in the morning, and colchicum at night daily.

As purgatives I generally give calomel and rhubarb, with sulphate of magnesia and infusion of senna.

I give half a drachm or a drachm of the tincture of colchicum, according to the degree of debility of the subject; one drachm to a robust man, half a drachm to a delicate man. The powder seems to be quite as efficacious as the tincture or the wine. From three to five grains may be given, with from a scruple to a drachm of sulphate of magnesia, four times a day.

Recollect that colchicum is a dangerous remedy when sickness supervenes.

Under this plan all my patients recover, unless when the weather is very changeable.

Avoid a variable temperature by the use of a thermometer in the patient's room, and always endeavour to put the patient in a room which admits of the regulation of the temperature, so that it shall not range more than 5° or 6° in the day. Secure the patient from a variable atmosphere when he is recovering.

When these ordinary remedies fail to relieve rheumatism, two grains of calomel may be given with half a grain of opium every six hours with benefit; but the colchicum is far more efficacious.

Do not give too large doses of opium as some persons do to relieve the pain in rheumatism.

I saw a case in which a lady lost her life in that way.

Be cautious, also, about repeating large doses of opium, especially if you have not abstracted blood. If you have, in a case of rheumatism, given a large dose of opium in the first instance, give afterward a smaller dose.

If the affection become subdued but not removed, it must be attacked by milder measures, attending to ventilation and cleanliness. And in this state blisters are sometimes very serviceable.

TREATMENT OF CHRONIC RHEUMATISM.

I attach more importance to general management than to physic; and not only in chronic rheumatism, but in all chronic affections. If you do not attend to the diet your treatment will not be successful in acute or sub-acute diseases. In chronic diseases neglect of the diet will be attended, though slowly, with fatal effects.

An animal diet is best if there be no fever. If the patient be at

rest he should live on ten or twelve ounces of food in twenty-four hours. He may have an ounce and a half or two ounces of bread with a single cup of tea in the morning; four ounces of animal food and two ounces of bread, with a small quantity of vegetables, and a little white wine for dinner; and two ounces of bread with a single cup of tea in the evening. This will be sufficient; but if he require any thing else, he may have a piece of bread before bed-time. He should masticate his food slowly, and there should be an interval of four or five hours between any two meals. Very much will depend on the state of the weather. Be candid, and acknowledge to your patient the inefficacy of medicine without attention to diet.

Medicine, however, should not be entirely neglected. Keep the bowels open, and give occasionally small doses of calomel, or of blue pill, or of mercury with chalk, or of the grey oxide of mercury which is a preparation more neglected than it deserves to be.

As an aperient you may give cold-drawn castor oil; or infusion of rhubarb with a little magnesia or carbonate of potass if there be any acidity; or infusion of senna with some bitter.

Regulate the clothes and the exercise.

The stiffness which remains is best remedied by friction; and sometimes the efficacy of friction is assisted by some warm liniment, such as turpentine with ammonia, or a solution of sulphate of zinc with tincture of opium. A warm plaster is very excellent: a quaker in the Borough sells one made of cobbler's wax, which is very beneficial. Bandaging is sometimes very serviceable.

Use friction of the affected part, and let the patient walk moderately. When the parts are very stiff, with some degree of pain, exercise will remove both these inconveniences; and this exercise may be of different kinds, active or passive. He may use light dumb-bells if the hands be affected; and here also exercise will be very useful if cautiously taken, and if the patient be careful to avoid being chilled after it. Pulleys are occasionally useful by way of exercise for creating motion in stiff parts.

The vapour bath is an admirable remedy in chronic rheumatism, and it will be better if you can blend with it a small quantity of sulphur.

Colchicum may be given in small doses at night: half a drachm of the tincture, or one drachm of the wine of the seeds, or five grains of the powdered bulb, will be a sufficient quantity.

In these means united there is an efficacy not to be obtained from either of them singly: and thus you will generally get rid of rheumatism; if the weather be cold, not rapidly, but sooner than might have been anticipated.

One point of very great importance to be observed is, that if the temperature be too high in a room the affection is very often aggravated, and the patient passes a restless night; and the same thing may happen from having too many bed-clothes. Light clothing is best, if you keep the temperature of the room about 60°.

In some cases of chronic rheumatism minute doses of Fowler's solution do much good; two drops of the arsenical solution twice or three times a-day.

Another useful remedy is found in small doses of corrosive sublimate: one twenty-fourth part of a grain of oxymuriate of mercury in six ounces of infusion of red Jamaica sarsaparilla, twice a-day.

I have occasionally seen great benefit derived from mountain flax (linum catharticum): it seems to operate something like colchicum. I have known it succeed when other remedies have failed; and I believe it might be introduced into the London Pharmacopœia with benefit. It is a very popular remedy among poor persons.

Other means are recommended; and one remedy now very fashionable and popular in town is acupuncturation. Heberden observes,—and it is the most sensible observation he ever made,—that all new remedies work miracles for a time. The powers of acupuncturation, like those of every new remedy, have probably been much overrated; but it deserves a fair trial if all other means fail. It has answered in many cases.

An exceedingly useful remedy is the application of a caustic issue, especially in sciatica.

A gentleman in the north of England told me that he had a complete cure for sciatica; it was a family recipe, which had been handed down from time immemorial. He said he could not tell me what it was; but if I would send him a patient whom I acknowledged to have failed to cure, he would cure him. I had then such a patient, with whom I waited on this gentleman, who applied his remedy, which was caustic potass, bound tight in a bag. He applied it to the skin, and tied a compress over it till it had formed an eschar. This dead portion of skin he cut out with a razor, and put burnt alum and peas into the ulcer. A violent discharge was the consequence, with complete removal of the sciatica.

If I were the subject of sciatica, and other remedies failed, I would try this method. The issue should be made on the leg between the head of the fibula and the anterior spine of the tibia. This is a very old remedy, and is mentioned by Cotunnius, and even by Hippocrates. These remedies are handed down in pa-

ticular families after they have ceased to obtain the confidence of regular practitioners.

Lastly, when rheumatism has become obstinately established by a repetition of attacks sometimes a change of climate has exceedingly beneficial effects. But it should be your object first to give a fair trial to the remedies which I have mentioned; and under such treatment I believe chronic rheumatism will not be found so intractable as is generally imagined.

Be certain that the patient is attentive to your directions as to the regulation of the diet and drinks.

It is but too common to look for advantages from a change of residence or from plans difficult to be adopted; while more attainable, and yet equally effectual, measures, are neglected or but carelessly attended to at home.

Rheumatism is sometimes complicated with internal inflammation,—for instance, of the pericardium, from translation, as it is called; but acute inflammation far more frequently arises from the law of excitement operating on the weakest part. Such inflammation requires to be treated upon ordinary principles.

With respect to the prevention of rheumatism, it turns upon the avoidance of the predisposing and exciting occasions.

LECTURE XXXI.

COMMON INFLAMMATORY FEVER.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, AND PATHOLOGY, OF GOUT.

I SHALL in this lecture make some remarks respecting gout, which is only a small part of an extensive class of diseases referrible to particular sympathy.

All savage nations have certain traditional histories, made up partly of truths and partly of fictions. And we, as is well known, have our histories made of the same materials. Gout affords an illustration of this remark; and I shall endeavour, by separating the facts of the case from the fictions, to give you the result of an

impartial observation of the conditions comprehended under this term, and shall beg you to compare what I state with what you will see in practice.

The word gout, derived from *gutta*, like the term rheumatism, involves an hypothesis relating to a certain condition of the fluids. It is a very absurd term, comprehending partly an internal and partly an external affection. By the term gout is now generally meant some disease of the joints with indigestion, mixed up with vague symptoms set down by writers in dark ages, and only retained because men will not take the trouble of thinking for themselves.

PREDISPOSITION TO GOUT.

1. Gout, beyond dispute, deserves the name of an hereditary disease. To almost all the diseases which occur, except those arising from peculiar causes, there is a tendency in particular families. It has been said that a large head, broad chest and shoulders, strong bones, and thick, coarse, hard skin, evince a liability to gout; but I have seen it in many persons to whom quite an opposite description would apply.

2. It is more prevalent in males than in females; because the habits of females are upon the whole far more temperate than those of males: but we do sometimes see gout in females.

The Greek and Roman writers have noticed this subject, and also the English, especially Sydenham and Heberden, who all state that gout does attack females whose habits are intemperate, especially if they have an hereditary tendency to the affection. I have seen several women the subjects of gout.

One of my first patients when I came to London was a lady who suffered from gout. She was quite a blue-stocking; not a pale blue, but a deep blue-stocking, and with very short petticoats! She was very fond of showing her profound learning, and when I visited her she would enter into all the theories of physic from the days of Hippocrates to the present time.

When gout occurs in females the habits have always been more or less irregular.

3. Gout very rarely appears before the age of puberty; which, perhaps, is to be attributed to the more strict attention which is paid to the diet up to that time. I have, however, attended a gentleman under the age of puberty with gout; and a pupil at this school last year told me that before the age of puberty he had an attack of gout.

Heberden, who had an extensive practice among the nobility, in

which class gout is most prevalent, states that he never saw a case occurring before puberty.

4. The liability to gout, however, is sometimes acquired, and from those causes which directly or indirectly disturb the functions of the stomach, liver, and bowels.

The tendency to gout is found most remarkably in persons in whom there is acidity in the stomach. This was pointed out by Cheyne, an old writer on the subject.

Those who take acescent drinks, or the materials from which acescent matter may be formed, are very liable to gout. This may have led to the old idea with respect to the state of the fluids: the morbid secretions and excretions would lead to the notion that "a drop" tainted the whole mass of the fluids. Most probably the blood does undergo some change, which in the present confined state of our knowledge we are incapable of detecting.

Sydenham observes that gout occurs far more frequently among the rich than among the poor. But sometimes gout attacks poor persons too, especially in those countries where much cyder is drunk by the poor.

It occurs, also, in savage life. It was remarked by Rush that the American Indians, who drink new rum, are very subject to it.

Sydenham observes further, that more wise men than fools are attacked by gout; which is very likely, for wise men sustain much more anxiety of mind than fools. Their aspirations after knowledge, fame, power, &c., expose them to more vexation, anxiety, and other mental disturbances, than those dull beings whose thoughts never leave their own immediate atmosphere. And those mental emotions dispose to affections of the stomach, liver, and bowels, which lay the foundation of gout.

Previous attacks of gout leave a tendency, deeper in proportion to their number, to its return. Every attack of the inflammation renders the part weaker, and more disposed to be affected again in the same way.

Many consider this complaint as salutary, because they observe that their health is better than usual for some time after a fit of gout. The reason of this is obvious. It is because at this time the diet is regulated, and the depraved state of the secretions is attended to. The same circumstance occurs after many other diseases. The opinion that gout is salutary is very suitable to those individuals who are fond of good living; but the best test of the validity of this notion is the custom of the assurance companies.

Most men are more careful of their money than of their health. At the assurance offices a higher rate of premium is always required if the person whose life is to be insured be subject to gout; for it is full well known to be a disease which tends to shorten human life. What we wish we are apt to hope, and what we hope we are prone to believe; but in the teeth of all opinions I maintain that gout does not conduce to longevity.

There are two sorts of persons who are predisposed to gout, and both of these are plethoric.

In the one there is what the Greeks called πλεθώρα; marked by a roundness of pulse, a large proportion of crassamentum in the blood when drawn from a vein, and all the marks of general fulness.

The other class have a local plethora; an over-accumulation of blood about the liver for instance, while in other parts of the body there is a deficiency of blood.

THE REMOTE OCCASIONS OF GOUT

are very various.

1. One of the most common is some error in the quantity or in the quality of the diet or drinks, as is well known to gouty persons. A person who dines out and gets a good dinner now and then, soon finds the reason why he has a fit of gout. Some persons will eat of a great variety of dishes at dinner, and take several glasses of wine of different kinds; and it is not surprising that, when this has been done repeatedly, an attack of gout should occur, especially if there be an hereditary or acquired predisposition to it.

I have already alluded to the very correct observation of Cheyne, that gout is very often connected with acidity of the *primæ viæ*. Hard porter, or sour cyder, and other acid fermented liquors, produce it. Very few old individuals who drink spirits (with the exception of rum) are liable to gout; but those are more often attacked by it who drink either sour porter or cyder, or new or sour wine.

Some time ago I saw an old man whose health I found was completely broken up by repeated attacks of gout. I gave him strict directions about the regulation of his diet and drinks, which he followed. I sent him to Harrogate to drink the waters and use the baths. He came home perfectly recovered, and has remained free from attacks of gout by caution.

The main point of prevention turns upon the regulation of the diet and drinks.

2. Cold sometimes is the exciting occasion; but more frequently

the alternations of heat and cold, and especially a raw, thick, stagnant atmosphere.

Gout occurs less in summer than in winter; but if the surface be chilled, so that the blood retires to the internal parts of the body, an attack of gout may be the consequence at any time.

3. Mental disturbance may be the occasion: a highly depressing emotion of mind, for instance, will excite it, and so also will highly stimulating emotions of the mind, because they influence the digestion. They operate first on the nervous system, and then on the stomach, liver, and bowels. The depressing emotions act on the whole body directly, and produce exhaustion: they lead to a pallid skin, and disorder or disease of the stomach, liver, or bowels. The exciting emotions also operate directly; and the exhaustion is the consequence of the previous stimulation. They stimulate the heart's action through the nervous system, and create a state of general excitement; and the consequence is an attack of inflammation in the predisposed part. Hence gouty persons should regulate the degree and extent of their occupations and amusements as far as possible. Yet you should take care lest the individual become excessively hipped from want of employment. No individual of intelligence can be happy without employment; for if the mind be worried for want of occupation, the consequence of this state of ennui is that the stomach, liver, and bowels, become disordered, and the diet and drinks disagree, and produce acidity, &c.

4. Venery is in some way often connected with gout.

The Greeks had an opinion that Bacchus was the father, and Venus the mother, of gout. One of our modern poets says—

> "Immortal man is like a shuttlecock;
> "And wine and women are the battledoors
> "Which keep him moving."

And truly they do keep him moving briskly for the time; but between the two he is very likely soon to fall to the ground and get crippled. Wine stimulates in the first instance, but afterwards, by disordering the stomach, indirectly depresses the strength; and nothing disturbs the whole nervous system more than the collapse from excessive sexual indulgence.

5. Another remote occasion may be the excess or the relinquishment of customary exertions, whether physical or mental. There is no blessing so great as constant employment: those men who have nothing to do are generally miserable, or at all events far less happy than those who are constantly in action. Indeed, it has been said that the three exciting causes of gout are indolence,

intemperance, and vexation. It is very necessary to attend to the bodily exercise; for if it be deficient or excessive, the stomach, liver, and bowels, are apt to be affected; though there is far more danger from a deficiency than from an excess of exertion. I know one physician who used to say a man who wished to avoid gout should live upon a shilling a day and work hard for it. Occupation or action may almost be considered synonymous with happiness: but he approaches nearest to the attainment of this often sought but rarely found state, whose time is occupied in endeavouring to make those around him happy.

> "How various his employments whom the world
> "Calls idle, and who justly, in return,
> "Esteems that busy world an idler too."

6. The suppression of accustomed discharges, as from piles, or the catamenia, the arrest of periodical bleeding from the nose, or drying up a seton or issue, will bring on an attack of gout.

7. Copious evacuations have sometimes occasioned a fit of gout, such as copious blood-letting, or profuse purging, which first create debility, which is followed by excitement.

8. Constipation is a very common source of an attack of gout. Most individuals have the bowels confined before the fit comes on. If the colon be excessively surcharged with fæces, it tends very much to break up the general health and to produce those diseases which arise out of general debility. Lastly,

9. Gout may arise from any local injury, such as wearing a tight shoe, a blow on the foot or toe, or walking on a rough road. Any thing which creates local irritation will excite in predisposed persons inflammation which puts on the gouty character, while in others it may have the common inflammatory character.

I have already explained to you that inflammation from common occasions has a common character, and that inflammation from peculiar occasions has a peculiar character. The constitution also of the patient powerfully influences the character of inflammation, as is evident in gout. The external affection is a consequent, or sympathetic inflammation, mostly seated in the structure adjacent to the joints. And what would you guess to be the internal affection? It is no other than our old enemy with a new name—"irritation of the mucous membrane of the intestinal canal."

Gout, then, may be defined to be an inflammation seated about some of the joints, preceded and attended by disorder of the stomach, liver, or bowels.

Fever may be present or it may be absent. When the inflamma-

mation which thus arises in gout has an acute or sub-acute character, and when the irritation of the mucous membrane of the intestinal canal is considerable, it induces fever; the skin is hot, and the pulse quick. When it is chronic, and the irritation of the mucous membrane is less in degree, there is no fever present.

The foundation of gout is laid,—1. In the stomach; 2. In the liver; 3. In the small intestines; 4. In the large intestines; and 5. In the skin. The disorder in the stomach, liver, and bowels, may be primary, from remote occasions which influence these organs directly; or it may be secondary, and dependent on some affection of the brain, or other parts of the nervous system: but the affection of the stomach, liver, or bowels, is necessary for the production of gout, and invariably precedes and attends it.

There seems to be a series of sympathies between the stomach, liver, and bowels; so that in one gouty individual you will find the stomach the main seat of the disorder, as indicated by redness of the tip of the tongue, and uneasiness in the region of the stomach; in another the liver, as manifested by uneasiness in the right hypochondrium, deficient or depraved secretion of bile, and torpor of the colon; in a third, the bowels, as proved by the appearance of the tongue, and uneasiness in the course of the intestinal canal; and in a fourth you will have proofs of disorder in all these parts simultaneously.

That disorder or internal irritation comprehends two conditions. In its lowest degree it may be simple excitement; in its highest degree it may be, and very often is, actual inflammation, acute, sub-acute, or chronic. It often is of the sub-acute kind in the stomach and liver, and then you almost always have acidity. You may merely have a torpid state of the colon, and a retention of scybala in it. The colon may not be in fault, and the liver may be torpid or the seat of an obscure degree of inflammation.

It happens in individuals who have had disorder in the stomach, liver, or bowels, that they have a liability to sympathetic pains in different parts of the body, as the head, chest, bowels, &c. This is a pathological law which has a most extensive application:—that when irritation of the mucous membrane of the intestinal canal exists, inflammation arises in some external structure; and it appears to me that there is nothing more remarkable in the sympathetic inflammation which arises in the great toe, than in that which occurs at the end of the nose. Many a man is ashamed of the end of his nose being red who cannot help it. If you ask me how this inflammation arises sympathetically, I answer I do not

know. The fact is certain; and the uncertainty of what we are ignorant of does not affect the certainty of that which we do know.

The word gout was vaguely used by medical writers in the dark ages, and the same term is now as vaguely used by those who have chosen to surrender their judgment to them. But appeal from the theories and opinions of men who lived in ages favourable to prejudice and error to the volume of nature which is opened before you, and no such mystery will be found as some have imagined. Take no man's opinion for granted; examine whether it be correct; and dare to think and act for yourselves. No man who has not sufficient fortitude to use his own senses, and exercise his own reasoning faculties, is fit to be a medical practitioner.

To return:—when the stomach, liver, or bowels, are affected, sympathetic pains arise in all structures, and in different parts of the body, and these are generally inflammatory pains. They may occur in a man's great toe, and they may occur in the end of his nose. Or the inflammation may attack the eye; or the arm, in the form of a boil; or, in short, it may attack in turn every internal and external structure.

Medical writers have called gout regular, or irregular.

REGULAR GOUT.

In regular gout there is merely proof of a disorder of the stomach, liver, or bowels, without any sign of any internal inflammation. You have, for instance, inflammation about the great toe. Trace the case backward, and you will find that previously the tongue was furred; that the patient complained of flatulence or acidity; that his mind was depressed; his temper fretful; that the bowels were irregular; the stools unnatural; the urine scanty, and depositing a pink sediment; and that he had, in short, all the symptoms of what is called dyspepsia. After a time comes on the external inflammation, assuming the acute or sub-acute character accompanied by fever, or the chronic character without fever.

The great toe in almost all cases is the part affected in the first attack of gout. In some, however, the part first attacked is the chest, in others the head, in others the bowels, in others the nose.

I saw a gentleman whose first attack occurred in one of the fingers.

We do not know why it is, but so it is; and it cannot be said to be peculiar.

The pain is in general most severe, and the fever highest at night. The patient has increments and abatements of the fever

and the pain; and these going on for ten or twelve days make up what is called a paroxysm or fit of the gout.

The duration varies, being generally shorter in young and strong than in weak and old subjects.

After several attacks the duration is longer. After such an attack there is an interval, and the length of this interval before the next fit occurs varies very much, and depends on the mode in which the patient lives, and on the state of his mind. A second attack, perhaps, will occur in one or two years. The future paroxysms occur more frequently, because the predisposition both in the internal mucous membranes and in the toe is fixed and increased by each attack; a delicacy is acquired, rendering the patient more prone to the disease. The subsequent attacks are generally not confined to the toe, but affect similar structures in all parts of the body, as the heel, the ligaments, the bursæ, the wrists, the elbows, the ankles, the knees; and there is nothing peculiar in this.

Subsequent attacks generally produce enlargements; they leave the part more swelled, and painful, and stiff, than the first attack did; and in some individuals chalk-stones are formed, which are morbid secretions, generally consisting of urate of soda; but from the experiments of the French chemists, it appears that their chemical characters are various. They at first appear gelatinous; then the thinner parts being absorbed, the concrete part which remains assumes the appearance of chalk. They are the product of inflammation.

I once saw a gouty gentleman who had chalk-stones about his ears. Those who have not inflammation of the toe are liable to these depositions which Sydenham called crab's-eyes. In the first volume of Medical Communications, Mr. Watson mentions that a gouty gentleman used frequently, when he played at cards, to score up the game with his knuckles. Gouty persons are very liable to stone in the kidney. Whenever that state of the stomach, liver, and bowels exists, which produces gout, there is also a tendency to a similar deposition of earthy matter in the heart, arteries, &c. And you might as well make the formation of stone peculiar, as the deposition of chalk-stones in gout.

The return of gout is certain if the individual be not attentive to his manner of living; but it is not necessary.

The late Dr. Gregory, of Edinburgh, was very gouty, and died in a fit of gout. The present Dr. Gregory had an attack of gout in early life, in consequence of which he determined to adopt a regular and abstemious system of diet; and he had felt no return

of gout when I left Edinburgh in 1807, although he was then an old man.

I have known many such cases. And even where the return of the fit is not altogether prevented, many persons have it mitigated by a moderate degree of care, by very temperate habits, plain diet, the avoidance of fermented acid liquors, and regular exercise in the open air. Of course it will be prudent to take into account the previous habits, from which it is never safe to deviate very considerably and suddenly.

I know a gentleman of very splendid intellect who has taken all kinds of medicines to ease the pain of gout, but he has never once thought seriously of preventing it. He suffers the most excruciating pain, and instead of making use of his limbs, is obliged to be wheeled about in a chair, an object of pity to some, and of ridicule to others; and all this that he may eat good dinners and drink champaign! He once assured me that his diet was strictly regulated according to my directions. But one morning I was sent for into the country, and calling upon him at an unusual hour I popped in quite unexpectedly, and found him sitting alone at breakfast, with all sorts of dainties upon the table, and when I hinted that dried meats, eggs, ham, tongue, and other things then before him were not included in my directions, he gravely told me that he only had these things brought on the table to look at! And in this way medical men are very often deceived by persons who are fond of good living.

Now your business is to cure or prevent diseases, rather than to please; and it is your duty to tell a nobleman as you would a pauper, that if he will not adhere to the rules you lay down for him, he must not expect to prevent the recurrence of disease. You are not to give in to men's caprices, but are to keep yourselves independent; and having given instructions, you have a right to expect the most implicit obedience to them.

I was once talking about the regulation of his diet to an individual, who told me that happiness consisted in three things: 1. Good eating and drinking; 2. Active benevolence; 3. Literary and scientific pursuits. The last two are very allowable; but with respect to the first, it should be duly regulated by all individuals who expect to remain free from gout after having had one attack. I have sometimes been disgusted by seeing an intelligent being allow himself to suffer attack after attack till he has become a perfect cripple, always accepting the present enjoyment without considering the future consequences.

One gentleman whom I know makes preparations for the gout; gets his easy chair, vapour bath, and all other means to alleviate the attack. He then dines out. He thus commences offensive operations, and retires from the contest more crippled than ever; and thus I believe he will go on all his life.

IRREGULAR GOUT

is sometimes combined with internal inflammation; often with slight inflammation of the mucous membranes of the stomach or bowels. The old writers knew nothing of inflammation of the mucous membranes, and of the extensive connexion between that condition and various external and obvious symptoms. Dr. Cullen's definitions, as they are called, do not deserve that name: they are merely heads of symptoms without any reference to pathology.

There is nothing anomalous and peculiar about irregular gout; it is a term often applied to cases in which there is a palpable internal inflammation; and this inflammation arises, as in rheumatism, either from general excitement or from translation.

When internal inflammation does arise in gout, it rarely arises from translation, but frequently from a common law. Inflammation, as I have repeatedly explained, arises either, 1. From depression; 2. From stimulation; or, 3. Through irritation. And when local irritation sets up fever, can you be surprised that inflammation should attack different structures, especially if you take into account the irregular mode of living which gouty persons adopt?

But if inflammation arise in gouty habits all principles of common sense are abandoned; and if the brain be affected persons talk of gout in the head. Is it surprising that a person who gorges himself daily, taking stimulating diet and strong drinks, should have an attack of apoplexy? If another individual subject to gout have a pain in his stomach or bowels it is called gout in the stomach or in the bowels. But why shroud their ignorance thus? Why not acknowledge that they know nothing about it? What is it? No explanation is given; but if it be investigated by common sense it will be found to be spasm or inflammation; and if inflammation, it will often arise from some irritating ingesta.

A gentleman who has gout in his toe loads his stomach with indigestible food, and suddenly dies of what nosological practitioners call gout in the stomach; and frequently on examining the body you find the colon overloaded with scybala, and the stomach inflamed.

It is mortifying to see persons satisfied with giving a mere name to a disease, that name probably not only failing to express, but concealing from themselves their own ignorance, of the pathological principles upon which the symptoms depend.

Put out the idle conjecture of gout being a specific affection, and you can refer the inflammation invariably to a common agent.

If palpitation occur medical men set it down as gout in the heart; forgetting that, living as gouty persons do, constantly taking quantities of things to eat and drink which irritate the mucous membrane of the intestinal canal, and which are the most common source of palpitations, it is no wonder that this symptom should occur, which it often does in persons who never have gout.

Again, if lowness of spirits occur it is referred to gout; and if an attack of gout comes on the depression is got rid of. But this is an ordinary law of fever, that it has first a stage of depression, and secondly a stage of excitement, which comes on when the depression is removed. Surely there is nothing peculiar in that.

With respect to the formation of stones, there is nothing peculiar in that. It has been said that they are invariably composed of urate of soda, which is not true; for sometimes they consist of urate of lime, and sometimes of phosphate of lime with animal matter. They occur, too, in individuals who have never had the gout, as I have seen, and Dr. Sutton has recorded an example of its occurrence. It is no more surprising than the effusion of serum, or of lymph, or of pus, in common inflammation; or the formation of stones in the kidneys and bladder; or the deposition of earthy matter in the coats of arteries. There is nothing peculiar in the matter except that some old and modern authors have abandoned common sense for prejudices; and the best of the joke is, that writers on the subject of gout say nothing of the pathology, nothing of the irritation of the mucous membrane of the intestinal canal; in fact, they give us nothing but idle conjectures. The only mode of explaining the facts is by reference to principles, to apply them to the solution and explanation of all their difficulties and apparent anomalies. It is far better to do this and to confess our ignorance when it exists, than to harbour vague speculations which have no foundation in reality.

Irregular gout generally arises from the common law of general excitement operating upon the weak part, and producing acute or sub-acute inflammation, mostly of the liver and of the mucous membrane of the stomach or bowels, and occasionally of the brain. Translation occurs far more frequently in rheumatism than in

gout. How these translations take place we know not, probably by some irregular distribution of the nervous fluid or influence; and they certainly occur almost invariably in connexion with irregular distribution of the animal heat. This, then, is nothing peculiar.

What is called

TRANSLATED GOUT

is this. A person labouring under inflammation of the great toe will be suddenly seized with a violent inflammation of some internal organ, while the external affection of the toe will as suddenly subside. There is a diminution of the heat of the toe, and an over-accumulation of heat in the part which is then attacked. And this has led both old and modern writers to suppose there was a distinct something, which they term a gouty diathesis. But what is this something? Is it a goblin dancing about the body? It is a phantom, a medical phantom, which haunts schools and colleges, and entering the closets of big-wigs plays all sorts of pranks in their imaginations. It is mere nonsense, stuff such as dreams are made of.

Irregularities in the distribution of the circulation and nervous influence are almost invariably connected with some morbid condition of the mucous membrane of the intestinal canal. But you must remember that translations occur in other affections.

Another variety is called

ATONIC GOUT,

a word which means any thing or nothing. Many persons liable to gout have disorder of the stomach, liver, or bowels, attended by a mild degree of congestion about the liver, heart, or head. If the congestion be extreme it may arrest the heart's action, and destroy the patient suddenly. In these cases of sudden death the individual is said to die of gout; but you will sometimes find that the stomach has been so disordered by crude indigestible food as to suspend the heart's action. More commonly there is an intermediate degree of chronic congestion. A person liable to gout goes about in a thick, stagnant, atmosphere with all the indications of that state—a deficiency of blood externally, and an over-accumulation in the internal parts of the body. He has a blanched conjunctiva, a pallid face, obscure uneasiness in the head, oppression at the chest, a white furred tongue, a sense of weight at the region of the stomach, an oppressed pulse, a deficiency of bile in the stools, and general prostration of strength. He tells you that

if he had an attack of gout he should get rid of these uneasy sensations, and he longs for the fit to come on. True; this is the mode in which nature affects the removal of this state: the oppression is relieved by reaction, and not because there is any thing peculiar in gout. This they call suppressed gout. You treat it by the tepid bath; you put the stomach, liver, and bowels, in a good state, and the patient may get well without an attack of gout. On the other hand, if you do not interfere he may die of apoplexy; or he may be excited, and the brain being the weak part may be affected by inflammation; and all this would by nosologists be called gout. If we appeal, however, to facts, we shall have no reason to conclude that there is any thing peculiar in gout.

And what say the dissections? Morgagni and De Haen assert that on dissection there are proofs of congestion or inflammation. In general, however, congestion does not altogether arrest but only interrupts the heart's action. Hence occur palpitations which disappear when an attack of gout arises. These palpitations are, therefore, said to be suppressed gout!

Irregular gout, then, is—

1. Inflammation, generally arising from excitement, sometimes from translation.

2. It is spasmodic. An overloaded state of the colon exists, and spasms of the stomach and bowels come on, with external inflammation, in the toe for instance. This again is all put under one head, namely, gout, because the person happens to have colic with gout. And—

3. Irregular gout is congestive.

Gout sometimes terminates as an acute or sub-acute internal inflammation. Sometimes the patient expires suddenly from the state of the stomach suspending the heart's action.

Generally the inflammation which occurs internally is sub-acute.

With regard to the sequelæ of gout: the ligaments, the bursæ, and the tendons, are the seat of the external affection, and they become chronically inflamed and thickened. Sometimes the inflammation attacks the synovial membranes and cartilages, which become eroded, and eventually anchylosis takes place. In some cases chalk-stones are deposited, and the veins about the part which has been affected are varicose. These are the changes which occur in the more external system, and other morbid appearances will be found internally. In some cases organic affections of the mucous membrane of the stomach occur; in others, diseases of the heart; in others, alterations of the texture of the kidneys, winding up in

some instances with dropsy; all of which conditions occur in individuals who have lived temperately and have never had gout.

This account of gout differs, I am aware, from that generally contained in books, and you will remember what I have so often repeated, that you are never to take any thing for granted but to reflect. The great mistake of systematic writers on medicine in this country is that they use names without any reference to things. But it is necessary for you to know something about things, to trace effects to their causes. This object is of too serious importance to be neglected. Gibbon says there are two kinds of education; one which we receive from others, and one which we seek and obtain for ourselves: and I believe that no individual will be distinguished in the medical profession who does not educate himself at the bed-side of the sick, which is the proper, and the only proper, place for a man to learn some of the wonders of nature.

LECTURE XXXII.

COMMON INFLAMMATORY FEVER.

DIAGNOSIS, TREATMENT, AND PREVENTION OF GOUT.

IN the last lecture I described the origin and symptoms of gout, and the conditions upon which these symptoms depend; and I shall next consider the—

DIAGNOSIS OF GOUT.

You might confound it with rheumatism as the old practitioners did; and it will be well to attend to the following circumstances which may serve to distinguish them.

1. Gout scarcely ever occurs before the age of puberty. Rheumatism often attacks individuals at an earlier period of life. I have seen it at five years of age. My eldest boy had two or three attacks before he was twelve years old. But rheumatism also more frequently occurs after puberty.

2. Gout is invariably preceded and attended by disorder of the liver or some part of the mucous membrane of the alimentary canal, which is a primary or concurring cause, essential to its existence, and

standing with respect to gout in the relation of cause to that of effect. It is this which occasions the fidgets and ill-temper which occur before the gout comes on; and you may recollect that persons will often be depressed, or ill-natured, and irritable from the same cause without having gout. Such disorder generally does not precede, or is only an accidental circumstance in, rheumatism, which may generally be traced to the influence of cold. Gout, then, can be traced as a sympathetic effect of disorder of the mucous membrane of the intestinal canal, since it always precedes and accompanies it; while rheumatism almost invariably arises from, and can be referred to, the influence of a low or variable temperature.

3. Gout seizes the great toe in the first attack in most instances, or some of the small joints; while rheumatism almost invariably attacks the other and larger joints.

4. The inflammation in gout is denoted by a vivid, smooth, red, shining appearance; the part is very tender, and swells rapidly. In rheumatism the part does not swell so rapidly, nor to so great an extent; there is not so much redness and shining.

5. In gout the pain is generally sharp and burning. In rheumatism, when the patient is at rest, there is a comparatively numb, aching, gnawing, pain. I have known many individuals, liable to both gout and rheumatism, who could readily distinguish the pain of one from that of the other affection.

6. In acute and sub-acute gout the fever is less ardent than in rheumatism, because the mucous membranes are the seat of the internal irritation; and inflammation of the mucous membranes is never connected with so high a degree of fever as inflammation of the serous or fibrous membranes.

7. In gout the remissions from pain and fever are most distinct. In rheumatism the fever is more ardent and continued.

8. In gout the temper is much more affected than in rheumatism: it is either extremely irritable, or the spirits are depressed.

9. In chronic gout there is more swelling about the joints than in chronic rheumatism; and you have at the same time proofs of irritation of the mucous membrane of the alimentary canal.

10. The anatomical character of gouty inflammation is different from that of rheumatism. It is more varied in its seat, attacking especially the tendons and ligaments, the serous and cellular membranes, and the true skin. The inflammation in rheumatism is far more limited.

11. Gouty depositions do not take place in rheumatic inflammation.

Sometimes, as I stated in my last lecture, individuals have attacks of gout and rheumatism at the same time; and this combination is termed rheumatic gout.

THE TREATMENT OF GOUT

involves two points, prevention and cure. It includes the consideration of the proper measures for the relief of the fit when it occurs but by far the most important object is to prevent its return.

If you see it in a young man, it is your business to lay down for him rules of temperance and exercise.

If he be far advanced in life, you must take into account his habits, and not at once abstract all the stimulants to which he has been accustomed. But you should abstract all fermented and acescent drinks and allow him a little brandy as a substitute for wine, and be very careful about the regulation of the diet.

You will remember that I have noticed, with respect to gout, that it is—1. Acute; 2. Sub-acute; 3. Chronic: that its pathology is—1. External; 2. Internal: that the external inflammation is sympathetic, arising invariably from a primary irritation of some part of the alimentary canal: and that it seems a law in the animal economy most extensive in its application, that inflammation in many external and internal parts arises often secondarily from excitement, or irritation, or inflammation of the mucous membrane of the intestinal canal, associated most frequently with torpor of the liver and of the colon.

TREATMENT OF ACUTE REGULAR GOUT.

When acute gout occurs in the regular form; suppose its external pathology be inflammation, and its internal pathology local simple excitement with torpor of the liver and colon, which is the most frequent form in young and robust subjects; you will find most material benefit from blood-letting,—local if the pain be slight, general if the pain be more ardent. This plan may be adopted in the first attack; but in old subjects you should be very cautious in abstracting blood: and then a mild aperient with an alterative is the best thing; for instance, a grain and half of calomel with five, six, or eight grains of rhubarb in the morning, followed in two or three hours afterwards by two drachms of castor oil or, if this produce sickness, by a draught containing a drachm of sulphate of magnesia in an ounce of compound infusion of senna, with a few grains of calcined magnesia. And you may prescribe half a drachm, or if the patient be strong one drachm, of tincture of colchicum at night, or

an equivalent dose of the wine of the seeds or of the powdered bulb. This will almost invariably shorten the attack of gout, provided the diet be bland and the patient be kept in a state of absolute rest.

If there be much fever the diet should be farinaceous, and the best form of this is arrow root, or gruel made of groats which should be procured in small quantities at a time.

The patient should leave off all acescent fruits, such as apples, &c., by which a fit of gout is very often protracted. When you see improper things lying about in a sick room always desire that they may immediately be removed, notwithstanding that patients will tell you they only have them to look at.

Some individuals use cold water as an external application.

It is said that Harvey, the discoverer of the circulation of the blood, was accustomed when he had the gout to plunge his foot into cold water.

I have known other individuals do this with benefit. But you should be cautious in the use of cold water, which is by no means safe. It has often occasioned internal inflammation: and there is great risk that the foot being chilled the whole surface may be similarly affected; and this being followed by violent excitement, inflammation may arise in any organ which happens to be predisposed. It is a remarkable fact, to which I have before adverted, that if the temperature of one inflamed part be suddenly and materially diminished, inflammation is most likely to leave this and attack some other part.

I think the best application to the toe is asingle fold of cloth wet with a mixture of spirits of wine and water, which should be tepid so as not to chill the part.

TREATMENT OF SUB-ACUTE REGULAR GOUT.

By the same means, only applied in a different degree, you will remove the sub-acute form of gout, when its external pathology is inflammation, and its internal pathology is local simple excitement.

TREATMENT OF CHRONIC REGULAR GOUT.

In chronic gout fever is absent; and when it has occurred attack after attack, the strength is in some degree broken up. The best measures then are the following:—

1. The use of the vapour bath. Nothing shortens the attack so rapidly as the vapour bath used to produce a gentle and general perspiration. It is of very considerable advantage in these cases to regulate the functions of the skin.

2. If the tongue be red at the tip and edges, the application of leeches to the epigastrium is of great benefit.

3. Mild aperients will be necessary to keep the bowels regular; for instance, rhubarb and a little carbonate of magnesia, soda, or potass, in aromatic water.

4. An occasional alterative may be given; for instance, a moderate dose of calomel, blue pill, or mercury with chalk.

5. Administer hyoscyamus with colchicum at night.

6. The treatment of chronic gout turns principally on the regulation of the diet. When there is no fever the diet may consist of at least one meal of animal food in the day. The patient may take two or three ounces of stale bread with one cup of tea in the morning, a little roast mutton or chicken with two ounces of bread at noon, and in the evening a little bread with one cup of tea. If the bread should disagree biscuit may be substituted. It is better to avoid vegetables at dinner. Nothing should be taken at night by way of supper.

If any stiffness be left it is best remedied by friction gradually increased, and above all by using the limb.

The old authors speak highly of blistering; but the best mode of preventing the stiffness of the joints is by preventing the return of the gout, which may be accomplished in ninety-nine cases out of one hundred.

These modes of treatment will suffice in a large majority of cases of regular gout.

Irregular gout is a creation of the mind; there is no such thing in nature. All the anomalous symptoms which pass under this name are distinctly referrible to, and explicable upon, the common principles of pathology and common sense.

TREATMENT OF INFLAMMATORY GOUT.

When the inflammation is internal the treatment depends upon general principles.

Dr. Clarke, of Newcastle-upon-Tyne, a man of very accurate observation, who has been very successful in the treatment of irregular gout, states, that in fatal cases he has always found internal inflammation, and his success depended upon the application of the ordinary principles of physic.

You must, then, investigate the symptoms carefully and ascertain whether inflammation be present, and be guided in the treatment by its seat, its degree, and the constitution of the patient.

In a young person, if the inflammation be acute you need have

no dread of copious blood-letting, or of moderate blood-letting if it be sub-acute.

TREATMENT OF TRANSLATED GOUT.

In what is called translated gout, blisters applied on the surface where the inflammation was previously seated will be found useful; and bleeding, if the inflammation be urgent.

TREATMENT OF SPASMODIC GOUT.

In cases of spasmodic gout your object should be to ascertain the conditions upon which it depends.

A foul tongue and spasmodic affection of the colon from accumulation of fæces are often precursors of inflammation.

Spasmodic pains are generally relieved, and inflammatory pains aggravated, by pressure. In inflammation, too, the skin is hotter and the pulse quicker than natural.

Sometimes the spasmodic pain arises from the passage of gall-stones; and this is often called gout.

TREATMENT OF CONGESTIVE GOUT.

If the patient be the subject of congestion, treat it according to its degree, as I before described.

If the heart's action be oppressed from offending ingesta it will be right to give an emetic; and if this should fail to produce excitement or reaction, use the hot air bath and administer full doses of brandy with moderate doses of opium. If there be marks of slight inflammation then opium must be given without brandy. If the colon be surcharged an aperient should be exhibited.

This treatment will be proper in the extreme form.

When there is an intermediate degree of congestion the patient will have the symptoms which I have already described as characteristic of that condition. If the pulse be oppressed, blood-letting is often of great service; but you should bleed cautiously. Sometimes you will find a blister very beneficial.

In what is called gout in the stomach, if you investigate the case, you will frequently find the stomach loaded with crude indigestible food, with flatulence, and acidity about the epigastrium; and if the skin be cool and the pulse slow nothing relieves this so rapidly as brandy. If there be inflammation you will have all the symptoms of that condition, and the case must be treated accordingly.

Pain in the bowels, often called gout in the bowels, sometimes depends upon food fermenting and corrupting in the bowels, having passed from the stomach without being digested. In these cases castor oil followed by an opiate will generally remove the affection.

Sometimes the pain (as I have before stated) is connected with a surcharged condition of the colon, and will be removed by aperients. And sometimes it depends upon inflammation, requiring to be treated upon the common principles which I have so often mentioned.

If, in fact, you investigate all the symptoms which are placed to the account of the gouty diathesis, you will find that they are all explicable upon the principles of common sense, without the necessity of referring to any peculiarity in gout, which is purely imaginary.

A friend of mine, the late Mr. Charles Haden, was very successful in the removal of gout and rheumatism; and he adopted the following very simple plans. When there was no internal inflammation he adopted the same plan in both, if the patient were robust. He gave three grains of calomel and eight grains of colchicum at first; and then five grains of the powdered bulb of colchicum every four hours for two days, and as much infusion of senna and sulphate of magnesia as would determine to the bowels. The first day he found the pulse slower, the heat of the skin lessened, and the inflammation abated, without much purging, with little urine, and generally moderate sweating. On the second day he found a good deal of purging, and the fever and inflammation in most cases quite gone. At the same time he kept his patients at rest upon a bland diet.

Another friend of mine has employed colchicum more largely with the same general effect.

I do not, however, venture, for the reasons I have already stated, to give it so largely. I generally give three grains or five grains of the powdered bulb four times a day. Commonly I purge the patient in the morning, and give the wine or the tincture of colchicum at night.

When these means fail, the external and internal use of sulphureous waters, especially those of Harrogate, will be found very beneficial. Bark seems to have a power of preventing the return of gout and of rheumatism; and after a fit of either of these complaints a strong infusion or decoction of bark will be of service. But with regard to the prevention of gout (which is by far the most important part of the treatment), it includes several particulars, the chief of which are the following:—

1. The regulation of the diet, of which the quality should be simple and the quantity moderate.

2. The regulation of the drinks, avoiding all fermented and acid drinks.

3. The regulation of the exercise, which should be taken in the open air; and—

4. Of the sleep, which should be taken early and in sufficient quantity. Night-watching ought to be avoided, for nothing seems to have greater influence in retarding the secretions of the liver and rendering the colon inactive as loss of sleep. Individuals who sit up at night have torpid liver and colon; and attacks of gout are almost invariably preceded by constipation.

It comprehends also—

5. The mental management, by which all occasions likely to disturb the mind should as far as is practicable be avoided.

6. The avoidance of copious evacuations by bleeding or purging ought to be avoided; for if profuse they disturb the nervous system and occasion disorder of the stomach, liver, and bowels. I knew a young lady who was liable to attacks of menorrhagia from mental anxiety. Born of a gouty stock, she became very weak, the stomach, liver, and bowels became torpid, and she had an attack of gout notwithstanding the strict regulation of the diet. By all means, then, avoid any break-up of the general strength; for then the functions of the skin and mucous membranes invariably become disturbed.

It includes—

7. The avoidance of the suppression of long-established discharges, from piles, menorrhagia, &c., which, in predisposed persons is frequently followed by gout, unless some other evacuation be substituted, or the quantity of the food be lessened and the bowels gently opened.

8. The avoidance of excessive venery.

9. The choice of atmosphere, which should be wholesome and fresh; for instance, the air of the country is preferable to that of London.

The avoidance of a damp atmosphere is difficult, it is true, in England; and the best plan is to prevent the influence of variations in the state of the atmosphere by using a shower bath.

We all know that when the atmosphere is raw and cold, the strength is very often prostrate, and the stomach, liver, bowels, and skin, then often become disturbed.

10. The avoidance of any local injury, which very often brings on inflammation of the foot, disturbs the nervous system, and by occasioning disorder of the alimentary canal terminates in an attack of gout.

11. The correction of acidity of the stomach by a combination of rhubarb, magnesia, and some aromatic.

12. The regulation of the bowels, which should be kept open by an occasional mild aperient; and of the secretions of the liver, which should be kept healthy by an occasional alterative.

13. The regulation of the clothing, which should be warm. And—

14. Bathing daily in a tepid bath of salt water, the temperature of which should be reduced one degree every day, until it is as low as 60°.

Remember that, as the tendency to gout is very often hereditary, transmitted from parents to their offspring—more care will be required in such cases to avoid all the exciting occasions. It is surprising how difficult it is to get individuals to adopt any plan for the prevention of gout. The English will cram themselves with physic every day if you will give in to their irregular habits. But though they will often attempt to deceive you with false accounts of their mode of living, yet it is clear from abundant proofs that nothing is so difficult to practise as self-denial. Hence this virtue should be exercised in early life; for habits established by long and frequent repetition are difficult to break through. Yet it is the business of every man to make his appetites subservient to reason and duty.

Do not, then, consider gout generally as a specific disease; for it depends upon common pathological states. But it is right that you should take into account idiosyncrasies, slight weaknesses, and other circumstances which may modify the treatment in particular cases.

LECTURE XXXIII.

COMMON INFLAMMATORY FEVER.

PREDISPOSING AND REMOTE OCCASIONS OF INFLAMMATION OF THE EYES.

OPHTHALMIA is a subject of great importance, and I shall at some length consider,—

First: the predisposition to and remote occasions of it;

Secondly: its symptoms and terminations; and—

Thirdly: its treatment.

The word Ophthalmia is a general term, implying several particulars. For example, if minutely examined, it relates to affections modified—

1. By the particular texture in which inflammation is seated.

No person can treat inflammation properly and successfully without taking into account the influence of structure; and the eye, in this respect, is a compound body.

2. By certain concurring states of the body.

These, also, should be considered in reference to the nature and treatment of any particular inflammation of the eye: and—

3. The remote occasion, also, has a material influence over the nature of the affection.

Some occasions are common, others are peculiar and their effects require peculiar treatment.

THE PREDISPOSITION TO OPHTHALMIA

may be

I. HEREDITARY.

Many persons have an hereditary short-sightedness, which is depending on structure,—on a degree of prominence of the lucid cornea. It generally becomes most apparent about the age of puberty. This leads many persons to use a glass; and if this be thought of, two glasses should always be employed, in the form of spectacles. A glass is, I must confess, a very dashing instrument, and perhaps in females its use may be excused, as they seem to have an instinctive inclination to such trifles; but men should have sufficient wisdom to see the folly of becoming blind for fashion's sake, and should not, on any account, use a single glass. For by this one eye is strengthened and the other weakened, so that the harmony between the two is disturbed, and at length the sight of one or both eyes may be lost.

It is notorious that naval captains who confine the use of the telescope to one eye are very subject to affections of these organs.

In many families where intermarriages have taken place between first cousins there is a strong tendency to affections of the head and eyes. The offspring of such families are very liable to some mental or physical defect. They become insane; they squint; they are short-sighted; they have amaurosis, &c. I have seen these and similar effects so often, that nothing should induce me to allow a daughter of mine to marry her first cousin.

Analagous physical results take place in the lower animals under similar circumstances.

Those who have a delicate soft skin and soft hair are, for the most part, liable to ophthalmia, especially of the tarsal glands and conjunctiva.

Those who are subject to rheumatic affections are very liable to inflammation seated especially about the iris and sclerotic coat.

The predisposition to ophthalmia, however, is more frequently—

II. ACQUIRED

than hereditary; and one of the most common sources of this tendency is—

1. Some error in the diet or drinks.

It is proverbial that drunkards have red eyes. "Who," inquires Solomon, "hath redness of eyes? They that tarry long at the wine; they that go to seek mixed wine." Persons who drink freely at night find their eyes very gummy in the morning; and if these large potations be frequently repeated, the tarsal glands especially will become affected.

Some persons acquire a tendency to, and lay the foundation of, chronic ophthalmia from using too varied a diet; as, for instance, taking at the first part of a meal broth containing a variety of vegetables, then hashes, with sweets, besides fish and solid meat, and after dinner a dessert.

Whatever breaks up the general strength affects especially the conjunctiva of the eye, the tarsal glands, the skin, the internal mucous membranes, and the glandular system. Therefore you should be cautious of performing any operation on the eye when there is any affection of the stomach, liver, or bowels.

2. Weather predisposes to ophthalmia.

In warm moist weather, but especially in cold moist weather such as often occurs in November, affections of the mucous surfaces generally prevail. Inflammation of the eyes, especially of the conjunctiva and tarsal glands, is very likely to occur in such weather; and when it does occur, it is very difficult to cure while that state of the atmosphere lasts; and even if it be cured relapses are then exceedingly common.

A predisposition to ophthalmia arises from epidemic and endemic states of the air; the one denoting a diffused tainted state of the asmosphere, and the other a tainted state confined to a small space.

3. Some diseases predispose to ophthalmia, as small-pox, measles, scarlet fever, &c. Hence arises inflammation of the mucous membranes and of the conjunctiva.

Certain affections of the skin in some cases predispose very much to inflammation of the eyes.

I attended a young gentleman who had contracted the itch at school, which was not attended to for some time. It was cured by means of sulphur, and then he had inflammation of the eyes; when this was removed he had inflammation of the brain, and after that inflammation of the mucous membrane of the small intestines.

The French have an idea that the itch should not be cured suddenly, but by parts; and I think, from having seen a series of inflammations following its sudden removal, it would be safer to adopt their suggestion.

4. Too much use of the eyes predisposes to ophthalmia, as in the case of mechanics whose eyes are much exercised, watch-makers, engravers, &c. Literary men acquire a tendency to it partly by reading much by candle-light, and partly also from the constipation which is the consequence of sedentary habits; for persons whose occupations are sedentary mostly have disorder of the stomach, liver, or bowels.

5. Previous attacks leave a tendency to ophthalmia.

This is in accordance with a general law of the animal economy.

Almost all these predisposing circumstances might be called exciting agents or remote occasions. They differ only in degree, and a high degree of a predisposing occasion would become an exciting occasion.

THE REMOTE OCCASIONS OF OPHTHALMIA,

or those which bring on an attack, are various. They are—

I. COMMON.

Cold is one of the most frequent, and it operates in three ways:—

1st. It operates universally on the surface of the body by producing a chill, followed by excitement, under which state inflammation attacks the weak part. Many cases of ophthalmia distinctly arise in this way.

2nd. Cold operates also as an irritant. A blast of cold air seems to irritate the nerves of the eye directly in some instances, so that the conjunctiva is instantly injected with red blood.

3rd. Cold also operates very often by affecting the stomach, liver, or bowels, sympathetically with the skin, which affection is often followed by an attack of ophthalmia, especially seated in the tarsal glands and conjunctiva.

Warm clothing, therefore, is often a preventive of ophthalmia.

Those children and those adults are most liable to ophthalmia who are badly clothed and fed. Thus poor children, who from necessity or from the profligacy of their parents, and the children of the rich, who from the folly of fashion, are often only half-dressed, are very liable to ophthalmia. And in the same subjects another thing tends to produce the same ill effect, namely, bad diet. From these circumstances inflammation of the tarsal glands and of the conjunctiva are most common in the highest and lowest classes of society.

2. Heat.

1st. It acts as a stimulant, operating immediately on the nervous system, and producing some change there, by which means the heart's action is increased, and the eye being the weak part becomes inflamed. In this way ophthalmia very often occurs.

2nd. Heat also very often acts as an irritant on a part of the nervous system; in this way ophthalmia occurs from exposure of the eye to a strong light with heat, or to intense heat alone.

Sir Humphrey Davy's lamp was long a desideratum with glass-blowers. The men who are employed at the glass furnaces in what is called "flashing" now have their faces covered with wire gauze, which in a great measure obviates the ill effects of the heat upon the eyes.

With regard to Sir H. Davy's lamp, the credit of it is not entirely due to him, as the principle was first promulgated, and a lamp constructed upon that principle, by Mr. Stevenson, of Newcastle-upon-Tyne. Sir. H. Davy appears to have been hurt by this assertion, but such is the truth.

In the same way ophthalmia seemed to arise in Egypt from the high temperature and the glare of white sand.

3. Light also sometimes gives rise to ophthalmia. The sight indeed may be entirely destroyed by a concentration of light.

The Romans, in the decline of their empire, had a horrible way of destroying the sight of those whom they called criminals; many of whom probably were independent men, whose only crime was that of daring to lift their voices against the approaching tyranny. This method consisted of concentrating the rays of light upon the eyes by means of convex glasses.

Some mechanics, as watchmakers, are often liable to inflammation of the eyes, especially of the retina, from the glare of light.

Thus also studious persons are very liable to ophthalmia, partly from the glare of light in reading, especially by candle-light, and partly from their sedentary habits.

In the same way individuals engaged in examining coins minutely have ophthalmia.

I knew a gentleman in the Bank of England who was thus affected. Many years ago Spanish dollars were in circulation, which were stamped by the Bank of England. An individual obtained possession of a dollar and forged the stamp, and the gentleman whom I knew was employed to compare the forged with the genuine stamps. He thus became sedentary, and the glare of light produced chronic inflammation of the whole globe of the eye, especially of the retina.

Light often affects the eyes of infants, and ophthalmia often arises in them from the glare to which they are exposed. I have, for instance, frequently seen a child, a week or two old, put before a large fire, or in a room where two or three candles were burning.

This, I believe, is a very frequent cause of purulent ophthalmia in children.

4. Acrid fumes are frequently the occasion of ophthalmia, such as the fumes to which blacking manufacturers are exposed.

In Scotland many of the peasants live in a low hovel, in the midst of which is a fire, and in the roof a hole. They burn peat, the smoke of which continually fills the hovel. The climate in some parts is cold, and the diet poor. They are all liable to what has been called tender or blear-eyes—inflammation, in fact, of the tarsal glands and of part of the conjunctiva.

In London, when it has been more than usually smoky, I have frequently seen ophthalmia.

Chimney-sweepers, it is remarked, are hardly ever subject to inflammation of the eyes. An oculist in London, who is deservedly very eminent, told me he scarcely ever saw ophthalmia in a chimney-sweeper. It has been ascertained that there is much ammonia contained in the soot, and probably this, by contracting the capillary vessels of the eyes, prevents the occurrence of that impediment to the course of the blood which forms a part of inflammation.

5. Mechanical irritation, &c.

Mechanical irritation is often a cause of ophthalmia; as a blow on the scalp, which sometimes affects the eyes directly, and very often indirectly, through the brain. Cataract often commences with slow inflammation of the eye. The sudden introduction of foreign bodies into the eye produces ophthalmia, by their acting chemically or mechanically, or in both of these ways; as quicklime, which

often destroys the eyes with amazing rapidity, particles of sand, or of dust, &c.

In South America Humboldt says they have a good way of removing sand from the eye, by exciting a copious flow of tears, and using the tongue. They offered to try the experiment on him, but he declined submitting to it.

A man, who lived near the school where I was, was famous for extracting foreign bodies from the eyes, and for this purpose the boys often applied to him. His tongue was very long and soft, and its tip he carried over the surface of the eye.

No man can practise physic successfully who allows himself to be in a hurry; therefore Celsus was right when he said that one physician should have but few patients. Miss Edgeworth mentions (as I stated in a former lecture) a young physician who obtained great credit by discovering that inflammation of the eyes arose from foreign bodies lodging in the nose; and that there is an intimate sympathetic connexion between those parts is known by plucking a hair from the nostrils, by which sneezing is produced, which is a convulsive action of the respiratory muscles; and the eye on that side becomes turgid with blood.

If you have never read "Patronage," I advise you to peruse it, and all Miss Edgeworth's works; and those works which have issued from the pen of the author of "Waverley," though I do not recommend novel-reading indiscriminately. Paley strongly recommended such works as these.

It requires a very nice instrument and a delicate hand to remove foreign bodies from the conjunctiva or cornea.

Inflammation of the eye is very often maintained by tumours in the cellular membrane of the palpebræ. Chronic inflammation thus arising may become acute or sub-acute inflammation in its progress. Some practitioners recommend dissecting them out; but I think it better to pass a sharp lancet quite through them; and from this I have observed the tumours rapidly absorbed.

Some occasions of irritation are different, as soap introduced into the eyes of infants in washing. I have frequently observed how red the eyes of poor children are after their faces have been washed with turpentine soap.

Another occasion is inverted hairs.

A gentleman who was a pupil of Mr. Alcock's attended a gentleman whose eyes had been long affected, and he cured them by observing that a tarsal hair was inverted, which he removed, and which had caused the inflammation.

Last year I attended a literary man who complained that his eyes had been tender some time; they were both chronically inflamed, and on examination I perceived two or three hairs in each eyelid inverted, which being removed, his eyes got rapidly well.

An operation may be the cause of ophthalmia. In performing an operation on the eye, select a favourable season of the year; and take care when you operate that the stomach, bowels, and liver, are in a healthy state. If you operate on an old person in a very cold season, you may give him such a shock that he will sink.

6. Another occasion of inflammation of the eye very often is an affection of the stomach, liver, or bowels; between which there is, as I have before mentioned, a series of sympathies. I am satisfied that gout is a sympathetic affection, arising from disorder of the stomach, of the liver, or of the bowels, or of all of them together, and the same may be the case with ophthalmia. The stomach operates in four different ways:—

1st. Through the heart.

a. By suspending the heart's action suddenly.

b. By rendering the heart's action irregular or intermittent.

c. By exciting the heart so that the pulse becomes quicker and stronger. Thus inflammation of the eye is often produced.

2nd. By local sympathy or irritation; or, by creating a local nervous change in different parts, independent of the heart's action.

I have traced these sympathetic influences in all structures of the body. This, perhaps, depends on some irregular distribution of the nervous fluid; and it is clear, that on the external part of the body it depends upon an irregular distribution of the animal heat. A person, for instance, may have a pain in his eye, which in its progress may become inflammatory.

3rd. By general irritation or sympathy,—so called for want of a better name: hence there is first a change in the nerves, and then the capillaries of the weak part become injected, and thus often inflammation of the eye arises.

In some cases the heart and other parts are simultaneously affected thus.

I knew a gentleman who was almost entirely blind from acidity, in consequence of taking port wine and apple-dumpling, of which he was very fond. When I saw him he could not see at all with the left eye, and with the right eye very indistinctly, so that when I held up three fingers, he told me he saw two.

The brain may be affected through the heart, and the eye through the brain.

I have now a patient affected in this way. She had a sudden pain in the head, with intolerance of light and noise, a hot skin, a quick pulse, and delirium. Two individuals attended her; one of whom thought it nervous, the other thought otherwise and wanted to bleed her. Now it happened that the gentleman who thought her affection nervous was a physician, and the other a general practitioner; and he gave way to the physician. Now I would never recommend you to do so.

The difference between a physician and a general practitioner is merely nominal. If I were consulted in company with another physician who differed in opinion from me, I would not give up to his opinion if I thought I was right; if a third were called in, and differed from me in opinion, still, under the consciousness of the correctness of my opinion, I would not give way to him, nor to a dozen; no, nor the whole College of Physicians. Such conduct, by which persons give up their right of thinking for themselves, is very fatal.

In some cases again the truth is met half way by two individuals. Firmness and mildness of conduct are necessary for a medical man: from his timidity or the servile submission of his judgment to another man's opinion, a worse consequence than loss of sight may occur. I would not have you quarrel with any man: let him quarrel with you if he will, but be independent, observe, reflect, and think for yourselves; if a second individual differ from you, still maintain your opinion if from minute observation you are convinced that you are correct; and under such a conviction, which should not hastily be made, maintain it, though a hundred individuals think otherwise. I acted otherwise once, when I met old practitioners and others for whose opinions I had respect; but I soon found the bad effects of such conduct. Whatever Dr. Gall may say about the bumps and depressions of the head, I believe that firmness of character arises from circumstances. Dr. Gall says that persons of firm mind have broad crowns; but I believe that a person whose crown is as narrow as a sugar-loaf would be firm under circumstances.

The lady of whom I have been speaking had inflammation of the brain, and in three weeks she had become blind, and has continued so ever since.

A lady whom I attended had inflammation of the brain. Three years before she lost the sight of one eye it appeared like a glass eye, and had no intelligent expression.

In some individuals the sight is much affected by the state of

the uterine system. The menses become scanty: which is generally referrible to some disorder of the liver, stomach, or bowels, which oppresses the brain, and through it influences the eye.

I saw a lady some time ago who squinted regularly at the period of menstruation.

4th. The stomach affects the eye through the blood. When the food is not converted into wholesome blood, the system languishes. In all these cases the blood is distinctly changed; the secretions are morbid: for instance, those of the tarsal glands become viscid.

7. Affections of the brain must be placed among the remote occasions of ophthalmia.

Defects of vision, such as seeing double, or seeing a glaring halo round a candle, squinting, weakness of sight, amaurosis, &c., are generally the consequences of chronic inflammation or congestion in the brain, with or without the simultaneous existence of disorder of the stomach, liver, and bowels. Of this an example may be seen in some intellectual children who are driven hard at school without a sufficient allowance of recreation and exercise.

The senses are inseparably connected with the cerebrum, so that when the cerebrum is removed sensation is lost. Hence when the cerebrum is inflamed the sight may be altered or lost, whilst the eye remains unchanged. Thus an extreme intolerance of light may occur from inflammation of the brain, with no inflammation of the eye, and this state may be confounded with inflammation of the retina: but in retinitis the pupil is contracted to a mere point, and if a small ray of light be then thrown into the eye, it gives great pain. The diagnostic character is, that if the eye be turned from the light the pupil still continues contracted. In chronic inflammation of the brain, the iris is obedient to the light, contracting in the sun and dilating in the shade. Besides, the cerebral inflammation is denoted by a dropping of the upper eyelid, a change in the state of the sensitive and intellectual faculties and the motive powers, a change in the temper and habits, with uneasiness in the head.

Sometimes the converse of this occurs, and ophthalmia spreads to the brain; but most frequently when the brain becomes inflamed secondarily to ophthalmia, the eye is so intensely inflamed as to excite the heart's action; and the brain becomes inflamed upon the common principle that the weakest part is soonest affected.

Independently of these common agents,

II. PECULIAR

remote occasions produce inflammation of the eye.

1. Mercury seems to be one of the occasions predisposing to it, especially to inflammation of the iris. I have heard that iritis arises independently of cold; and then mercury is said to be both a predisposing and an exciting cause of iritis. Iritis is sometimes said to arise from the use of mercury. I think this is a mistake; mercury seems powerfully to predispose to it, but I do not believe it excites it. You can almost always trace it directly to the influence of cold if iritis attack a person under the influence of mercury. I have seen a person, who has been exposed to cold under salivation, get inflammation of the iris: probably this is the most common way in which it arises. The blood always has the buffy coat when mercury induces inflammation of the eye.

Mercury has the power of curing inflammation, particularly of the eye. This at first sight seems inconsistent. I give mercury in every instance of typhus fever till the tongue becomes moist. At the close of convalescence I almost invariably find the stools become clay-coloured. The liver, perhaps, becomes torpid from long excitement. This may be the case in the iris. In the first instance mercury may cause over-accumulation about the iris, and afterwards it may be combined with congestion:- and mercury, acting as a stimulus, may remove it. Water-gilders are exposed to the fumes of mercury, whence they are subject to inflammation of the liver.

2. In syphilis, when ophthalmia occurs, the iris is almost invariably affected. Syphilis appears under a *primary* form, in which there is chancre; under a *secondary* form, in which there are blotches about the skin; and under a *ternary* form, in which there are nodes on the bones.

In iritis from syphilis there are always blotches on the skin, especially over the flat bones, as the sternum; and very often ulceration of the throat. The pupils become rather more contracted, and the sight becomes dim, so that the patient has a peculiar suspicious look.

3. Contact of morbid matter may occasion inflammation of the eye.

There is some doubt whether the matter of gonorrhœa can occasion ophthalmia. Some eminent practitioners say that it cannot, while others assert that it can. It is a general opinion that the contact of leucorrhœal matter is a frequent occasion of the purulent ophthalmia of infants. It is often found that the mother had leucorrhœal discharges before and after delivery; and perhaps it does sometimes occur thus: but probably exposure to light, and

the introduction of soap into the eyes, and irregular diet, oftener produce it than the circumstance to which it is usually ascribed. The subject, however, requires further investigation.

Morbid matter applied to the eye will produce inflammation of the eye. I saw this once in a village in the north of England when some soldiers came there. Before they came there was not a case of ophthalmia in the village, but it afterwards became very prevalent, and generally could be traced to contact in using the same basin, towel, &c. It may be conveyed in a confined room through the air.

Will ophthalmia arising from a common occasion produce, by matter applied to another eye, a like disease? If so, it proves that contagion exists in diseases arising from common occasions.

4. Certain states of the atmosphere—sometimes general, more frequently local—in some individuals predispose to, in others excite, ophthalmia.

Thus you will frequently find it spreading through the wards of an hospital, or through a workhouse, or in a particular district. Mr. Ware says he saw it range in the distance of a mile as thick as it could have done in India. Recollect that infection is not contagion.

5. Certain diseases occasion inflammation of the eye, as small-pox, measles, scarlet fever; and even catarrh, and what is called influenza, have the same effect.

In typhus fever inflammation of the eye sometimes appears, generally under the form of ophthalmia tarsi; and it never occurs unless the case is very serious. In typhus fever the eyes are always more red and glairy than natural. This is the eye which occurs in acute and sub-acute inflammation of the brain; therefore, when you see this appearance of the eye, make a point of examining the brain with very great care and very minutely.

When ophthalmia tarsi occurs in these cases there is a sticky purulent secretion, and it is altogether different from that more common condition of the eye to which I have just adverted. It occurs when the patient is exceedingly exhausted with a dry constricted skin, a soft feeble pulse, a dry glazed tongue, and a dusky lip and cheek.

In the last stage of typhus fever, if the patient lie on one side, the eye on that side becomes injected, and an effusion of lymph or pus takes place between the laminæ of the cornea or in the anterior chamber. It is generally a fatal indication.

When the eyelid is paralyzed, so as not to be perfectly closed, and the eye is exposed to the irritation of air and light, the whole globe sometimes becomes inflamed, and proves very troublesome to cure.

LECTURE XXXIV.

COMMON INFLAMMATORY FEVER.

SYMPTOMS AND TERMINATIONS OF INFLAMMATION OF THE EYES.

IF any one were to collect and arrange a series of facts on any particular subject, he would find those facts might mostly be referred to one more general or ultimate fact, which might be called a principle of pathology. And this is particularly the case with diseases of the eye, most of which a medical man might refer to inflammation: some as a cause, others as a consequence.

The constitution, I have already observed, is a very abstract term, which includes many particulars. It refers to an hereditary or acquired weakness which may exist in the whole or a part of the body. This and some other circumstances modify (as I stated in the last lecture) the various affections of the eye; but in this lecture I shall notice them according to their modification by the structure in which they are seated.

SYMPTOMS OF OPHTHALMIA TARSI.

The most common form of inflammation of the eye has been called ophthalmia tarsi, or inflammation of the tarsi. This inflammation, seated principally in the tarsal glands and extending secondarily to the conjunctiva lining the eyelids, is denoted by the following symptoms:—

1. By a viscid secretion from the tarsal, or, as they are sometimes called, the ciliary, or the Meibomian, glands.

This is especially seen in the morning; the eyelids are then generally glued together, and cannot be opened, or at all events feel very uneasy, until they have been washed with tepid water. If you examine these glands with a glass in a healthy state they form a pearly chain, and appear like a series of parallel white lines running in a serpentine direction, and conjoined together. The secretion from these glands, bland and unirritating in its healthy condition,

is changed in its quality, becomes acrid, and thus acts as a local irritant, and seems to produce some change in the nerves in consequence of which the capillaries become injected with blood.

2. Then another change takes place, which is, that the conjunctiva is red and somewhat raised at the rim of the tarsus. The viscid secretion and the line of redness along the tarsi are the characteristic symptoms. The tarsal glands will be perceived to be a little swelled.

It sometimes happens in conjunction with these symptoms, that the complaint is attended by scabs at the roots of the eyelashes, and the disease has been called tinea cilaris from its resemblance to tinea capitis; and indeed tinea ciliaris and tinea capitis frequently occur together in the same individual. This seems only an advanced stage of ophthalmia tarsi. If these scabs be removed or fall off, they are found to cover little ulcers seated at the roots of the eyelashes. They often destroy the eyelashes altogether, so that they come out and are not reproduced; and if a new crop arise they are dwarfish in comparison with the original hairs. Then there is a complete line of erosion and ulceration along the tarsus, which is a thin fibrous layer approaching to cartilage, and a part of the conjunctiva is raised. Occasionally there is a further change. You see the conjunctiva far more injected and thickened than natural, and the under eyelids become everted. Oculists and surgeons employ various terms to denote the different stages of this complaint. The first state of this affection, where there is no erosion, has been called tender-eye; and when combined with erosion and ulceration, in the second stage, it has been called lippitudo or blear-eye; or, when the lids are everted, technically ectropium, and then the tears flow down the cheek.

It very often happens with the simple or with the complicated state of ophthalmia tarsi, that the whole lining membrane of the eye is inflamed: that is, not only that part of the conjunctiva which lines the palpebræ, but that which covers the anterior surface of the globe of the eye. This is the most common form of ophthalmia which I see in private practice. It is invariably associated with some irritation, local simple excitement, or low degree of inflammation, or torpor, of the stomach, liver, bowels, or of all of them. The state of the body produced by such disorder is the modifying circumstance of this affection, which is sympathetic, and arises precisely on the same principles as gout.

If you examine minutely you will find chronic inflammation often about the Eustachian tubes, about the nostrils, or the fauces—

you will have pain shooting in the direction of the ear, &c.; sometimes you may trace the inflammation down to the mucous membrane of the bronchia; you will find the liver torpid or inflamed, the stools being darker or lighter than natural, or greenish, or varied, &c.; or the kidneys remarkably disturbed in their functions, with irritation there or in the bladder, the urine being scanty, high-coloured, and depositing a pink sediment, often containing mucus; or you may have inflammation of the mucous membranes of the stomach or intestines, with a furred tongue, and red and raised papillæ at the tip; and in all these cases the skin is very much affected, as is indicated by its faded appearance. Some individuals merely affected by the simple form of ophthalmia tarsi, or by that complicated with inflammation of the conjunctiva, are suddenly seized with acute or sub-acute inflammation of the eye just as acute or sub-acute inflammation supervenes on what is called dyspepsia. This affection is most common among the poor and the rich. The habits like the houses of the poor and the rich approach each other. The poor live on tea, porter, spirits, &c., and this plan extends to their children. The rich use a complicated diet, and, especially the nobility, sit up late at night; hence they become tabid, like the poor.

SYMPTOMS OF STRUMOUS OPHTHALMIA.

When the conjunctiva in a delicate individual becomes acutely or sub-acutely inflamed, it constitutes what is called scrofulous or strumous ophthalmia. The comparative weakness of the body modifies the inflammation, so that writers have given this state a distinct name. There is a slight degree of redness of the eyelids, and if it extend over the lining of the globe, this form of ophthalmia is commonly called scrofulous, and supposed to be hereditary; but it is not more hereditary than any other affection. There are two varieties of disease called scrofulous. 1. Inflammation arising in a delicate habit; and 2. The formation of tubercles.

The only difference between common and strumous ophthalmia consists in the state of the body; the first occurs in strong, the other in weak subjects.

The weakness may be hereditary or acquired.

The attack of acute or sub-acute strumous ophthalmia may be primary—without being preceded by chronic inflammation. It is merely an extension of the affection I have already mentioned, and is denoted when acute or sub-acute—

1. By redness of the conjunctiva, but not in proportion to the intolerance of light.

2. By extreme intolerance of light, of heat, and of a varied temperature.

These alone are not decided characteristics of strumous ophthalmia, but one circumstance which will serve to distinguish it is—

3. A tendency to ulceration of some part of the lucid cornea. The ulceration generally begins rapidly, and the place where it occurs most frequently is upon the margin, or some portion of the centre, of the lucid cornea. It is a vesicle at first which bursts, and then there is an ulcer. Whenever there is ulceration of the lucid cornea the eye is extremely irritable. If the child (supposing the ulceration occurs in a child,) look at the light, or if you talk about the affection in the child's presence, the eye waters very much. With these symptoms there is some degree of fever.

It is of importance to distinguish between this ulceration and a spot or speck on the cornea. The common speck or spot is a deposition of the lymph on the cornea, or between the lamellæ of the lucid cornea; in this case the eye is less irritable than in ulceration, or, perhaps, not at all irritable. In ulceration of the cornea there is a small indentation into which you might introduce the head of a pin, and it is often surrounded by a deposition of lymph. The speck, if outside the cornea, is perceptibly raised above the cornea, but generally it can be seen to be sunk between the lamellæ of the cornea, and then there is no projection, but at all events no indentation. These small ulcers sometimes exist upon the palpebral conjunctiva. I have seen many examples of this. Sometimes a small abscess forms a little behind the tarsi, most frequently on the upper eyelid, and may be seen by everting the lid. The patient in this case complains of a limited uneasiness. When you are called to a patient labouring under sub-acute, and especially chronic, inflammation of this kind, you should examine the whole of the surface of the conjunctiva to ascertain whether any foreign body, or an inverted eyelash, is the cause of the inflammation.

There is a remarkable tendency in this inflammation to return, and its recurrence is influenced by two circumstances:—

1. The state of the weather.

It is very likely to reappear with the return of a thick raw atmosphere, such as occurs in London in the month of November; and in such weather it is very difficult to cure.

2. Any thing that disorders the stomach, as an indigestible meal, will, in some instances, reproduce the ulcer very rapidly.

If a strong subject be made weak by an attack of fever, and be exposed to cold or have disorder of the stomach, and then have an

attack of inflammation of the eyes, it will put on the character of strumous ophthalmia. You may see a case of inflammation of the eye occurring in a stong subject with none of the characteristic symptoms of strumous ophthalmia, and yet in its progress it will degenerate into that form of inflammation. I have seen this again and again. This proves that weakness of the constitution is the modifying circumstance of this inflammation.

SYMPTOMS OF COMMON OPHTHALMIA.

What is called common ophthalmia, or inflammation of the conjunctiva in strong subjects, is the same affection occurring in a vigorous habit. It is distinguished—

1. By redness of the conjunctiva.
2. By a sensation of heat in the eye.
3. By effusion of tears.
4. By swelled eyelids.
5. By considerable pain on exposure to light.
6. By a feeling as if foreign bodies were in the eye. The uneasy sensations in the eye are aggravated by directing the attention to the affected part.

Though generally there is an absence of the tendency to ulceration of the cornea which marks the strumous variety, yet sometimes the cornea becomes implicated in the affection, and those vessels, which usually transmit a colourless fluid now carry the red particles; and these red vessels may in some cases be seen traversing across that part of the conjunctiva which covers the lucid cornea, and this sometimes gives the appearance of redness to the lucid cornea; but the most common appearance of the cornea is a milkiness which seems to depend on distention of the eye. Take the eye of an ox, and press it, and you will observe that the cornea becomes milky. The same often occurs in horses when they are first turned out to grass, from feeding with the head low: they generally go blind, and if you examine the eye you will perceive a milkiness of the cornea. This may often be cured by bleeding, by correcting the position of the head, and by a spare diet.

Common ophthalmia may be acute or sub-acute, and then there is fever, but it has always a tendency to become chronic, all the symptoms remaining in a diminished degree. Or the chronic may arise independent of the acute and sub-acute forms.

It is a fact worth remembering that rheumatism sometimes attacks the eye. I have seen inflammation of the conjunctiva occur very suddenly in rheumatic habits, and generally the colour

is rather darker than in the usual form of inflammation there. It yields very rapidly to the use of colchicum.

SYMPTOMS OF PURULENT OPHTHALMIA.

Suppose the common remote occasion to have been very intense, or a peculiar agent to have been applied, and pus to be secreted from the conjunctiva; the affection in this case has acquired the name of purulent ophthalmia, which is only a modification of strumous, or of common ophthalmia.

Purulent ophthalmia in some cases arises from cold, from exposure to intense light, or from the use of coarse soap which gets introduced into the eyes; but suppose it arises, as it sometimes unquestionably does, from a peculiar poison,—from the contact of morbid matter; it then seems to have a power of propagating itself. Thus, if a medical man be injecting some fluid into the eye with a syringe, and occasions such a revulsion that a drop of the matter gets into his own eye, he will have the same affection. Whether this occurs in purulent ophthalmia arising from common occasions is not yet ascertained, and requires more minute observation than has hitherto been bestowed on it. Whenever pus is secreted from the conjunctiva great care is necessary lest the disease should communicate itself. I doubt whether it is contagious when it arises from a common remote occasion. But since we cannot always trace it to its origin, and some forms of it are contagious, we should be cautious in every instance till the doubt about the subject be cleared up.

Whether it arises from a common or a peculiar remote occasion the symptoms are the same. It most commonly arises a few days after birth, and in a few days pus is formed. The following are the symptoms of purulent ophthalmia, which is generally a very intense form of inflammation:—

1. It most commonly comes on with a sudden sensation of sand rolling in the eye, or needles pricking the eye. Of course this symptom does not refer to young infants.

2. The next symptom is a sudden and excessive redness of the conjunctiva, and this redness is not confined to that part of the membrane which covers the globe of the eye, but extends to that which lines the palpebræ above and below; and in a short time the conjunctiva becomes excessively distended, so as in a few days to resemble the surface of a protruded portion of rectum.

3. Great swelling of the superior eyelid.

4. A very copious secretion, first (for one, two, or more days) of a scalding serum, then of a yellowish or greenish pus. If you

examine the eye with a powerful magnifying glass, the pus may be seen oozing from the villi of the conjunctiva.

5. A tendency to ulceration or sloughing of the lucid cornea, when it is severe. The cornea in the progress of this affection seems sunk, or embedded in the conjunctival portion of the globe, which seems raised above it. In bad cases a sort of strangulation seems to take place, causing sloughing and ulceration; or the lucid cornea in bad cases becomes rapidly inflamed and eroded. Probably, also, the maceration of the cornea in the pus, as was suggested by the old writers, is one circumstance which occasions the slough, though it has been denied by writers in the present day. Sometimes the eye has been burst by attempting to open it.

6. The next remarkable circumstance is that the acute inflammation quickly becomes chronic or atonic. It puts on this character most rapidly in infants and weak adults, in two or three days for instance; in strong adults it is generally longer, say a week. It is important to be able to distinguish the change when it assumes the atonic character.

1st. Attend to the colour.

During the acute stage the conjunctiva is vividly red; when it becomes atonic, it becomes darker and darker, and puts on a dusky livid hue; the membrane is more flabby, and the vessels become less vivid, but of a brick-dust colour. It is difficult to point out these appearances by any language, but you should see them at an Ophthalmic Institution, and having once seen them you will never forget them.

2nd. You have a marked diminution of the pain. The alteration of colour, and the diminution of pain, are the only certain indications; but,—

3rd. The next circumstance is, that the secretion becomes more bland, and less acrid to the patient's feelings; but this may deceive you. The pulse becomes less disturbed, the skin cold, and the patient complains of more languor and lassitude.

In this stage one of two things may take place.

1st. An uniformly smooth chronic thickening of the conjunctiva on the globe and palpebræ may occur, which thickening may act as a local irritant on the eye.

2nd. Or if there be not this smooth thickening, what have been called granulations (arising from the protrusion of the villi, and the effusion of lymph) may arise, having no disposition to cicatrization; they are very common in the chronic stage of purulent ophthalmia, but by proper treatment they may generally be prevented.

They sometimes form very insidiously, and generally render the cure very difficult. Whenever you see chronic ophthalmia, especially when united with affections of the tarsal glands, always examine the lining of the inferior eyelid: you will find it loaded with blood, and perhaps with granulations. These granulations are not, as some writers say, always the consequence of acute ophthalmia, but occur when chronic ophthalmia has been the primary affection.

SYMPTOMS OF IRITIS.

Another form of inflammation of the eye, modified by structure, is very important to distinguish: it has been called iritis, or inflammation of the iris. It is easily distinguished. What we call iritis is a general inflammation seated in different parts of the eye. The iris is sometimes inflamed simultaneously with the joints; iritis sometimes, for instance, occurs during an attack of rheumatism.

1. The first and most common symptom of iritis is, that the iris loses its natural colour and brilliancy: this arises principally from the deposition of lymph.

It most frequently happens that iritis attacks only one eye at a time, which affords an opportunity of observing the iris in comparison with that of the sound eye. The iris very often has a reddish or brownish tint, with more or less puckering of the margin.

2. The next circumstance which would strike a medical man is the state of the pupil, which becomes more contracted than natural. This contraction is very often irregular: and this arises from adhesion from the effusion of lymph, which has glued the iris—mostly to the capsule of the lens. These adhesions are seen by using the belladonna: they exist when the pupil dilates in a triangular or oblong form. The iris is much less irritable to light than natural.

3. The aqueous humour becomes somewhat turbid, principally from the effusion of lymph. This circumstance, which is a constant attendant in a greater or less degree, is very remarkable, and is the cause of dimness of sight in the first instance. It is believed generally, that the iris secretes the aqueous humour of the anterior and posterior chambers.

4. The sight becomes dim and weak, so that if you give the patient a book, you will see that at a short distance he cannot read it distinctly.

5. A linear, glairy, redness of the tunica sclerotica occurs. This only attends iritis. Very large vessels, interspersed with smaller ones, run in broad flashes directly across the sclerotic coat to the

lucid cornea in almost straight lines, between which you may see the white part of the globe. In inflammation of the conjunctiva the red vessels are numerous and minute; the conjunctiva is intensely injected.

6. A sort of zone near the junction of the cornea and tunica sclerotica. In the healthy state I believe there is a zone of vessels there which transmit a serous fluid. In many cases of iritis this appearance is absent.

7. You have deep-seated pain in the globe, afterwards extending across the eyebrows, which varies much in its degree. If the inflammation be acute the pain is very severe; if sub-acute the pain is less severe; and if the inflammation be chronic scarcely any pain is felt at all. In acute, sub-acute, or chronic inflammation, the pain comes on by fits, after which it abates or entirely ceases for a time. The pain is worse at night, owing probably to the increased excitement which usually occurs at that time.

Iritis very frequently arises from a syphilitic taint. Be very cautious with regard to the pain in that form of iritis which occurs under syphilis, in which you have secondary symptoms, especially copper-coloured blotches on the forehead or sternum: with these you have disturbance of the general health, more or less emaciation, and a pale, faded, sallow, sickly appearance of the countenance. Even without pain there is dimness of sight; a turbid state of the aqueous humour; alteration of the colour of the iris, perhaps with small pustules on its surface; contraction of the pupil; and a suspicious expression of the eye. As it advances there is very great pain.

The iris is well supplied with nerves. Iritis may very generally be considered as inflammation of the whole globe of the eye. You have distinct evidence of the iris being inflamed. You have proof of the sclerotic coat being inflamed. You know that the choroid plexus is connected with the sclerotic coat by nerves and vessels, and it is probable that it is always inflamed too. You have proof that the retina is inflamed by the intolerance of light.

SYMPTOMS OF RETINITIS.

When the retina is inflamed alone the following are the indications of that condition.

1. A remarkable intolerance of light, most urgent when the eye is exercised, as in reading or looking at a bright object.

2. A pupil, in slight cases very variable, alternately contracting and dilating with great rapidity; or, in other cases, remarkably and permanently contracted to the size of a pin's point.

3. The pupil is very often slightly twisted from the centre, especially when the inflammation occurs secondarily to some affection of the head, which is often the case. This alteration of the pupil gives a peculiar expression to the eye and countenance which is often noticed by the patient's friends, but which it is impossible to describe in words.

These three symptoms form the positive, and the absence of all the other symptoms of inflammation the negative, proofs of this inflammation. There is no apparent inflammation in the external tunics of the eye or in the iris, sufficient to account for the intolerance of light and variable or contracted pupil.

It is very apt to attack sedentary persons, such as literary men and students who read much by candle-light, or those who look at bright objects, for example, mechanics, &c., especially in a chronic degree in combination with disorder of the stomach, liver, bowels, and skin. But it is very often found in persons whose brain is gorged.

The chronic form of inflammation of the retina is, I suspect, much more common than is generally believed. Acute inflammation sometimes attacks the retina and rapidly destroys the sight: the pain is excruciating, and the pupil soon becomes gaping and motionless.

In chronic inflammation of the brain the patient sometimes complains of intense pain, but no indication of mischief can be discovered on looking into the eye. There is extreme intolerance of light; and it is distinguished further by the functions of the brain being disturbed.

1. The intellectual functions undergo some change: there is usually inaptitude, &c. of mind.

2. The sensitive functions are affected; as is proved by intolerance of light and noise, altered taste, and irritable touch.

3. The motive powers are influenced: there is obscure uneasiness in the head, a dilated pupil, a dropping of the upper eyelid, &c.

SYMPTOMS OF AMAUROSIS.

The affection of the eyes called gutta serena, or amaurosis, consists in a weakness or abolition of sight, which cannot be accounted for on examining the eye. It very often indeed proceeds—

1. From simple turgescence or fulness of vessels about the head, chronic congestion, or chronic inflammation of the brain, or what Rostan calls *ramollissement du cerveau.*

2. Sometimes it is the effect of some disorder about the optic nerves. It arises—

3. Sometimes from inflammation, &c. of the retina itself.

4. Sometimes from affections of the frontal nerves.

5. Sometimes from congenital defects of the eye.

6. From extreme exhaustion. I have seen it occur immediately after a large quantity of blood has been lost. It occasionally arises in protracted cases of typhus fever; the sight becomes dim and the pupil dilated even after the affection of the brain has been removed. A patient, for instance, in passing an evacuation in the erect position finds the sight become dim; and this may be permanent, or a squint may occur. Many individuals see black spots or bright spangles before their eyes when they are exhausted, and then rest and cordials are the best remedies.

7. From poisons; especially from the operation of mercury on the brain.

8. It sometimes arises sympathetically from affections of the stomach.

Let us next consider the—

TERMINATIONS OF OPHTHALMIA.

Inflammation of the eye terminates precisely as inflammation does in any other part. It may terminate—

1. By effusion, either simple, adhesive, or suppurative, or all of them.

1st. The most common is the simple effusion, in which you have an increase of the natural secretion: this occurs mostly in persons with paralysis of the lids, or from foreign bodies, &c.

Sometimes effusion occurs in the cellular membrane under the conjunctiva, raising it from the sclerotica so as to be a little above the lucid cornea: this has been called chemosis.

Sometimes blood is effused in the cellular membrane under the conjunctiva, as in inflammation of the bronchial passages, and then it is called ecchymosis.

2nd. Adhesive effusion is the effusion of lymph, or of that substance which is capable of being, and often is, organized. In this way it may happen that parts of the palpebral lining and of the conjunctiva covering the eye are glued together. It sometimes happens that lymph is effused between the lamellæ of the cornea, which becomes hazy or opaque, and a permanent spot or speck often remains,—a nebula or cloud on the bright part of the cornea.

Lymph, you should recollect, is generally effused in iritis; or very often between the iris and the capsule of the lens, uniting the one to the other, and the pupil becomes permanently contracted, which

would limit the range of vision; or the pupil may be plugged up with lymph, so that the patient becomes perfectly and permanently blind. Sometimes the iris adheres to the inside of the cornea. Iritis, then, is obviously a very dangerous inflammation so far as the sight is concerned.

3rd. Suppurative effusion.

Of this you have an example in purulent ophthalmia, in which abundance of pus is secreted from a mucous surface. The conjunctiva is very nearly related to our old friends the mucous membranes.

It very often happens in certain habits, from mismanagement, or even under the best management, that the whole globe of the eye suppurates after an operation on it; and the same thing may occur independently of local injuries. You have an example of suppurative effusion when pus is poured out on the cornea under ulceration.

Sometimes pus is secreted into the anterior chamber of the eye, which is called onyx; and sometimes it is effused between the lamellæ of the cornea.

The effusion of pus is not so dangerous as that of lymph, because it cannot be organized.

It is important to distinguish lymph from pus, and having once seen them you can never mistake them. Pus is of an uniform consistence and yellowish colour. Lymph is glairy and in irregular masses. Inflammation of the eye sometimes terminates in—

2. Ulceration; of which you have examples in inflammation of the conjunctiva occurring in weak subjects, and in purulent ophthalmia from common or peculiar remote occasions. You have ulceration in the margin, or in the middle, or in the interior of the lucid cornea. And when it takes place the ulcer is filled with lymph, which becomes organized, and thus the breach is repaired. It terminates in—

3. Mortification.

Sometimes you have sloughing, a species of ulceration; it most frequently occurs in purulent ophthalmia, sometimes from inflammation of the lucid cornea. In some cases this arises from acrid discharges.

Saunders says the eyes have been bathed a week together in pus without sloughing occurring. But a friend of mine in extensive practice says the eye sometimes bursts from discharges kept to the eye for days by poultices.

The cornea loses its natural brilliancy and transparency; a

fissure takes place, as in sloughing on the surface of the body; a line of ulceration succeeds: layer after layer comes away, until the anterior chamber is opened, and sometimes large portions of the lucid cornea slough off; the aqueous humour is discharged, and sometimes the lens escapes. The ulceration may be healthy or unhealthy; when the sloughs are going on well a white halo of lymph surrounds the part, the eye becomes less red, and less intolerant of light; and when unhealthy, the edges have a ragged flocculent appearance.

Here, then, you see the danger of the aqueous humour escaping if the eye be not carefully examined. If the eye be closed in purulent ophthalmia it should be opened with great delicacy.

4. Granulations may form in the eye: on the cornea, which is a species of regeneration. There is another form of granulations not deserving the name, consisting of little hard grains, forming under the eyelids, acting there as foreign bodies, and maintaining the inflammation to a great degree. They are not always a consequence of acute ophthalmia, and may generally be prevented. Neither do they always attend ophthalmia; for even in the purulent form the conjunctiva is often immensely distended and thickened, but the surface is smooth, and none of these tubercles are formed. They sometimes form not only under acute and subacute inflammation, but very insidiously under chronic inflammation, and are very difficult to cure in these cases.

LECTURE XXXV.

COMMON INFLAMMATORY FEVER.

TREATMENT OF INFLAMMATION OF THE EYES.

I PROCEED to consider the treatment of the various forms of inflammation of the eye which I described in the last lecture; and, first, with regard to the

TREATMENT OF OPHTHALMIA TARSI.

I. LOCAL TREATMENT.

1. The best local application in the first instance is the unguentum hydrargyri nitratis; and the best mode of applying this is

in the liquid form. Have a fine camel-hair pencil, dip it in a little of the ointment, and make it liquid by passing it rapidly through the flame of a candle; and in doing this you should use a double motion, that is, you should not only rapidly pass it through the flame, but at the same time rotate it between the finger and thumb. You should learn, therefore, this double motion, otherwise the hairs of the pencil being singed, a portion might be left in the eye, and act directly as a local irritant. It is best to use the strong ointment, which should be applied once a day for a few days along each tarsus. The operation is at first painful, and stimulates the tarsal glands, producing a copious secretion of tears and some smarting of the eye.

2. Another important point is to keep the eye clean, especially in the morning. The eye may be washed twice a day with tepid water, using a soft sponge or a soft clean towel, so as entirely to remove the gum which collects about the roots of the eyelashes.

Sometimes great benefit is derived from the zinc ointment, especially when the lids become glued together in sleep. Or this effect may be prevented by anointing the edges of the tarsi with oil of almonds or the mildest white spermaceti ointment. But one of the best means of preventing the agglutination of the lids during sleep is to avoid over-loading the stomach at bed-time.

But as this affection is invariably secondary to some affection of the alimentary canal, and will generally cease of itself if that affection be removed, it requires—

II. CONSTITUTIONAL TREATMENT.

With regard to—

1. The medical management.

1st. It is generally necessary that you should give occasionally a mild laxative.

2nd. You may also occasionally give a mild alterative if the secretion of bile be morbid or scanty: as, for instance, one grain of calomel, or two or three grains of blue pill, or two or three grains of mercury with chalk. If there be no deficiency of bile you need not give any mercury, and at all events it need only be exhibited every second or third night. In this case other aperients may be used, such as castor oil, or aloes combined with rhubarb or jalap, and extract of gentian. Mercury should only be given for a definite end,—to restore or improve the secretion of bile; and when that object is accomplished it should be altogether discontinued.

3rd. The tepid salt-water bath occasionally used (perhaps about twice a week) will be of great benefit. With regard to—

2. The regiminal management.

You should—

1st. Attend to the diet; which should be simple in quality, and moderate in quantity. If there be no fever, it should be nutritious, consisting of three plain meals in the day. The affection occurs most frequently in children, and they should have bread and milk morning and evening, and animal food at noon.

2nd. In all these cases it is of importance to maintain the general strength, for which purpose a proper share of exercise in the open air should be taken when the weather is favourable, but not carried to fatigue.

3rd. The clothing should be sufficient to keep the skin comfortably warm. Nothing operates so much upon delicate adults or on children as a variable atmosphere, and on that account the surface should be completely clothed with flannel in all these cases.

4th. It is of importance that the patient should have a sufficient quantity of sleep, and that it should be taken at an early hour. Nothing, with the exception perhaps of cold and an irregular diet, developes scrofula as much as keeping late hours.

5th. Remove all stimulants, and abstract all the opposing circumstances; for instance, the remote occasions of the local affection and of the disorder of the alimentary canal, as heat, light, cold, cramming, and exercise of the eye. This affection is often protracted indefinitely by errors of diet and drinks, &c.

The same local treatment, the same medical treatment, and the same general management, are applicable to tinea ciliaris. A very good substitute for the citrine ointment, as it is called, and nearly resembling it in its properties, may be made by intimately blending together one drachm of what is called the red precipitate, finely levigated, with one ounce of the cetaceous ointment. These are generally the best proportions; in some cases half the quantity of red precipitate answers very well.

In cases of ophthalmia tarsi combined, as it often is in adults, with chronic inflammation of the conjunctiva, your first object should be to examine and be sure that the eye-lashes are not inverted. I have known several examples where practitioners having overlooked this circumstance have failed to remove the inflammation; while another practitioner, by plucking out the inverted hairs, has succeeded in curing it.

This form of inflammation is complicated with an affection of the stomach, liver, or bowels, or all of them, excepting those cases which depend upon inverted eye-lashes, or other mechanical irritants. Attend to these, and the patient gets well rapidly.

Sometimes the patient actually labours under a low degree of inflammation of the mucous membrane of the intestines, and leeches, a bland diet, and a tepid bath, will remove it. In most cases a spare diet is not required, but merely a simple one.

A lady was attended by an eminent oculist for months with this complaint. She had red eyelids, gummy eye-lashes, with chronic inflammation of the conjunctiva. The first day I saw her it was evident that the inflammation of the eye was only a part of a most extensive affection. I desired her, (as I frequently do), without assigning any reason to put down all she ate and drank the next twenty-four hours. She gave me an account of what she took, and it amounted to a considerable weight of various kinds of food. Here, then, was the secret. I prescribed the occasional use of a tepid bath, an occasional laxative, and an occasional alterative, and allowed her about sixteen ounces of food daily; and under this treatment she got well.

You should make a point of putting the patient in a fresh atmosphere. If a confined close atmosphere be breathed, the disease is prolonged in spite of every means.

You may assist in mitigating chronic inflammation of the conjunctiva by half a grain or one grain of nitrate of silver in one ounce of water. This may be applied once a day. Or you may use a lotion of sulphate of copper or of alum, in the proportion of one or two grains to an ounce of water.

TREATMENT OF STRUMOUS OPHTHALMIA.

This form of ophthalmia is often sub-acute. In these cases you will generally find local bleeding and purging will remove the inflammation to a great extent. While the fever, local heat, and intolerance remain, leeching will be beneficial. If it occur in a child, allow it a little bread and milk every morning, and a small quantity of animal food in the day, if there be no fever. But if fever be present, you must make use of a bland farinacious diet, as arrow-root, &c. If you apply leeches, do not apply them too near the eye, for the punctures often inflame, and the inflammation extending may produce swelling of the lids and aggravate the original affection. Beside this, I believe that they never do any good unless they reduce the force and frequency of the heart's action; therefore

it is not of consequence to apply them near the eye, and if the tongue be red at the tip they may be of service applied to the epigastrium. If the medical man have a delicate hand, he may scarify the under eyelid when it is overloaded with blood. It should be turned out, and the mere weight of the instrument (which should be a very fine one) should pass about one-sixth of an inch along the conjunctiva, so as to make a slight incision as fine as a hair, and then the blood rapidly oozes out. The other eye should be kept open. Wash the affected eye with a fine soft sponge and tepid water as long as the bleeding continues; and be sure that no clot of blood is left in the eye, to act as a local irritant, and increase the inflammation. If the operation be not performed with extreme delicacy, much harm may be done.

Blisters behind the ear or to the nape of the neck will be advantageous; and considerable benefit will be derived from one drop of the vinum opii, or of a watery solution of opium, introduced into the eye once a-day. But in these cases you will do no good unless you pay attention to the diet. Prescribe occasionally a little alterative, and keep the bowels open daily by a mild laxative, as senna, &c.

This plan, if properly persevered in, will succeed even when ulceration has taken place.

It sometimes happens that a sub-acute inflammation of this kind suddenly becomes very acute, and threatens the destruction of the eye: the conjunctiva becomes extremely red, the cornea becomes hazy and red vessels are seen running across it, there is extreme intolerance of light, with an intensely hot skin, and a very quick pulse.

I saw one day a boy with sub-acute inflammation of the conjunctiva, with a small ulcer of the cornea. This was in the beginning of December, when the weather was cold and raw, and the inflammation suddenly became acute, but was stopped by copious bloodletting, followed by a full dose of opium.

Relapses are extremely common, especially from four sources; 1. From cold; 2. From irregularity of diet; 3. From late hours; and, 4. From anxiety of mind.

Therefore, when the patient is convalescent, he must avoid cold, and indigestible food, keep good hours, and abstain as much as possible from anxiety.

Change of air is often necessary. If the patient continue delicate, send him into the country, and, if convenient, let him go to the sea. In the first week or two he may use a salt-water bath, about the temperature of 98° Fahr., every second day. After

that, he may use a salt-water bath of the same temperature, and in rising from it, he may have two gallons of water poured over him. After this he may go into the sea.

TREATMENT OF COMMON OPHTHALMIA.

When this inflammation of the conjunctiva occurs in strong subjects, if it be acute, you must bleed till you make a decided impression on the heart's action. This will empty completely the vessels of the part affected, and sometimes the injection does not return. Sometimes, however, the injection does occur again, and then it will be necessary to bleed the patient again in the same decisive way as before. If you wish to save the patient's strength, bleed him erect on his feet, by which means syncope will occur from the loss of a few ounces of blood, but in the recumbent posture a much larger bleeding would be necessary to produce the same effect. Immediately you perceive symptoms of approaching syncope, the face becoming paler and the breathing hurried, lay the patient down.

A friend of mine in the North of England has used this method of bleeding with very great success. If the patient be in bed, syncope will occur sooner if the trunk be erect than in the horizontal posture. During syncope the eye is perfectly blanched, the capillaries which were injected become empty, the inflammation is suspended and often is not renewed. When you abstract blood copiously, give a full opiate after the patient begins to recover from the faintness, to prevent hemorrhagic reaction.

One or two decided bleedings, with local blood-letting, saline aperients, and calomel, will generally be sufficient to remove the inflammation rapidly. A dose of calomel, rhubarb, and jalap, in combination, should be given, and be followed up by castor oil, or sulphate of magnesia and infusion of senna.

Blisters should not be applied till the violence of the inflammation is subdued. I have never seen them of use until some intermission has been produced. They may be placed behind the ear, on the nape of the neck, or on the epigastrium ; but if they increase the heart's action in force or frequency they do harm, and should not be repeated.

Nauseants are beneficial in some instances. Ipecacuanha may be given in small doses, frequently repeated, till it produces a damp relaxed state of the skin, and a loose state of the bowels. It reduces the heart's action, and thus allays the inflammation. In all these cases warm applications should be preferred.

If any lotion be required, tepid water is, upon the whole, the best. The application of cold is often followed by what is technically called reaction, and the inflammation is aggravated. But there are some exceptions to this rule, which can only be decided by consulting the patient's feelings, for cold applications may be used if they be not uncomfortable.

Be strict about the diet, which should be very spare.

Exclude the light to a considerable extent, but remember that though it is right the eyes should be moderately shaded from the light, you are not to keep the patient in perfect darkness. This is generally a very bad plan; for, when light is readmitted, the irritability of the eye is so great, that the renewal of the inflammation is the consequence.

The patient should be kept in an equable, and not very high, temperature, and rest should be enjoined. The trunk should be elevated in bed, and the head should be supported, but the face on the inflamed side should not touch the pillow so as to allow heat to accumulate there.

The acute stage, of which we have been speaking, having passed away, the pain entirely ceases, or becomes diminished; the intolerance of light is abated; there is a cessation of the scalding tears; the eye is less vividly red, and the vessels have a dull, flabby appearance; the tarsi have a tendency to adhere; and the fever is much abated. Astringent injections often answer a good purpose, or a single drop of vinum opii, introduced once or twice a day into the inner canthus of the eye. Great delicacy is required in order to do it properly. If it be dropped from a height, from the neck of a bottle, it directly irritates the eye. The best plan is to have a small silver instrument in the shape of a salt-spoon, by which you may introduce it gently over the inner canthus. The eye smarts a good deal, there is a copious flow of tears, and a marked relief of the symptoms. One of the best astringent injections you can use consists of one grain of oxymuriate of mercury, one drachm of vinum opii, and six ounces of distilled water; or you may use alum, or sulphate of copper, in the proportion of one grain to an ounce of water; or nitrate of silver, in the proportion of one grain to four or six ounces of water. The injection should be tepid. Go on with a regulated diet; attend to the bowels; let the patient avoid cold, and take a sufficient quantity of rest.

TREATMENT OF PURULENT OPHTHALMIA.

In the first stage it requires, in adults, very copious blood-letting.

The best plan is, when sand appears to roll in the eye, to bleed very decisively: that is, to approaching syncope; and to follow this up with a full dose of opium. Saline medicines with colchicum will then generally have a very excellent effect.

If you refer to the Edinburgh Medical and Surgical Journal for 1807, you will find an excellent paper on this subject by Mr. Peach.

When purulent ophthalmia occurs in infants, be careful about general blood-letting. Local bleeding in the onset is generally better; and you should never leave the patient till the bleeding from the punctures is stanched, for children are sometimes lost in that way.

Remember one thing with regard to this variety: that the atonic stage occurs more rapidly than in any other inflammation of the eye, especially in infants and delicate adults, so that the time for bleeding is brief. The two characteristics of the chronic or atonic stage are, the colour becoming dusky—less vivid and more brick-coloured, and the appearances of the vessels flabby compared with the first stage. There are also a diminution of pain, a more bland secretion, and less irritability of the eye, while the skin often becomes more cool, the pulse more feeble, and the strength more prostrate. These last are not constant indications, the first two are. The same plan must still be pursued, but under a subdued form. A bland diet and a regulated state of the bowels are required, and at this period you may sometimes use local blood-letting with great advantage. This is the period also for astringent lotions, of which the best is composed of two or three grains of alum to an ounce of distilled water. The strength of this may be varied according to its effects; if it produce much pain, the quantity of alum must be lessened. Some use a lotion containing half a grain or a grain of nitrate of silver to an ounce of distilled water, but I prefer the solution of alum; and if the lotion require to be varied, I think sulphate of copper a good substitute for the alum. Before using these lotions the eyes should be cleansed thoroughly from pus by tepid water, and the lotion should be injected by Anel's syringe, which is the best for the purpose. The medical man should do it himself first, to show the patient's attendants the proper method. If the eye be not opened carefully, or be syringed violently, you may have some of the fluid spirted into your own eyes, and thus you may get the disease. I met with such a case lately. You cannot be sure whether it is from a peculiar or a common occasion, and whether, if it be from a common occasion, it can or cannot

propagate the disease, there is considerable risk, against which you should guard the attendants by warning them of their danger.

When ulceration or sloughing occur in the atonic stage of inflammation, the cure will mainly depend on the general management. It will require the same treatment as ulceration of the cornea in strumous subjects, which I mentioned under the head of strumous ophthalmia. Attend to the functions of the skin, and keep the bowels moderately open every day. Give an occasional alterative if necessary; and put the patient in a fresh atmosphere, which is of great consequence. If the stools be sour, as they very often are in children, give magnesia, or the carbonate of one of the alkalies, with an aperient. Attend to the diet, which in all these cases should be nutritious, but not too stimulating, lest it should excite the heart's action.

In many infants, in two, three, or four days, the atonic stage occurs; in strong adults in six, seven, eight, or nine days perhaps.

The atonic stage having once been formed, the cure mainly depends on what I have spoken of as the general management.

Some advise bark, and it may be tried in substance, or in the form of infusion. But sulphate of quinine is said to, and I think does, possess all the valuable properties of bark, and is exceedingly applicable to children. One drop or less of dilute sulphuric acid will dissolve a grain of sulphate of quinine in a very small quantity of water; and thus you may give it often with a very beneficial effect. The almond emulsion conceals it best.

The great objects are to arrest the inflammation at the onset; to prevent sloughing; and, lastly, to prevent the granulations.

When the granulations form on that part of the conjunctiva which is reflected upon the palpebræ, they press upon the globe of the eye, and generally end in ulceration of the lucid cornea itself. When these granulations exist, one of the best applications is the sulphate of copper, by which the army surgeons most frequently remove them. Some persons use the scissors, and then apply the blue-stone; others trust entirely to the blue-stone. And latterly a single drop of Goulard's extract has been used with very great benefit. Attend to the state of the skin and of the bowels, regulate the diet, and put the patient into a fresh atmosphere. They are generally very tedious cases, but if the medical man be dextrous in the application of the blue-stone, and attentive to the regiminal management, he will generally succeed.

In neglected cases the conjunctiva becomes very much thickened, its surface remaining smooth; and I believe the best mode of

removing this and the granulated condition of the conjunctiva, is to persevere in a subdued antiphlogistic regimen, including local blood-letting, a regulated diet, and mild aperients.

THE TREATMENT OF IRITIS

depends on its degree. When it is acute it is a very dangerous affection. It may generally be removed very rapidly by bleeding locally or generally; and there is a great advantage in bleeding when the inflammation is acute or sub-acute, because you can obtain the specific effects of mercury on the system far more rapidly, and by smaller doses, than before blood is abstracted. The two remedies in iritis are bleeding and calomel.

If the inflammation be acute, bleed the patient promptly and decidedly at the onset, and give calomel to salivation; by these means you will stop the inflammation and save the patient's sight. Calomel has a remarkable power of averting the inflammation, which is attended by effusion of coagulable lymph; and thus far it is almost a specific. Having reduced the force and frequency of the heart's action by bleeding, you may affect the system by very small quantities of calomel indeed. If in any case it be of very great consequence to affect the system very rapidly, one grain of calomel every four or six hours is generally sufficient. I used to give one grain every two hours, two grains every four hours, or three grains every six hours, but this is more than is requisite. You will generally arrest the disease by the time the mouth is affected. It is necessary to combine each dose of the calomel with about a quarter of a grain of opium.

In chronic inflammation, relief will be obtained from the use of leeches, and the cautious administration of mercury.

Attend to the state of the pupil in all the stages of iritis. Dilate it by rubbing extract of belladonna round the eyelid; or mix a scruple, or half a drachm, or sometimes even a drachm, of extract of belladonna in an ounce of water, and strain it: insert two or three drops of this fluid into the affected eye morning and evening, and then the pupil will immediately become dilated. Lymph is often effused between the capsule of the lens and the posterior part of the iris, and adhesion takes place, and if the pupil be dilated at that time the sphere of vision will still be considerable. I should not hesitate to use belladonna when adhesions had taken place, if they were recent, although some practitioners are afraid to dilate the pupil after adhesions have formed. They are often broken down by dilating the pupil, and

especially by continuing the calomel several days. You may almost invariably discover by the use of belladonna whether adhesions have taken place, for you may be quite sure of it if you see the pupil dilate in a triangular form; but if it be quite circular you may be certain there are no adhesions. In some cases great care is necessary in the administration of calomel. In one gentleman whom I know its action is that of a poison, and in him a very small portion produced ptyalism after he had been bled. In some instances, then, you cannot use calomel in the way I have directed. I have seen cases where it has produced inflammation of the bowels, and then the best preparation is hydrargyrum cum cretâ, or you may prescribe mercurial friction. When the mouth becomes sore, you should immediately suspend the use of calomel, at least for a few days, because it accumulates in the system, so that a person's mouth is more and more affected several days after the omission of the calomel. And if the iritis be entirely abated you need not repeat it. If it remain, keep the mouth gently affected till all the symptoms cease. Keep the patient within doors, lest the inflammation be renewed, as it very often is, by cold applied to the surface of the body while under the influence of mercury. I have known twenty people fall victims to cold while under the influence of mercury: one of these was a case of iritis.

TREATMENT OF INFLAMMATION OF THE RETINA.

You should abstract those circumstances which excite or maintain the inflammation. It generally occurs in a chronic form, and is only to be remedied by remedying the morbid condition of the stomach, liver, and bowels, on which it depends, or which is associated with it. If it exist in studious persons, or in mechanics who contemplate bright objects, you must abstract those occasions. Moderate bleeding will generally suffice, with a strictly regulated diet, and keeping the bowels open. If the person be sedentary, he should take a little exercise, and you should act on the bowels and on the liver. When it occurs in the acute and sub-acute forms, it requires copious blood-letting; its progress is often so rapid as to defy all treatment, and it terminates in complete blindness.

There is one form of inflammation of the eyes which sometimes occurs, and which, if not very early attended to, frequently destroys the sight. It is that form of ophthalmia which occurs towards the close of typhus fever. It is attended often by suppuration if the position be not attended to; if this be changed, the bad effects may generally be prevented. The eye of that side on which the patient lies becomes greatly injected, and in one case the whole globe

suppurated. Little can be done, for the patient is already so exhausted, that ordinary remedies have but little effect on it.

TREATMENT OF AMAUROSIS.

Sometimes amaurosis occurs without any appearance to account for the dimness of sight or total blindness. Most frequently there is a degree of obliquity in the eye. The pupil is generally more dilated than natural. The treatment is very various, because the causes are various.

In some cases it is connected with irritability of the stomach; in other cases with an overloaded colon.

It may occur from wounds about the eyelid or eyebrows.

Sometimes it occurs from inflammation or congestion of the brain, arising chronically; this is the most common cause of amaurosis. Whenever the patient complains to you of weakness of sight, examine the brain.

I saw a lady one morning, two days after the attack came on, and she required two copious bleedings. The appearance of her room to her was that there were a variety of colours in it; her sight was confused; in short, to use her own expression, her eyes were like a pair of kaleidoscopes.

Amaurosis sometimes arises from copious evacuations of blood.

A gentleman vomited blood and became blind; he has never recovered his sight.

It often arises from a deficiency of blood about the eyes.

I was lecturing here one evening, and suddenly I became unable to see any of the pupils, and could merely see a few indistinct imaginary objects. On my way home I called to see a patient: when I attempted to examine his tongue, I found, that I could not see it; I could see nothing but occasionally a spangle on his nose, and then a cloud, and then a spangle on his tongue, and so on. I had no sleep the night previously, and had been then lecturing an hour and a half. I went home and laid down, and took a glass of wine, and my sight soon returned.

The same thing often occurs in typhus fever; the patient, on getting up, feels giddy and blind; and if he be not again placed in the recumbent posture will faint, and perhaps die.

From these short and imperfect remarks, you will infer that you must investigate the occasion and the pathological condition of the affection, and treat it accordingly by the usual remedies.

LECTURE XXXVI.

COMMON INFLAMMATORY FEVER.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, DIAGNOSIS, AND TREATMENT OF ERYSIPELAS.—ILL EFFECTS OF WOUNDS IN DISSECTING.

TAINTED atmosphere has various effects. In some it produces an affection which puts on the character of hospital gangrene, of which I believe it is the sole occasion; in others it assumes the form of erysipelas; and in others that of inflammation of the veins. These are its most common results.

Erysipelas may be connected with this and with other peculiar remote occasions: it is sometimes mixed up with genuine typhus fever.

ERYSIPELAS

is nothing, abstractedly considered, but inflammation commencing in the skin and spreading to the adjacent cellular membrane. It is pretended that it is a peculiar affection of the system, but in truth the skin is inflamed because it is predisposed.

If you ask a nosological practitioner what erysipelas is, he would say it is St. Anthony's fire; and if you pursue the question further, and ask what that is, he would reply that it is erysipelas; so that the logical inference is, that erysipelas is nothing more or less than erysipelas: an unquestionable truth, but thereby hangs a tale—a lecture of an hour's duration at least.

Erysipelas is an affection of very great importance, and I shall illustrate its pathology by a strict reference to facts.

Viewing it for a moment as a local affection, we might define it to be a diffused inflammation which begins in the skin, and is preceded or followed by fever, which sometimes communicates itself to the adjacent cellular membrane, and terminates by simple effusion, suppurative effusion, or mortification.

It is inflammation, properly speaking, of the skin, the structure alone modifying its external character; and that inflammation arises precisely in the same way as other inflammations: sometimes

it creates fever as an effect; sometimes it arises secondarily,—fever preceding the affection of the skin, which becomes inflamed because it is a predisposed part.

It is not then a peculiar affection.

A political writer has said that power is often brought to as narrow a point in republics as in absolute monarchies. This used to be the case in the republic of physic; but information is now more diffused, and the power of public opinion is more speedy in overturning error and establishing the truth. No opinion will stand unless it is correct. If it be true, it has nothing to fear: if it be false, and bear on the public welfare, the sooner it is destroyed the better.

But let us withdraw our view from the external pathology to the far more important internal pathology of erysipelas; and I shall first speak of the—

PREDISPOSITION TO ERYSIPELAS,

which is—

1. Hereditary.

A case is related in the Medical Communications vol. 2, p. 22, by Dr. Bromfield, of a child born in the British Lying-in Hospital, with erysipelas of the face, legs, and hands; and the ends of the toes were covered with black sloughs. The mother had breathed the tainted atmosphere of the wards of that institution.

The tendency to erysipelas is very frequently connected with original structure. Remarkably delicate skin and mucous membranes render individuals especially prone to it. Old persons, in whom the skin becomes constricted and weak, are prone to it.

But it never appears on the surface without some indication of irritation of the mucous membrane of the alimentary canal. I only repeat this from its great importance, and because it is not understood.

Mr. Abernethy has written some observations on what he calls disorder of the digestive organs; and almost all the affections he refers to that cause are referrible to irritation in the mucous membranes, and yet he has not even glanced at the doctrine. He deserves great praise for having called the attention of the profession to this subject, but his views are indistinct, and his practice dangerous, because under one abstract term he confounds different affections.

The tendency to erysipelas is very frequently—

2. Acquired.

Galen was aware that bilious persons are liable to it. The

biliary secretions are hardly ever disordered without the mucous membrane of the alimentary canal participating in the disturbance. Drunkards are very prone to torpid liver and irritation of the mucous membrane of the alimentary canal, and on that account are very liable to erysipelas.

All those affections which break up the general health, and at the same time affect the skin, stomach, liver, and bowels, predispose to it, as typhus, scarlet fever, small-pox, &c., when they are severe. Hence individuals convalescent from these affections become liable to an attack of it from exposure to the—

REMOTE OCCASIONS OF ERYSIPELAS.

These are either common or peculiar.

One of the common occasions is—

1. Cold.

If it be applied generally, so as to chill the whole surface, and if excitement follow and the skin be predisposed, erysipelas takes place. But cold operates sometimes locally. This is the case in sailors, ploughmen, &c., from their legs being splashed in wet weather. Sometimes erysipelas occurs in the face, from a current of cold air: nothing is more common than this in the wards of an hospital. Sometimes sudden great alternations of temperature will bring it on. This is often seen when the mornings and evenings are cool and the days are intensely hot.

2. Heat or a high temperature sometimes brings it on. Sometimes it operates universally as a stimulant, and the skin, being predisposed, becomes inflamed. Sometimes it operates locally.

I knew a soldier who had two attacks of erysipelas from the direct influence of the sun's rays on his face, the skin of which was powerfully predisposed.

3. Mental emotions, either stimulant or depressant, may produce it.

4. Offending ingesta are a very common remote occasion of erysipelas in infants.

Confectionery, fruit, &c. produce and increase irritation of the mucous membranes, and erysipelas appears on some part of the surface; and in children, in infants especially, from the extreme delicacy of the skin, it sometimes travels from one to another part till it has at last visited the whole surface. It often arises in the same way in adults, from a draught of sour milk, &c. The skin and mucous membranes being irritated, the upper lip often swells, and itching of the nose arises from the same cause;

for, in fact, the skin and mucous membranes are a continuous structure.

5. Sometimes external injuries may be the remote occasion of erysipelas.

I saw an apprentice of a medical friend of mine who had a blow on the head with slight laceration of the integuments. He had some degree of irritation of the alimentary canal at the time. He became feverish, and staggered as if he were intoxicated, and erysipelas followed in a severe way.

A surgeon, before performing an operation, should be sure that no irritation exists in the mucous membranes of the alimentary canal, and that their functions and those of the skin are in a healthy state. I have seen such lamentable effects, especially in children, when some disorder of the mucous membrane has been overlooked, that I must again point out to you the intimate connexion between physic and surgery, the principles of which are inseparable.

Sometimes erysipelas arises from the common operation of vaccination, sometimes from the bites of leeches, when the skin and alimentary canal are disordered.

6. Erysipelas sometimes arises from the influence of mercury, which acts very powerfully in several ways.

1st. It increases the sensibility of the nervous system to the highest possible degree.

Look at an individual employed as a water-gilder: exposed to the fumes of mercury, he becomes so irritable that when a door is opened he starts as if he were electrified.

2nd. When ptyalism is created it produces an increased action of the heart, which we call excitement.

3rd. It produces prostration of the muscular system.

4th. It produces local irritation about the mouth.

And from these circumstances erysipelas of the face frequently arises, especially when the patient breathes the foul air of a venereal ward.

7. It sometimes arises from a certain infection or local taint of atmosphere.

Many writers have deemed it contagious, or communicable from one person to another. But this I doubt, and deny as far as my experience goes. It often occurs in the same ward or house, because the individuals all breathe a similar tainted condition of the air. What occurs in the Fever Hospital is applicable to other large hospitals. In autumn, when the wards are crowded and the air stagnant, when in fact the air rendered foul in any way is not

removed and replaced by fresh and pure air from without, erysipelas is almost certain to appear, and affect different individuals between whom no intercourse exists. In one a leech-bite, in another an indigestible meal, in a third a blast of cold air, produces this affection; in others it has no such obvious remote occasion.

As to the chemical composition of this state of atmosphere I am ignorant of it; it seems to be produced, 1. By the odour of the stools; 2. By the odour of the urine; 3. By the odour of the skin; and 4. By the odour of the breath;—tainting the atmosphere. It was much more common in the lower than the upper wards of the Fever Hospital, because the air travels much more rapidly above than below, and the upper rooms admit of a more perfect ventilation.

I instituted a strict plan of cleanliness and ventilation; and as this would not do, I had convalescent wards to keep the other wards thinner, and only two slight cases occurred during my attendance afterward. No doubt if the wards were less crowded and better ventilated it might be kept out altogether.

When erysipelas does occur in any of these modes it puts on different characters.

The *first* I call phlegmonoid erysipelas;

The *second*, erythematic erysipelas; and—

The *third*, specific erysipelas.

The character and degree of inflammation is modified by the constitution of the patient, as well as by surrounding circumstances, and the remote occasions from which it proceeds. This accounts for the different forms which erysipelas assumes.

SYMPTOMS OF PHLEGMONOID ERYSIPELAS.

Phlegmonoid erysipelas arises only in strong robust subjects, and is that form which so frequently occurs in the country. Strength is its modifying circumstance. It is distinguished by the following symptoms. The erysipelatous part, which may be the face, or the upper or lower extremities, &c., is of a bright red colour; there is a bright diffused flush over the affected part, which generally swells rapidly and considerably, and becomes thicker and less pliable than other parts. It is attended by a burning stinging heat of the part; by a pulse quick, full, and expanded; by a hot skin, by a furred but moist tongue. Vesicles generally arise during its course, but seldom at an early period.

In its progress it is very liable to spread to the cellular mem-

brane beneath, and suppuration is very apt to take place. Sometimes in very severe cases, especially if ill treated, sloughing occurs.

In this case there are generally some proofs of slight irritation of the mucous membrane of the alimentary canal, and sometimes there is inflammation of other parts internally, arising on common principles. Therefore, never presume that the affection is local and external, but investigate the state of the brain, bowels, and liver especially.

SYMPTOMS OF ERYTHEMATIC ERYSIPELAS.

Erythematic erysipelas occurs, not in strong, but in weak subjects. Weakness is its modifying circumstance.

Many men of very excellent moral character think that all the people in London are weak. All that we have to do with the opinions of men is to put them to the test of our observation. In things which relate to the health and life of our fellow-creatures, we have a right to do it, and we must appeal from the opinions of men, from the dogmas of writers in past ages, to the tribunal of nature, and there substantiate or there refute them. There are in London people of many classes. Strong persons abound there—persons who are well clothed and fed, and who are robust; and in these the phlegmonoid form of erysipelas occurs. A far more common class in London consists of persons whose health is broken up by the influence of bad air, by poor and by complicated diet: they drink tea and spirits largely, their habits are dissolute, and they sit up late at night. In erythematic erysipelas the local external inflammation is not of a bright red, but of a dull mulberry red, or of a dusky coppery colour. There is less swelling in the affected part, and vesication generally occurs earlier than in the phlegmonoid form. The heat is generally only moderate on the surface, the skin is less hot and more relaxed, the pulse, though as quick, is far more soft and compressible, the respiration is as quick but more weak, the voice is more feeble, and there is greater prostration of strength than in the other form. A patient in phlegmonoid erysipelas gets up better in bed. And what occasions the difference? The reason is that there is a higher degree of irritation of the mucous membrane of the alimentary canal in this case. Nor is this all, but a special bronchial affection exists, and proves the reason why the colour is not bright red, but a dusky mulberry tint on the face, or on other parts; it impedes the natural change of the blood in passing through the lungs.

The first two or three days the tongue is generally moist, with a yellowish-white or dirty fur in the centre. In a few days sordes appear about the teeth, and the tongue becomes brown and glazed, and the case puts on symptoms of typhus, attended by a congested state of the mucous membrane of the bronchia, and a sticky varnish upon its surface which prevents the oxygenization of the blood. This is the reason why the swelling is less considerable, the heat less intense, &c.

Erysipelas, then, whether phlegmonoid or erythematic, is not a simple affection: it is attended not only by external but by internal inflammation, which is, in a slight degree, local simple excitement of the mucous membrane of the alimentary canal: but in erythematic erysipelas there are distinct indications of a special bronchitis. This being the fact, of which I am confident from observation, we must not take a mere external view of the subject. Suppose a patient to die under phlegmonoid or erythematic erysipelas; if any one should imagine the erysipelas, the mere inflammation of the skin, to be the cause of death, he will have a very erroneous notion of the subject.

In the progress of phlegmonoid erysipelas different organs are affected; and no case of erythematic erysipelas occurs without a bronchial affection, which causes it to put on a typhoid character, with a dusky lip and cheek, &c. It almost universally happens that a part of the lining membrane of the bowels is affected at the same time; the stools have the characteristic marks of muco-enteritis; there are pain and tenderness increased by pressure, and the patient dies. It is generally fatal from inflammation of some important part. If the patient be a drunkard, especially, you often find proofs of organic disease of the liver.

This obtains in fatal cases after surgical operations. I have seen the stump examined in fatal cases of erysipelas after amputation, as if the cause of death were to be found there; but on examining the body internally a mass of inflammation has been found. This is the case in every instance. I am glad to find that my doctrines are making their way among the pure surgeons of London, and I trust they will go on to investigate the subject, and prove how far my opinions are correct. The only way to arrive at the truth of them is to make examinations after death. Take nothing for true merely on my word. I say nothing but what I firmly believe to be true. I never in my life imbibed an opinion which I did not put to the test of my own observation, and I recommend you to do the same. As long as I have the power I will observe

and think for myself. I entertain no hostile feelings towards any man breathing. I am anxious to obtain the approbation of my professional brethren if possible; but I will never allow my respect for individuals to induce me to countenance errors of opinion or practice. No man should practise physic, and especially no man should lecture on it, who has not independence and firmness of character. It is astonishing that men of good character should take up as they do, and act passively (if I may be allowed the expression) on the opinions of individuals, and of writers in the dark ages.

SYMPTOMS OF SPECIFIC ERYSIPELAS.

I call it specific, because it arises in conjunction with genuine typhus fever.

Typhus fever arises from peculiar remote occasions, and puts on an intermittent, a remittent, or a continued character; and sometimes in the progress of the remittent form, sometimes in the progress of the continued form, erysipelas arises. I have seen it occur slightly also in the intermittent form.

If it occur in the beginning of the continued form of typhus fever it is of no great consequence. If it occur in the middle, patients frequently recover; if towards the close, the case is generally mortal.

It frequently attends the remittent form of typhus fever.

I attended a lady (the mother of a pupil of mine) who laboured under continued typhus fever. From the influence of purging by calomel and castor oil, the case put on a remittent character. In the first instance the fever was complicated with erysipelas, which continued with the remittent form, but soon disappeared under the treatment which I shall presently mention. My pupil's brother laboured under continued typhus fever in the same house.

I saw a lady who had ague, which changed its type, and became remittent, and was complicated with erysipelas.

These cases are not uncommon. In the treatment you will see the importance of the distinction. If you were to treat intermittent fever as remittent fever many patients would die. If you were to treat remittent as intermittent fever almost every patient would die.

When erysipelas arises in typhus fever, in one case it may have the phlegmonoid, but far more frequently it has the erythematic, character.

These are the leading forms of erysipelas. The phlegmonoid is sometimes seen in London, but far more frequently in the

country. The erythematic more often occurs in the London Hospitals. The specific is occasionally met with, arising apparently out of typhus fever.

Some writers have distinguished between erythema and erysipelas. When the inflammation of the skin arises primarily they call it erythema; when it follows the establishment of fever they call it erysipelas. But the affections are one and the same as far as the treatment is concerned.

In the second volume, p. 25, of the Edinburgh Medical Journal is a very good account by Dr. M'Mullin, of another affection having some peculiarities, and called erythema mercuriale; and a good account of the same in Pearson on Lues Venerea, second edit. p. 166.

In the second volume of the Medical Communications is an exceedingly good account by Dr. Garthshore of a species of erysipelas which occurred in infants at the British Lying-in Hospital. It chiefly attacks the delicate children of weakly mothers, especially of those who are addicted to the abuse of spirits. It arises as a vesicular affection of the labia pudendi, with redness around the vesicles, and is almost invariably associated with some irritation of the mucous membrane of the alimentary canal.

This form of erysipelas has in delicate children a tendency to run into gangrene, and if it be treated locally it sometimes ends in sloughing and death; but if you act gently on the liver, put the stomach into proper order, restore the functions of the skin, allay the irritability of the part, and put the child into a fresh atmosphere, you will generally remove it.

DIAGNOSIS OF ERYSIPELAS FROM PHLEGMON.

Topically considered there is only one affection which you can confound with erysipelas. This is what is called phlegmon. The distinction is easily made by attending to the following facts:—

1. When a phlegmon or common boil arises, the swelling is more prominent and circumscribed than in erysipelas. It consists of inflammation in a portion of the cellular membrane, and it is confined because lymph is effused round its base.

In erysipelas no lymph is effused around the base, and therefore it spreads; and the pus when formed burrows and extends under the integuments. The swelling is less prominent, more diffused, and less circumscribed.

2. In phlegmon the redness remains during the pressure of the finger.

In erysipelas the redness disappears under pressure, but returns after the removal of the finger.

3. In phlegmon the redness is gradually lost in the colour of the surrounding healthy skin. It is shaded off delicately as if painted.

On the contrary, in erysipelas the redness has a determinate, irregular, abrupt edge, very much like the red zigzag line which you may see in coloured maps to mark the boundaries between one county and another. This is generally the case, though there are some exceptions in persons who have very fine skins.

4. Again, in phlegmon the pain is of a pulsating kind in its progress.

In erysipelas the pain is of a sharp burning or tingling kind.

5. You must recollect that the seat of genuine erysipelas (locally considered) is the skin; that of phlegmon is the cellular membrane.

6. Phlegmon terminates most frequently by sloughing of a portion of the cellular membrane, which is limited by the effusion of lymph.

But in true erysipelas it terminates by effusion, and the pus is diffused.

TREATMENT OF ERYSIPELAS.

You see, then, how important it is not to be deceived by mere names; for under the name of erysipelas different conditions are comprehended. This accounts for the discrepancies of opinion and practice in these cases. One has tried bleeding, another bark, another mild aperients; one small doses, and another full doses. They all forget the conditions on which the symptoms depend, and the circumstances under which remedies are applied and which modify their application. Hence it is that differences and inconsistencies occur, which can only be set to rights by a reference to facts. It is a fatal mistake to pretend that erysipelas is one and the same affection, and that it occurs under the same circumstances: any practitioner who treats it with this view will be very unsuccessful; for it occurs under circumstances so different as to be pathologically and practically divisible into important varieties. Thousands and tens of thousands of lives have been sacrificed to mere abstract names, which frequently contain under an agreement of sign a great diversity of things signified.

If you recollect and recognise the distinctions I have drawn, you will treat erysipelas with great success. All the forms of this affection occur in London; but unless they are distinguished from each other the cases never can be well treated.

TREATMENT OF PHLEGMONOID ERYSIPELAS.

This is a form which occurs with a high degree of fever, and requires the same treatment in London as in the country.

1. The patient bears general blood-letting remarkably well.

A man was brought into the Fever Hospital from whom thirty-five ounces of blood were abstracted at one time. In that case one leg and foot were inflamed.

Sometimes copious blood-letting is beneficial in the onset; but generally moderate bleeding will be sufficient.

2. Mild aperient medicines which move the bowels without irritating the mucous membrane of the intestines will be useful.

3. Blisters are extremely beneficial; they tend to arrest the progress of the affection: especially a blister applied to the nape of the neck, after evacuations by the lancet or purging, when erysipelas attacks the face. Some American physicians use blisters over gangrenous parts.

A pupil of mine the other day had erysipelas of the face, and its course I am sure was cut short by a blister to the neck, aided by castor oil.

I know no local application which has the least influence in arresting the extension of erysipelas. I have tried all those which have been recommended, but never have found them of any use. Sometimes a little powdered Indian arrow-root is soothing to the patient; it may be dusted through thin muslin on the face. I have given up all other local applications but this, which is the best I have tried.

A remarkable fact is, that although erysipelas sometimes attends a blister applied to an individual apparently in a tolerably healthy condition, yet I have never known it attack a person when a blister has been applied in a case of erysipelas.

Bleeding, purging, a bland diet, and absolute rest, with the most perfect quiet, are the means, then, on which you are to rely in this form of erysipelas.

If there be any vesications, and they be rather dark, putting on a gangrenous appearance, a poultice is sometimes of very great benefit. But a poultice is no trifling circumstance. I have known one fatal in erysipelas, because it was applied while smoking hot. It should be only comfortably warm.

TREATMENT OF ERYTHEMATIC ERYSIPELAS.

When this occurs the skin is almost invariably dry and husky, as if it had been sprinkled with bran; or it has a withered feel

almost like dried parchment; and if you see the patient at the onset nothing has so good an effect as—

1. A tepid bath at about 96°. Fahr. Keep the patient in it from twenty minutes to half an hour, till the skin is thoroughly soaked (for your object is to get the cuticle off); then soap the whole skin with Windsor or some such soap, wash it off and dry the surface carefully, and lay the patient in an airy bed, lightly covered, avoiding a chill, and also too great heat. Do this skilfully, and you will see the patient reap very great benefit from it.

2. If the affection of the mucous membrane of the intestines be local simple excitement, and there be no pain on pressure over the intestines, there will be no need of leeches to the belly. If there be proofs of inflammation of the mucous membrane of the stomach and intestines, apply leeches till it is removed.

3. The mildest laxatives should be given. The best is a grain of calomel and three grains of rhubarb, followed up by a little cold-drawn castor oil. You may repeat the calomel every second night and the castor oil every day. Open the bowels three or four times daily; but if there be a tolerable flow of bile, or the patient be exhausted, you may omit the calomel.

4. Blisters applied at a distance from the part affected, after bleeding and purging, certainly do good. If, for instance, the face be the seat of the affection, a blister to the back of the neck, or to the epigastrium, is of very great advantage. Be excessively careful about the drinks, and the diet which should be bland. Forbid all fruits.

If you watch the effects of saline draughts and antimonial medicines, you will perceive that they are not simple things, but that their effects on the mucous membranes are sometimes most important: they are very frequently fatal by irritating the mucous surface of the alimentary canal. At all events, if they occasion nausea or the least sickness, give them up. You may give coloured water as a placebo; for it is right, on account of the imbecility of the present state of mankind.

Do not carry your evacuations too far in the erythematic form; if you do the patient will generally die; if not, he will generally recover. The diet should be bland, and the patient should be put into a fresh atmosphere: for if he breathe a tainted atmosphere he almost invariably will die. By attending to these rules you will scarcely lose a patient in either of these forms. I never lost a patient under erythematic or phlegmonoid erysipelas if he breathed a pure atmosphere.

There may be some cases where you are required to give wine.

In the advanced stages, when the prostration of strength is very great, some diffusible stimulus may be absolutely necessary. In all cases, however, watch its effects. If it make the patient restless; if it increase the frequency of the pulse; if it increase the heat on the surface, it does harm. If it tranquillize the patient; if it diminish the frequency of the pulse; if it reduce the heat on the surface, it does good. Some individuals, as habitual drunkards, require that a moderate quantity of wine or brandy be allowed in the advanced stages; but you should recollect that pure ardent spirit is to them what ordinary drink is to other individuals.

Be cautious in the administration of bark; do not give it because it is recommended by systematic writers, and sanctioned by schools and colleges.

Be exceedingly on your guard if you prescribe them; for the wine and bark system is of all the most fatal practice generally, though it is the common practice in London.

It is strange how men sometimes go on to grey-headed old age without profiting at all by their experience. One feels a certain reverence for grey hairs; and yet I meet in practice with men of advanced years, with intellectual faculties superior to my own, and yet as young as infants with respect to practice.

I met such a gentleman some time since attending a case of erythematic erysipelas with most distinct indications of inflammation of the mucous membrane of the alimentary canal. He was giving wine and bark. I pointed out to him the red tipped tongue, the heat over the belly, the tenderness of the epigastrium, and that the patient was getting worse and worse. Here, I said, is inflammation increased by wine. Here are facts, and I am not influenced by mere names. Are wine and bark the remedies for inflammation? Now this individual did not think for himself, but surrendered his judgment to the opinion of others. He very unexpectedly gave way to me: the wine and bark were omitted; if not, I would have abandoned the case. I never would surrender my judgment to any individual; but if I were confident I were right I would not quarrel with him, but would retire. In this case leeches were applied, and other means which I have already recommended were resorted to, and the whole character of the case was quickly changed.

Thus many men go on year after year, under the most glaring evidence of their error.

A friend of mine saw five individuals who had erysipelas in one house. They were treated by wine and bark, and all died. I never

would have any thing to do with a case in which wine and bark were administered for the mere name of erysipelas, but would retire from it altogether rather than sanction such an error of practice. The success of a man in practice depends upon the precision with which he applies his remedies; and the precise administration of remedies depends upon the correctness of his opinion of the condition or conditions upon which the symptoms depend. The conditions on which the symptoms of the three varieties of erysipelas depend, are different, and require to be treated accordingly. The truth of this observation I believe will be confirmed at the bed-side of the sick.

TREATMENT OF SPECIFIC ERYSIPELAS.

If the specific form of erysipelas be complicated with continued fever, I have never seen bark do good, especially if the tongue be dry. And in the remittent form I would never give wine, unless the patient be in a state of collapse, and then he sometimes requires a stimulus to keep him from sinking.

When erysipelas occurs with the remittent form of fever, it is very surprising how fast the bark stops it. If you give bark, especially the sulphate of quinine, during the remission, when the pulse falls (which it generally does about four o'clock in the morning), the skin becomes cool and the tongue soft and moist,—when there is, in short, a distinct and complete cessation of the fever, which continues three or four hours, more or less, both the remittent fever and the erysipelas disappear in the course of a day or two; and this is the reason why the efficacy of bark in erysipelas has been so much extolled.

Sometimes it is beneficial in the other forms of erysipelas when the excitement has been high, and collapse occurs with a copious effusion of pus, but never in the onset of phlegmonoid symptoms; and never in the onset of erythematic erysipelas, and very rarely in its progress.

Nothing is of greater consequence than a pure atmosphere. No cordial is at all to be compared with it; and I repeat, that I believe erysipelas would generally be fatal under any treatment in a foul air.

ILL EFFECTS OF WOUNDS IN DISSECTION.

It is well known that many medical men in dissecting puncture their fingers, after which inflammation of the part arises attended by considerable fever. I have seen several examples of fever which have arisen from this circumstance, and all these cases have had

the character of a specific fever, exactly resembling typhus fever, except that it does not become intermittent or remittent, but always assumes the continued form. I am aware how dangerous it is to draw a sweeping inference from a small number of observations; but if I am guided by the facts I have seen I should say the affection to which I refer arises from the introduction of putrid matter occasioning a peculiar fever.

But the effects of puncture in dissecting may be referred to three heads:—

1. Slight local affection of the fingers.

2. Common irritation. A puncture gives rise to inflammation of the part, followed by a slight or a severe degree of common inflammatory fever.

Some friends of mine have seen this fever arise from other wounds besides puncture. I saw it arise in one case from tearing out a portion of the great toe.

3. Peculiar fever; of which I have seen twelve cases. They have had all the same character. If I put out the consideration of the local affection, and the red tender line running up the arm, and the tenderness of the axillary glands, I should have said it had the precise characters of typhus fever, and I should say that the remote occasion is peculiar.

Two circumstances concur in the production of this fever: the predisposition and the remote occasion.

PREDISPOSITION TO PECULIAR FEVER FROM WOUNDS IN DISSECTION.

It is well known that it occurs most frequently towards the close of a session, when the pupils are reduced in strength from irregularity of meals, keeping bad hours, intense study, a deficient quantity of sleep, and breathing too long at one time the tainted air of a dissecting-room.

THE REMOTE OCCASION OF PECULIAR FEVER FROM WOUNDS IN DISSECTION

is the application of putrid matter.

Magendie has made some experiments on this subject, from which it appears that the putrid matter of fish is the most pernicious of all.

Gasperd introduced putrid matter into the blood of an animal, and it became affected with low putrid typhoid fever.

This is the value of principle. If a man possess principle he will be at no loss to treat disease with precision and promptitude.

No opinion will fall which is erected upon facts; you will find they are a firm foundation to build upon.

TREATMENT OF PECULIAR FEVER FROM WOUNDS IN DISSECTION.

The treatment of typhus fever is precisely applicable to the peculiar fever which arises from the absorption of putrid matter, except the local treatment. The fever generally sets in with much higher excitement than continued typhus, but in the end I think you could not distinguish the one from the other.

If the excitement be high you may bleed in the first instance with advantage; keep the bowels open; put the patient in a fresh atmosphere; and let the diet be bland. If the fever be not high, and the bowels and head not much affected, you may apply leeches instead of bleeding from the arm. The brain generally becomes affected; sometimes it passes on to inflammation, and then the fever is ardent if the inflammation be intense; and not only the head, but the air-passages, the bowels, the liver, and the stomach are affected.

The local treatment should be soothing.

1. Apply a poultice.

2. The position of the arm should be attended to. It should be elevated, and laid on a level with the shoulder in order to favour the return of blood.

3. Another point to observe is whether matter forms in any part. The tension is mostly insufferable. Free incisions should be made early. I have seen individuals saved by making deep incisions in the situation of the pectoral muscle when matter has been collected. It is astonishing how great pain is produced by the mere tension of parts of matter confined, especially about a nail or a joint. Sometimes the matter is collected in the arm; sometimes in the axilla; sometimes under the pectoral muscle.

PROGNOSIS OF PECULIAR FEVER FROM WOUNDS IN DISSECTION.

Of the several cases of this kind which I have now seen only two have been fatal.

One case, which occurred about three years since, was fatal from too much having been done. Five medical men attended the patient, but they had no consultation. One called and recommended one thing; another called and advised something different; and so on.

Such treatment is almost always fatal. Unity of opinion and unity of practice are especially necessary among medical men.

The other case was fatal from the misconduct of the patient's mother. He had a puncture and was getting well till his mother came: she secretly gave him wine day after day. The day after she came his pulse rose to one hundred and forty, and his brain, air-passages, and bowels, became affected and inflamed, and he sunk rapidly and died. It was only by accident found out that she had given him wine.

This points out to you the necessity of observing what is brought into a sick room, and of inquiring into the moral character of the nurse.

But a point of far greater importance than the cure of these ill consequences of puncture is, the—

PREVENTION OF THE ILL EFFECTS OF WOUNDS IN DISSECTION.

And the best way to prevent them is to sustain the general strength by keeping good hours, by cleanliness, by the occasional use of a tepid bath, by taking a sufficient quantity of sleep, and by regularity at meals. It is not till the surface has become faded and the mucous membranes irritated, that persons become subject to this fever from the absorption of peculiar virus.

Another preventive measure of much importance is suction. The late Mr. Edward Grainger had considerable faith in this. Suction of the punctured part should immediately be adopted and continued for a considerable time; then apply caustic: but recollect never to apply caustic after the inflammation has come on, for then it will do no good, but great mischief. Dr. ——, of Edinburgh, who had seen many cases of ill effects after puncture, thought a point of the greatest consequence was courage. If the individual be afraid it sinks his strength, and then the poison operates more readily.

Inflammation being once set up, you have two great objects in view;—to allay the local irritation, and to prevent its effects on the constitution.

LECTURE XXXVII.

PECULIAR FEVER.

PREDISPOSING AND REMOTE OCCASIONS OF TYPHUS FEVER.—INFLUENCE OF THE DOCTRINE OF CONTAGION.

In the preceding lectures I have considered the nature and pathology of what I called common fever.

I have endeavoured to show that common fever arises from four sorts of ordinary agents:—from depressants, from irritants, from stimulants, and from interruptants. I have attempted also to prove, from an appeal as well to the symptoms and the effects of remedies during life, as to the appearances on dissection after death, that all the various consequences of these four sets of common agents may be legitimately referred to three leading varieties of fever:—common congestive fever, common simple fever, and common inflammatory fever. I now come to the consideration of peculiar agents or occasions:—those remote occasions which have not only the properties of the common agents, but possess peculiar properties; and I shall endeavour to show that though they have peculiar properties by which they are most remarkably distinguished, yet that, like the ordinary agents of nature, they produce three leading varieties of fever:—congestive fever, simple fever, and inflammatory fever. My object will be to prove, in short, that, however the subject may have been complicated by our systematic writers, the internal pathology of all fever is comprised under the varieties of—congestive fever, simple fever, and inflammatory fever; but that when these forms of fever occur from the agency of peculiar remote occasions, they are blended with certain peculiar effects from the peculiar agents, as the efflorescence of scarlet fever, the rash of measles, and the eruption of small-pox.

These peculiar occasions or agents are divisible into two kinds, certain infections and certain contagions.

Infection is a local taint of atmosphere originating without the body.

Contagion is a specific virus originating within the body,—as far as facts are concerned.

It is proved as far as it can be that persons affected by contagions propagate those affections; and the communicability of the affection is therefore the true test of a contagion. But it is not yet proved that persons tainted by infections propagate the disorder. It is not proved that infections ever become contagions: that a disorder unquestionably and unequivocally proceeding from infection has ever in any case communicated itself by the creation or formation of contagion. This, however, is the presumed doctrine of the schools and colleges; but, like many others, it is rather a prejudice than an opinion, a notion taken up and maintained without due examination. And this more especially obtains in regard to—

TYPHUS FEVER.

In this lecture I shall endeavour to investigate the origin of typhus fever, and to ascertain whether it be communicable from person to person: and in my next lecture I shall consider the symptoms, the morbid anatomy, the pathology, and the treatment of typhus fever, and show its probable identity with yellow fever and plague.

It is by their effects only that we are acquainted with many subtile energies of nature; the remote occasion of what is called typhus fever is one of these.

I believe that it is an exhalation connected with certain states of the earth and air: a miasm generated on many parts of the surface of the globe,—which produces an intermittent, a remittent, and a continued form of fever; each form having a peculiar set of symptoms, and each passing and repassing into the other forms, so as to completely identify them as mere variations of one and the same disease.

In some parts of the world the remittent form of fever is called typhus fever; but in most places the continued form of fever alone has that name applied to it. Typhus fever, as used by those who adhere to the nosological arrangements of Dr. Cullen, is an exceedingly vague term. Many persons adhere to a system founded upon words, not on things: on symptoms, not on conditions; and if you ask them for a real, and not a nominal, definition of typhus fever, they cannot give you one.

But to speak the truth, we have nothing which approaches to a correct definition of typhus fever. That of Cullen is adopted

and upheld by scholastic and collegiate authority, which, almost always lagging far behind the spirit of the age, sits in its monkish shroud covered by the shade of ignorance, and starting like a guilty thing at the light that disturbs its repose.

Truly we have our monks in the science of medicine, who, inhabiting the gloomy cells of schools and colleges, believe nothing but what is written in black-letter books—who look not on nature with a view to be taught by her: who neither contemplate the magnificent spectacle of the universe as a whole, nor examine the minutiæ of its separated parts. But my wish is to rouse you to independent observation and reflection, that you may contrast the simple and beautiful truths of nature with the complicated sophistries of art. Once more, therefore, I call upon you to forego all speculative prejudices, and to listen attentively to a detail of facts and legitimate inferences, as I consider what I am about to offer in this lecture to be.

To return:—it is in vain to look to Cullen for any distinct account of fever: he knew nothing of the matter. Look at his so-called definition of what he denominated fever.

The following is his definition of the class—

PYREXIA.

"After shivering a quick pulse, increased heat, disturbance of many of the functions, diminution of strength, especially in the limbs."

Then comes the definition of the first order of the class pyrexia.

FEBRES.

"Pyrexia, preceded by languor, lassitude, and other indications of debility, without any primary local affection."

This is the peculiar clause of the order,—"without any primary local affection." But did any man ever see any case of fever without any primary local disorder? Certainly not; and the truth is, that this attempt at a definition is nothing but rank nonsense.

Then Cullen defines the genera—synocha, typhus, and synochus—of the order febres, of the class pyrexia.

SYNOCHA.

"Heat very much increased, the pulse quick, strong, and hard, the urine red, the functions of the mind little disturbed."

All these symptoms occur under the first order,—febres, in

which we are informed that there is no primary local disorder. But did any man ever see a case in which the heat was very much increased, the pulse frequent, strong, and hard, and the urine red, without any local disorder? Never, I will venture to say.

Cullen thus defines—

TYPHUS.

"A contagious disease; the heat but little increased, the pulse small, weak, and in general quick, the urine little changed, the functions of the mind much disturbed, great prostration of strength."

But did any man ever see a fever of this kind without any primary local disorder? And, beside, the symptoms which Cullen gives as characteristic of typhus fever are just as characteristic of every other fever in which debility has been present, and in the progress of which the brain has become disturbed.

Again, he calls—

SYNOCHUS

"A contagious disease; a fever composed of synocha and typhus: in its commencement synocha; in its progress, and towards its termination, typhus."

In fact, he makes typhus arise out of another disease. But do we ever see a thistle produce figs? It is against all the analogies of nature, that a disease should be one thing in the beginning and another in its close. This reminds me of an anecdote which I may mention.

A lady, a pale blue-stocking, attended a lecture on chemistry, in the course of which she heard a great deal about oxygen and hydrogen, but understood nothing about it, as the lecturer was probably, like Cullen, a little unintelligible. However, after the lecture, she asked a gentleman who sat near her, "Pray, sir, what is oxygen? and what is hydrogen?" "Oh! ma'am," replied the gentleman, "oxygen is pure gin, but hydrogen is only gin and water."

I suppose we should be told by Cullen that typhus is pure typhus, and synocha is pure synocha, and that synochus is a mixture of synocha and typhus.

I repeat, with the most perfect confidence, that, according to the definitions of Cullen, there is no such thing in nature as synocha; that there is no such thing in nature as synochus; and that there is no such thing in nature as typhus. And if any man will show me a case of synochus, synocha, or typhus, precisely

answering to these definitions, I will give him leave to chop off my right hand, aye, and my head, too, if he will. I defy all the medical men in the world to show me such cases as are defined by Cullen under those three heads. Finding such errors as these, I must pass over them like a wheel, and crush them into atoms if I can. These are not mere idle words: the subject involves health, comfort, and even life itself; and, therefore, I must protest against the mere creations of the imagination which have no copy in nature. I shall in these remarks, therefore, avoid all abstract definitions of typhus fever.

Typhus fever, as I believe, arises from a peculiar occasion; that peculiar occasion is favoured in its operation on the human body by many circumstances, all of which constitute the predisposing occasions of intermittent, remittent, or continued peculiar fever. The effects of all the—

PREDISPOSING OCCASIONS OF TYPHUS FEVER

may be resolved into one state, namely, debility, weakness, or diminution of the powers of life.

We have many examples to prove the truth of this observation.

If an army be on the retreat, depressed in spirits, broken up in health, exhausted by exertion and fatigue, by want of food, by want of sleep, and by the influence of cold, the soldiers are powerfully predisposed to an attack of typhus fever on the application of the peculiar remote occasion. This is verified by many instances in the records of history.

In like manner, famine is notoriously the precursor of typhus fever. Physical want and mental distress then co-operate in the production of debility, which favours the operation of the remote occasions of typhus fever.

In Ireland many illustrations of this fact have occurred: indeed it has been proved several times in the last few years; for typhus fever has prevailed whenever the inhabitants have suffered much moral or physical depression from famine or other circumstances.

A remarkable example occurred in London during the year 1818. Two great agents then concurred to produce typhus fever—heat, and want which prevaded all classes in greater or less degree. In that year the remarkably hot summer which occurred produced excessive exhaustion; and the poor were almost in a state of starvation. That season, too, was favourable to the production of malaria. From these circumstances typhus fever prevailed more

extensively in London during that year than it has ever done since.

Again, fasting and fatigue debilitate the body, and in that way powerfully predispose to typhus fever. When a person is going into a house where typhus fever prevails, he should take care not to make his visit with an empty stomach, as the body is then in a state of debility. On this account, too, if an individual take a long walk in the morning, especially fasting, he is very liable to an attack of typhus fever. So, too, if an individual take a great deal of exercise, and fatigue himself much in the heat of the day, and be chilled in the evening when the air is cold, he is very apt to have an attack of typhus fever, if he reside in a situation where malaria exists. Many persons suppose that typhus fever arises from cold. They become chilled in situations in which the poison is concentrated as it were about their heads; and as the first symptom which announces the attack is chilliness, they infer that the remote occasion of typhus fever is cold.

Fear predisposes to typhus fever. A person travelling over a district where malaria arises will perhaps, if he be not aware of it, escape an attack of typhus fever; but if you inform him of it—if you tell him that he is treading upon poisonous ground, he will probably sicken, and become attacked.

The ancient Romans were evidently aware of the influence of fear in the production of disease; and they had accordingly no less than three temples in different parts of Italy dedicated to the goddess Febris. The mass of the ancient world were at the mercy of the priests; and as they did not choose to educate the people, they had recourse to certain contrivances to enable them to bear up against all calamities; and of these one was the inspiring them with courage. This often carried them far above the influence of fear, and above the influence of the various remote occasions of disease. It operated like the omens before a battle: for when the priest before an engagement predicted a victory, it inspired the most perfect confidence and courage. Impressions and prophecies often bring about the intended event, by making human beings think, feel, and act differently to what they would otherwise have done. This observation especially obtains in the most ignorant states, and among the most ignorant classes, of society. Fear is frequently an occasion of typhus fever in Rome now; and the doctrine of predestination, which prevails among the modern Turks, is a powerful preservative against the plague. On this principle charms and spells operate in curing ague. Hence we need not wonder

that in former times charms were had recourse to for the prevention of typhus fever. At the present day many individuals make use of camphor for the same purpose; and as long as they have confidence in it, it probably will have this effect, for it inspires courage; besides which, there may be something in the smell, for agreeable odours support the strength remarkably; but disagreeable smells sink the strength, so as to become the most effectual of the predisposing occasions of typhus fever. Spencer, in the "Faëry Queene," says that the knight became sickened by the poisonous fumes emitted by the dragon whom he encountered—

> "The heat whereof, and baneful pestilence
> "So sore him 'noyd, that forc't him to retire
> "A little backward for his best defence."

Courage, however, is better than camphor; and hence it is that medical men seldom have typhus fever. A medical practitioner has as much need of courage as the commander of an army. He has nothing to do with fear. He has to perform his duty; and if his health, or even his life, be endangered, he must risk them, and sacrifice them if necessary, for the public benefit; and if he will not do this he has no business in the medical profession.

The fear of typhus fever is, as I think I shall frequently show, in many respects unfounded.

Want of sleep predisposes to typhus fever. Hence night nurses are most liable to be attacked by typhus fever; but other attendants are liable to it, especially if the mind be anxious or the strength exhausted.

The weather has considerable influence over the production of typhus fever. Damp warm weather, or even damp cold weather, powerfully predispose to it, by affecting the general strength.

On the whole, women being weaker than men, are more predisposed to typhus fever. But any individual, however strong, may on becoming temporarily weak be attacked by typhus fever; or the concentration of the poison may be so perfect as to act on a strong individual, as is sometimes the case. On the other hand, a weak individual may escape an attack though exposed to the remote occasion of typhus fever, probably from the dilution of the poison; for it would seem that this poison, like spirits, may be so diluted as to be perfectly innoxious. An individual having had an attack of typhus fever in a continued form, seldom has another. I have not seen more than eight or ten cases where a person has been attacked a second time. It is generally thought that a person

is liable to frequent attacks of it. This is to be attributed to the vague notions which have been entertained of typhus fever.

REMOTE OCCASION OF TYPHUS FEVER.

My former belief was, that typhus fever arose from human contagion. But I have lived to feel it a duty incumbent upon me entirely to alter that opinion. The following case affected me deeply, and first led me to review my opinion on the subject,—the opinion, I mean, which I then entertained with regard to the origin of typhus fever:—

About six years ago, and shortly after I had published the third edition of my work on typhus fever, in which I had strenuously maintained the doctrine of human contagion, I met with a case of intermittent fever. In a few days the fever became remittent, and in a few days more it put on the continued character, and the patient died with all the most malignant symptoms of typhus fever.

This case made a powerful impression on my mind, and I could not help asking myself whether it was not possible that the common ague of this country, the marsh remittent fever, and continued typhus fever, might be one and the same affection, modified by certain circumstance? I determined, at any rate, to re-investigate the subject; for I suspected I might have taken up as a prejudice, at college, the doctrine of contagion, and might have acted on that prejudice as a sacred truth. Few men have more contemptuous views of black-letter learning, and the dogmata of schools; yet the opinion clung to me closely, and I parted with it gradually, if not with regret. I investigated the subject afresh, resolved, if possible, to arrive at the plain truth, whatever it might be; and in six years the result has been, that I am perfectly convinced that what is commonly called typhus fever does arise from malaria, or marsh effluvia; that it is intermittent, remittent, and continued; that it arises from infection; and that it does not originate from human contagion. It should be remembered that infection is not contagion. It is a state of atmosphere produced by the surface of the earth, and the air, which is limited to a certain space; and persons breathing it are subject to certain modifications of a similar disease.

It is a very humiliating thing to the human mind to detect long-established error; but it has these two advantages:—it gives a man the satisfaction of possessing the truth at last; and besides this reward, it makes him more cautious in the admission of preju-

dices for the future. Nothing can satisfy the human mind which contemplates the phenomena of nature around it but the conviction of possessing the truth. The longer I have lived, and the nearer I have advanced step by step to the grave, the more I am convinced how small is the amount of that I know ; and while I feel the most perfect humiliation that I know so little, I am bound to make the most public acknowledgment of the full extent of my ignorance. In fact, having discovered my error, the only reparation I can make is by such an acknowledgment.

I have sometimes been amused, and sometimes surprised, on communicating the change of my views to my acquaintances and friends ; several of whom have, however, though many have not, become converts to my opinion. If I mention the subject to one man, he shrugs his shoulders, and seems as if something had stuck in his throat. If I speak of it to another, he cocks his eye into one corner, and smiles sarcastically. A third shakes his head, and swears that the doctrine of contagion is true. A fourth strokes his chin, makes a dead stand, and confesses the matter requires further consideration. If you will stroke your chins, and make a similar declaration at the end of this lecture, with a resolution to follow up the investigation, I shall be perfectly satisfied.

I shall now repeat the facts and arguments which I have used here for years, and which have found their way into print without any acknowledgment of, or allusion to, the source from whence they originated.

There are many reasons for supposing that typhus fever arises not from human contagion, but from malaria, or marsh effluvia ; and the six following are, in my mind, perfectly conclusive :—

1. Typhus fever arises, in single cases, at the same time, in places remote from each other.

This is the fact in London ; and not only so, but it is the fact in the country also, that typhus fever takes place at the same time in single cases, at remote situations, in places and among persons where and with whom there has been no communication or contact, or intercourse of any kind.

Does the doctrine of contagion account for this ?—Certainly not.

2. It often attacks several persons at one time, and in one place, where it has not before existed.

This is a very remarkable circumstance. I have the history of fourteen cases of typhus fever in a school where no such fever previously existed. It attacked seven of the fourteen boys in one day.

Two ladies, sisters, had been in the country, during which time their house in London had been shut up. When they came to town their strength had become impaired, and they were both attacked by typhus fever.

Does the doctrine of contagion account for this?—Certainly not.

3. When several are thus attacked, some cases generally put on the remittent or intermittent character.

Trace the history of all the cases minutely backward, and it will generally be found that the affection in some of them has put on, in the beginning, the remittent or intermittent character, between which there is a mere shade of difference, for they have some characters in common, and it is allowed, I believe by all, that they have a common origin.

Does the doctrine of contagion account for this?—Certainly not.

4. The intermittent, remittent, and continued forms of fever, with their peculiar symptoms, pass and repass into each other.

The intermittent will become remittent, the remittent will become continued, the continued will become remittent, the remittent will become intermittent.

Does the doctrine of contagion account for this?—Certainly not.

5. Typhus fever prevails most remarkably in particular places.

The common belief is that typhus fever prevails only in crowded situations; but this is not true. It may readily be shown to be a perfectly erroneous opinion, for typhus fever exists in some of the most open districts in London. It prevails in one of the best built squares in town. It prevails in parts and patches of London. With a map of London before me I could point out distinctly where it occurs: where the earth's surface is filthy, and the drains are imperfect. Here it has prevailed, passing under various names; but when the earth's surface has been cleansed, and the drains have been purified, the disease has disappeared. I could point out places where the disease almost always prevails. There is one particular district which borders on two parishes, where typhus fever has prevailed for the last sixty years, and where it still prevails. It is so marked, that on a map you might circumscribe it with a line. In the Borough typhus fever prevails remarkably.

Some time ago a family were brought into the Fever Hospital with typhus fever. The account they gave of themselves was, that an individual next door had fever, and that they visited him and caught the disease. Human testimony, however, is not always to be depended upon. The name of the family was Jay, and they lived in White Square, Clapham. The case of fever next door

was one of scarlet fever, and had occurred four months previously. On further investigation of the cases of this family, I found that all but one originated in intermittent and remittent fever. Running round the whole of this square is an open common sewer; and if typhus fever occur in Clapham, it is sure to be in that square.

Typhus fever prevails very remarkably in another village, which is one of the most beautiful in the neighbourhood of London.

I know two ladies who had typhus fever who were living in a very airy square. The house was built on dry ground; but there were open sewers in the square, which rendered the inhabitants liable to typhus fever.

I know an old practitioner upwards of seventy years of age, and in the whole range of his recollection typhus fever has prevailed in a certain district, and there it still is prevalent. The earth there is unclean, and the drains are bad.

I was once looking at a house which I had some thoughts of taking, but a medical man warned me against it, as there was always typhus fever there, and on that account a family had just left it. It was in a very airy district, but malaria prevailed there.

I could mention many other parts where it prevails, but these may suffice.

Is this fact explained upon the doctrine of contagion? or can it be explained upon that doctrine?—Certainly not.

6. The rise, progress, and decline of typhus fever are connected with certain states of the earth and the air.

To give a few examples:—typhus fever has prevailed remarkably since April, 1824, in and about London, but certain places have been remarkably exempt from it; for example, Islington, Wimbledon Common, and the higher parts of Kensington; but it has been exceedingly prevalent in some of the lower parts of Kensington. And in all these situations which have been exempt from typhus fever, the soil is dry and gravelly.

In one part of Norfolk there is a district of which several thousand acres are sometimes covered by a continuous wave, and when the water subsides, leaving the slime exposed to the sun, then continued, remittent, and intermittent fevers occur very remarkably. In the period I have mentioned, since April, 1824, all these parts were under water; and while that was the case not a single instance of typhus fever occurred.

Typhus fever prevails remarkably with certain states of the earth and air.

I attended a very respectable tradesman labouring under a

remarkably bad attack of typhus fever. It was such a case as would have been called plague in the time of Sydenham. He had knotted glands, and carbuncles, and black petechiæ. He was one of four or five individuals who transacted some business in a nobleman's kitchen; a filthy fluid had overflowed that kitchen; he was sickened at the time, and in common with all the other individuals had an attack of typhus fever.

A friend of mine had the drains in his house cleaned, and during the operation the inmates of his house were attacked by typhus fever. This gentleman's brother died of typhus fever. He ordered a dirt-hole in his house to be cleared out, and himself and three inmates were attacked by typhus fever.

Two ladies, sisters (to whom I have already alluded in this lecture), went into the country, and during their absence the house, which is situated in one of the squares, was shut up. When they came home they were both attacked by typhus fever.

There is one house in the Borough where typhus fever has prevailed for a series of years. I have attended three individuals in that house under typhus fever, and I was informed that no family had entered it for years some part of which had not been attacked by typhus fever in it. A common sewer runs close behind the house.

A young physician was attending my lectures, and desired me to see a servant, in the house where he was lodging, who was labouring under typhus fever. The drains in that house were bad, choked, and very near the surface. The servant got well, but, a few weeks after, the mistress was attacked by typhus fever, and I attended her; this second attack of typhus fever in the house so alarmed the young physician to whom I have alluded, that he removed from those lodgings. After a time, however, he returned to them again much exhausted by the distance to and from the lectures which he attended; and soon after his return he had an attack of typhus fever.

I have before mentioned that the Marquis of Hastings, observing that his army were suffering from the effects of marsh effluvia, moved it to a rising ground. The disease immediately declined, and thus were his men saved from destruction.

A friend of mine practised for a great many years in Demerara, and he came there to a conclusion precisely similar to that to which I have come in London, namely, that typhus fever is intermittent, that it is remittent, and that it is continued; and that it arises from marsh effluvia. With these impressions he was one day walking

round the barracks, for he was the surgeon of a regiment, and he observed that the pales behind the barracks were black in a particular part. Typhus fever had broken out, and was then spreading very rapidly amongst the soldiers in the barracks; and it struck him that as the wind blew from the direction of the pales to the barracks, (being in the same direction as that in which the pales were blackened) that might be the cause of the typhus fever. He therefore examined the situation, and found behind the barracks an old trench which had formerly been filled up with grass, now in a state of putrefaction. This trench he had immediately cleared out and thoroughly purified by passing water through it; and typhus fever disappeared entirely in the barracks from that time.

This, as a solitary circumstance, might be said not to prove much; but my friend tells me that he had seen many circumstances which led him to the same conclusion. Demerara is drained by trenches communicating with the sea, and when the air is stagnant, and the trenches are filthy, the disease is most abundant there.

Typhus fever has prevailed under various names. It was formerly called gaol fever, from its frequent prevalence in those places. Since the free ventilation and cleanliness of prisons have been strictly attended to it has disappeared there.

A fatal expedition some years since took place to Walcheren, and arrived there at a season when malaria was prevalent. Had the medical man who was at the head of the medical department been commonly informed on the subjects which his profession embraces, he would have prevented the fatality of that expedition, and that fine army would not have been destroyed.

I could mention many other similar facts; but these I consider so perfectly conclusive, that I believe no man, unless he be prejudiced, can doubt that typhus fever arises from malaria or marsh effluvia.

A gentleman lately told me that typhus fever had occurred in one of the Shetland isles, but that it had prevailed only on one side of the isle, the soil of which differed from that of the other side, and that the extent of the situation where the fever prevailed might be traced by a reference to the boundary of the two kinds of soil.

Thus it appears that typhus fever is connected with certain states of the earth; but this is not all, for it is connected with certain states of the air as well as of the earth.

In London it generally begins to occur in spring, especially if

the weather in the middle of the day be at all warm. It is prevalent also throughout the summer, but prevails in the highest degree in the autumn, and ceases in the winter, during the time when the earth's surface is bound up by frost. It prevails when there is a great deal of putrefactive vegetable matter, and a still, warm atmosphere; all the beds of the Fever Hospital are then full. When there is a frost the disease is checked; but we find small-pox, measles, and hooping-cough, prevailing at all seasons of the year. It seems to prevail most at a temperature of between 50° and 80°. Some degree of moisture seems necessary for its production; but it may and does also prevail in dry situations, as the atmosphere may be considered always to contain more or less moisture. It prevailed remarkably in London in 1818, when the earth's surface was baked by the sun, so that it was necessary to dig some depth before any moisture was found.

We must not, however, be deceived by the term marsh effluvia; for I have no doubt that the peculiar poison which produces typhus fever may be generated in a house or in a ship.

Dr. Dwight, a celebrated traveller, and whose authority, as he is not a medical man, is very valuable, mentions some very curious facts connected with this subject. He observes, that, around the margin of all those lakes of America which are fed by springs beneath, typhus fever does not prevail, the surface of them being clear and transparent; but that around all the artificial lakes, the surface of which is covered by a sort of dirty scum, typhus fever prevails remarkably. He thought this scum was the product of the putrefaction of the animalcula contained in the water; and in order to ascertain whether that opinion was correct, he made some experiments which as far as they go approach nearer to the purpose than any which had been previously made. He put a quantity of pepper into water, and after a short time he observed in the water a world of animalcula; then came a scum upon the water like that which he had noticed on the surface of the lakes, and on looking at the water he found that at this period it contained no animalcula. Hence he inferred that the scum was produced by the putrefaction of the animalcula.

These circumstances, taken in conjunction with some other analogous facts, seem to demonstrate that this substance, this poison, which generates typhus fever, is the product of the putrefaction of animal or vegetable substances, or perhaps both.

If this opinion be true with respect to the British metropolis, it will be true with respect to the whole world; and, therefore, it

becomes in a national point of view one of the most interesting questions for examination. It is important in reference to the site and construction of houses and to the locality and management of prisons, to the construction of docks and to the erection of hospitals and gaols. Typhus fever prevailed remarkably in the British navy when the practice of constantly washing between decks was adopted, and the ventilation was imperfect; but since dry rubbing has been substituted, the navy has been nearly exempt from it. It is still common in French ships, in which frequent washing is resorted to. Typhus fever often prevails in the vicinity of artificial docks: it has been much more prevalent in Bristol since the construction of the docks than formerly. The subject is important with respect to the building of palaces, the foundation of new cities, and the position of camps. In short, it is a subject so important to this country, and to the whole world, as to require and deserve the most attentive consideration of the medical philosopher. London formerly was more frequently afflicted by the existence of typhus fever than now. Animal and vegetable matter was strewn about the streets, and suffered there to undergo a process of putrefaction. The Jews seem to have had some idea of the effect produced by the putrefaction of animal matter; for as their religion obliged them to make a great number of sacrifices at the altar, so they were accustomed to deposit all the refuse in the vale of Hinnom, at a distance from the city. Human excrements were formerly thrown into the streets. Since my time this was done in Edinburgh, and many old books show that it was the case formerly in London. In London formerly, too, the drains were very imperfect; and all shops in the time of Elizabeth had large signs hung out, the streets being also very narrow, so that the ventilation was very imperfect. Erasmus says that the drawing-room of Elizabeth was strewn with common hay. In proportion as London has been improved in these particulars, by paving, cleansing, and rendering the drains more perfect, so has the frequency and extent of the prevalence of typhus fever diminished; and it prevails now where these have not been attended to, and where the ground is low and marshy. But in the way of improvement so much remains yet to be done that a minister of health might be of great service. I am quite certain that if the legislature of this country adopted proper measures on the subject of the improvement of London, typhus fever might be nearly annihilated in it.

There are many other facts which throw light upon this subject. In ancient Rome Celsus mentions that the typhus fever, or the

fever arising from malaria, was most prevalent in the autumn, and that it put on the intermittent, the remittent, and the continued characters. Livy particularly mentions it; Strabo attributes it to the effluvia from marshy soil; Horace and Martial both allude to it; and Virgil in the third book of his Georgics, describes a similar disease in horses which he attributes to malaria.

The attention which was paid to the subject, and the importance which was attached to it by the Roman empire is manifested by the cloacæ and aqueducts, which are now amongst the most magnificent ruins of Rome. The cloacæ were founded by the kings, and afterwards strictly attended to by the emperors, especially by Augustus; for that subtle tyrant, though he sapped the foundation and undermined the constitution of his country, and left but the ruin of that fabric and the shadow of that glory which was once a mighty name, yet even he was not unmindful of the health of Rome's inhabitants. Curatores were appointed; not only the cloacæ maximæ were kept up, but cloacæ minores were established; and persons were employed constantly to traverse the streets for the purpose of keeping the drains clean. This was especially necessary from the manner of living in Rome; for it appears that the Romans lived almost entirely in the open air—tempted to do so, first by their climate, and next by their form of government which conciliated the people as long as any trace of liberty existed. The houses and apartments of the mass of the people were remarkably small, as may be ascertained from the contemplation of the ruins of Pompeii; but, on the contrary, their public buildings were magnificent, spacious, open, and airy; which demonstrates that, as the people lived very much in the open air, so the government was remarkably attentive to their health.

If we contrast London with Rome we shall see that each has undergone a change: the vassal has been freed, and Rome the conqueror has been chained and enslaved for ages. Yes, Rome is indeed changed! the country of Celsus and Cicero—the mistress of the universe—the eternal city, now only exists as a ruined monument, and as a mockery of her former greatness. The Gaul and the Goth are the sentinels of her gates. Her palaces and temples are infected and tainted corruptibly with a double poison —with the malaria of the earth, and the far more baneful malaria of the mind which still shrouds her grandeur, smothers her freedom, and makes the barbarian of Austria the sovereign of her soil, the contamination of which can only be removed by the restora-

tion of that independent spirit of liberty, which, being present, was her ancient glory, and the absence of which is her modern shame! And not only has the glory of Rome passed away with her once great names and splendid achievements, and the minds of her inhabitants become depressed, but the streets are filled up, the drains choked, cleanliness is neglected, and not only the city, but Italy itself, is one continued marsh, as far as malaria is concerned. It is remarkable that that quarter of the city which is most crowded, where the Jews reside, is the most healthy, which would not be the case if typhus fever originated in, and were propagated by, human contagion. In Rome this disorder began to prevail, and still begins to prevail, about May, and to decline after October. This is precisely the case in London.

Malaria now exists in Rome to a very great extent, and is supposed by many to be borne by the winds from Campania to Rome itself. In many places of Campania malaria is distinctly generated; and there are many facts which show that it is borne by the winds to a considerable distance.

In some situations where malaria prevails there is a peculiar smell; but in other places where it prevails there is no smell at all obvious to our senses. In the Edinburgh Review you may read of an individual in existence who seems to have a power of distinguishing malaria by the smell. He can nose it as he goes along the street, as Hamlet did the body of Polonius. But it unfortunately happens that this gentleman has found malaria to exist most in those districts of London where malaria least prevails. He cannot in fact determine with any certainty by the smell whether or not malaria exists in any situation. Perhaps it may be detected by some of the inferior animals, whose sense of smell is far more nice and acute than ours. A red deer, for example, is quietly grazing in the Highlands of Scotland; a fowler attempts to approach it while the wind blows from him to the animal; but long before he gets within gun-shot, it suddenly tosses up its head, snuffs the wind, starts, turns, and bounds away from its mortal enemy.

But since our external senses do not warn us of the presence of this subtile poison, it becomes us to use those higher faculties which have been entrusted to us by the Deity—our observation and reflection,—in order to guard ourselves against its effects. Cleanliness, ventilation, a perfect state of the drains, and a most minute attention to the condition of the earth's surface, are amongst the main means of preventing the existence and effects

of malaria. Another point of great importance is the maintenance of the general strength (for typhus fever most frequently attacks weak individuals), by courage, by attention to the health, by those various physical and moral preservatives which enable us more effectually to resist the hostile influence of the poisoned elements.

I trust, then, that I have shown, that what we commonly call typhus fever originates from malaria—from an infection, and not from a contagion. The subject, however, still involves another question of great importance, which is this:—Does it, or does it not, become contagious? Does it acquire the additional property of communicability? It requires to be proved, in short, whether diseases arising from infection can become contagious. This is a subject which requires a minute investigation; and the inquiry should be conducted with the simplicity of a child and with the intelligence of an adult. He who attempts it should throw off the prejudices of education, and determine to make just observations and draw from them legitimate inferences. It is the common opinion, or, rather, the common prejudice, that it does become contagious. Most persons believe in the contagious nature of typhus fever because they have been taught to believe so; and many would deem it criminal even to question that creed. Their ears are plugged up—they are, as it were, hermetically sealed by prejudice, and are as impervious to the admission of facts as the walls of this theatre. But the reasonableness and the truth of my opinion can only be established by facts, and, therefore, to facts, and to facts alone, we must appeal in these affairs.

Now, though I would not take upon me, till I have seen and reflected more, to say positively that typhus fever is not contagious, yet I doubt the correctness of the doctrine exceedingly. Nay, I would say that if typhus fever be ever communicable, it is an exception to a general rule—an anomaly in the course and common character of this affection—an occasional aberration from a general law of nature.

I could mention a great many facts in proof that typhus fever is not communicable by contagion.

I saw a boy in a school at Walworth, who was, when I saw him, in a very small room, through which persons in the house were constantly passing; he had an affection of the glands of the groin, and carbuncles, and otherwise was the distinct subject of what some would call typhus fever, others plague. This boy was one of about eighty scholars, and till I saw him no par-

ticular pains had been taken to prevent communication or contact between him and his schoolfellows, neither had any care been taken about the ventilation of his apartment; but typhus fever was not communicated to any other boy in the school. Why did the others escape? This boy was perhaps the most weak and delicate in the school.

I attended a gentleman who was dying of typhus fever when I saw him. His wife read my looks more distinctly than my language, and affectionately pressed her husband again and again to her lips. But, though his teeth were crusted with dark sordes, though he had almost all the most malignant symptoms of typhus fever, and though his wife had been previously exhausted by night-watching as well as by mental anxiety, yet she had no attack of typhus fever.

I saw a child labouring under typhus fever, of which it was thought to be dying, although it afterwards recovered; but though the father of this child kissed it again and again without any precaution, yet he had no attack of typhus fever. I have known many instances of infants at the breast labouring under typhus fever, in which the mothers have had no attack of that affection.

I have seen a great many instances of persons sleeping in the same bed with one labouring under typhus fever without being affected with the disease.

I have met with a great many instances of students who have attended their companions labouring under typhus fever, with a degree of attention and anxiety which could only have been equalled by that of their relations, and yet none of them have been attacked by typhus fever, though they have taken upon themselves the office of a nurse, and waited constantly upon their sick fellow-students.

Has this been, or can it be, explained, supposing the doctrine of contagion to be true?

But the reason why typhus fever is believed to be contagious is this:—unquestionably it sometimes happens that several persons are attacked with typhus fever in the same house, either two or three together, or after each other. This gives a colouring to such an opinion at first sight; but the fact is, that it is not surprising that several persons should be thus attacked, since they are all exposed to one occasion; and if you investigate many such cases you will find that, at the onset, some of them put on an intermittent, others a remittent, and others a continued, character, indicating that the affection arises from malaria or marsh effluvia.

Another reason for believing in the doctrine of contagion is, that individuals visiting those labouring under typhus fever occasionally are attacked with the same affection; but these individuals are exposed to the same occasion; and if malaria may affect one individual exposed to its influence, why may it not affect another, and another? And the truth is, that the doctrine of malaria explains these circumstances far more satisfactorily than the doctrine of contagion does.

A physician and his wife were once travelling from Rome to Florence; and as he had about him a considerable sum of money to convey to a friend at the latter place, they slept at a house on the road where malaria existed, lest he should be robbed. The consequence was, that both he and his wife were attacked with typhus fever, of which he died, and from which his wife recovered with difficulty. Malaria was known to exist at the house where they slept.

I saw a lady at a house in the Borough, and I felt it my duty to give an unfavourable opinion, for she was dying when I saw her, and lived but a few hours afterward. She died of typhus fever, and on the following day her sister requested to see the dead body; she was immediately sickened at the sight, and had an attack of typhus fever.

This might be called a proof of the doctrine of contagion; but the first case was not one of contagion; and, besides, all the individuals who had lived in the house had been attacked with typhus fever at different times. The probability is, that the malaria which existed in the house operated upon her when she was predisposed to it by the debility which the sickness produced.

A porter in the Fever Hospital was attacked by typhus fever. This on a superficial observation would appear naturally to arise from his connexion with the hospital, and accordingly this case was adduced as a proof of the contagious nature of the affection. But this man laboured under a quotidian ague for the first week, and in the second week he had an attack of continued typhus fever. This case, it was quite clear, originated from malaria.

A head nurse in the Fever Hospital was sickened on standing over a very offensive stool passed by a patient labouring under typhus fever, and she had an attack of typhus fever.

We know the great influence of certain smells; and in this case the odour of the stool was probably only the predisposing occasion of typhus fever. The Fever Hospital stands in one of the affected districts of London. There is a slime almost constantly before the

whole line of the hospital like the slime of the Nile after its overflowing; and when the strength is broken up, it is reasonable to suppose that an individual, in that hospital tainted by malaria, should be attacked by typhus fever.

The laundry-maids in the Fever Hospital are remarkably liable to typhus fever, being exposed to bad smells and other circumstances which tend to break up the strength. In these cases the affection sometimes puts on the intermittent, sometimes the remittent, and sometimes the continued character, showing its origin from malaria.

My late colleague, Dr. Cleverly, was said to have died of typhus fever; but from the account of two physicians who attended him, I should say such was not the case. But even if he had died of typhus fever, we must recollect that his mind had been considerably harassed, and that he had constantly visited the infected districts. In short, we might explain it just as well by malaria as by contagion; and, since the cases supposed to prove the doctrine of contagion are so few in proportion to those which manifestly originate from malaria, it is reasonable to suppose that the latter is the occasion of all those cases. This shows how some persons will take up as truths certain opinions without investigating the facts upon which those opinions are founded. By a parity of reasoning I could show that this theatre is far more likely to give you typhus fever than the Fever Hospital. I have attended about thirty pupils in the Borough labouring under typhus fever; and what would you think if I were to assert that your daily gathering together here generates contagion. But the fact is, that the Borough is a district where malaria prevails very remarkably; and the strength of the pupils being broken up by study and other circumstances, the malaria operates on them and produces a peculiar affection which puts on the character of intermittent, remittent, and continued fever.

Again, if you remove a patient labouring under scarlet fever, measles, hooping-cough, or small-pox, into a fresh atmosphere, yet it will generally happen that the affection will be communicated to some individuals in that situation; but I have never seen anything like this in typhus fever. I have seen no instance in which a patient labouring under typhus fever has been removed into a fresh atmosphere, and has in that situation propagated the affection to other individuals; and until I do meet with some such fact I will not believe that it is contagious. Indeed, I shall in future be much more guarded against hastily taking up popular opinions without examination, merely upon the authority of others. Typhus fever

obeys laws entirely different from those which influence other diseases which are admitted to be contagious: it arises suddenly in certain states of the atmosphere, and it disappears suddenly in certain other states of the atmosphere. And how is this to be accounted for?

A friend of mine went to Alicant shortly after the yellow fever had prevailed there. The place had been surrounded by military lines, through which many broke in despair, while others were killed in the attempt: but, though some actually labouring under the fever thus escaped, yet this individual could not discover a single instance in which the affection had been carried by the infected person and communicated to another in a fresh atmosphere.

If the common doctrine with regard to typhus fever be true, that the assembling together of human beings in populous towns generates contagion, then would the whole earth seem to labour under the curse which Timon breathed against Athens:—

> ——" Breath infect breath;
> " That their society, as their friendship, may
> " Be merely poison!"

If this doctrine be true, whole cities—crowded and magnificent cities—would soon be depopulated; London would be a solitary place, and at no very distant period its desolated remains would only be visited ever and anon by some curious traveller, who would in melancholy mood contemplate its splendid ruins as the mighty sepulchres of the dead, and weep over the destinies of a past and misguided race of men.

Typhus fever prevails in almost every part of London, which ought, according to this doctrine, to be depopulated. But what is the sober fact in London? In opposition to sermons and reports it appears that typhus fever exists in some parts of London every year.

Analogy is against this doctrine. Observe what occurs in erysipelas. It arises, for example, in the wards of an hospital, very often attacking two or three individuals at one time; very frequently attacking several individuals in succession who had no intercourse with each other. It is said to be contagious; but I have traced it to an infection or local taint of atmosphere. If you put out the consideration of the external affection of the skin, it will be found upon reference to dissections to have, in many cases, all the other characters of typhus fever.

Again, fever sometimes arises from a puncture in dissecting. If

you put out the consideration of the local effects of the puncture, you have a fever not distinct from a case of continued typhus fever. That this is the case observation has convinced me; and from the experiments of Gasperd it appears, that putrid matter introduced by inoculation in the inferior animals produces a fever exactly resembling typhus fever: and though I think that genuine typhus fever arises from malaria or marsh effluvia, yet I am authorized by facts to infer that a continued form of fever resembling typhus fever may and does arise from the introduction of putrid matter into the blood.

The practical application of the doctrine is of great importance: and it becomes a question of great interest—What good has the Fever Hospital done in a preventive form of view? I have very great respect for the individuals who preside over that excellent institution; but it is my duty to observe, that my own opinion is that it has done no good whatever in point of prevention: their views are entirely mistaken with regard to its preventive powers; for the fact is, that typhus fever has prevailed year after year at certain seasons, in certain districts, limited as it were by a law of nature to certain spots, in defiance of their hospital, and will prevail in London as long as the doctrine of contagion holds its place in the minds of those individuals who preside over it; and the history of the Fever Hospital is the same year after year.

Again I beseech you to take nothing for truth but what your own observation proves to be so. So indolent is the human mind that it will rest even upon error rather than be at the trouble of inquiring for itself. I believe that the doctrine of contagion is taken up by medical men, as it was by myself, from the prejudices of education; and it remains in my mind a problem to be solved whether typhus fever is ever contagious or not. Discard from your own minds the fears which haunt the minds of the public, but as long as there is a risk it is your duty to guard them against contagion; for I repeat, that I am persuaded that if typhus fever be contagious it very rarely is so.

INFLUENCE OF THE DOCTRINE OF CONTAGION.

The doctrine of contagion ought to be true, because its effects on society are very injurious.

1. Its influence is prejudicial to the sick.

When typhus fever occurred in London under the name of the plague,—when individuals were shut up in their houses, and their doors were marked with a cross and inscribed with the words "The

Lord have mercy upon us!" deserted by their friends and companions, they perished in crowds. And now that this affection prevails under another name, the doctrine of contagion destroys a great many individuals. I am sure that I have seen in the Fever Hospital at least twenty cases sacrificed in this way.

The doctrine of contagion is so selfish that it entirely excludes humanity and sensibility from the hearts of men. It is the most cold, the most cruel, the most calculating doctrine that ever was advanced.

A philanthropic acquaintance of mine lived in Philadelphia when the yellow fever prevailed there. Even though the fever was at its height he visited the places where it prevailed, and ministered to the wants of the sick. He found parents abandoned by their children and children by their parents, but again and again he went to their relief,—

> "Explored the thought, explained the asking eye,
> "And kept at least some parents from the sky."

The terrific influence of the name upon the sick might have produced this unnatural abandonment of the nearest friends and relatives. If a parent were told that she laboured under a contagion, she would say to her children, "Away; flee from me; abandon me to my fate!" And this is the doctrine of contagion!

2. It is prejudicial to the attendants and neighbours of the sick.

It is injurious to these individuals from the alarm which it creates, and which predisposes them to the influence of the common and peculiar occasions which give rise to different affections, as I have before explained.

3. It is prejudicial in a national point of view.

Look to Alicant: there the people were surrounded by military lines; they were obliged to breathe the poison; the tainted atmosphere of that place they were not allowed to leave.

Commerce is affected by the doctrine. The quarantine laws are very injurious to merchants; and yet they are enacted to keep the plague from being imported into London. But the fact is, the plague has never been out of London since the time of Sydenham, when it prevailed to a very remarkable extent: and these laws, it must be confessed, even presuming the doctrine of contagion to be true, are perfectly absurd.

Such is the consequence of the doctrine of contagion: nay, more, it may affect the liberties of a country. Upon this ground we have what is blasphemously called a Holy Alliance,—an alliance

against the liberties of mankind. This doctrine is favourable to despotism; and it becomes us, therefore, to be cautious in receiving such opinions. It was a pretext for invading Spain—for infesting it with an army, which at first was a sanatory guard. A sanatory guard, forsooth! Next it was an army of observation; and next it became a horde of hired murderers, to crush the rising liberties of Spain and restore to unrestricted power an atrocious tyrant, whose presence is more baneful, more withering, and more detestable than the most deadly pestilence. This was the fruit of the doctrine of contagion; and even in this last point of view it becomes an Englishman to pause. It becomes, I say, an Englishman, an inhabitant of that country which has been an intellectual sun to the modern world, and which will I trust continue to enlighten the human mind and animate the human heart, till not only that portion on which we stand, but the whole earth shall be sanctified by the triumph of liberty over oppression—it becomes him to pause and ponder e'er he admit the perilous doctrine of contagion.

From the injurious influence of the doctrine of contagion, it ought to be proved before it be admitted to be true; but the doctrine is assumed without proof; and the assumption does this harm, —it operates against inquiry. In this as in many other things men are content to take up certain notions merely upon the authority of great names: these they maintain by confident assertion and appeals to books, but they never stick to facts at all. Still it is the truth, in many departments of science, that we make

> "Opinion an omnipotence—whose veil
> "Mantles the mind with darkness, until right
> "And wrong are accidents, and men grow pale,
> "Lest their own judgments should become too bright,
> "And their free thoughts be crimes, and earth have too much light."

My anxious wish is that you should come to the inquiry without prejudice or partiality, determined to be guided by facts alone. This the purity of medical science, this the welfare of the public, demand. Though some old colleges, as bodies, are contaminated with so much prejudice and surrounded by so much darkness and ignorance that I cannot but look upon them with contempt mingled with compassion, yet their presumption in the delivery of their opinions is as great as ever, and against that presumptuous display of assertions I would especially guard you in all things, since you ought to be bound by no other authority than that of the truth. The meanest, the vilest reptile that crawls upon the face of the earth, is not so degraded in the scale of life as that human being

who surrenders to another the freedom of his intellect; who exchanges for the prejudiced dogmas of the ancients those powers and opportunities of observation, reflection, and judgment, which he possesses for the benefit of society.

If all the mortal errors which have descended through past ages to this period of time could be collected into one object, and if I could form my wishes into an adequate power obedient to my will, it should strike them like a thunderbolt, aye, it should crush them at once. But since this cannot be, it still remains for me strongly to protest against them here; and I appeal to you, who form a part of the rising generation, not to be deceived by these errors, but to endeavour to root out from the soil of the medical world all those antiquated doctrines which lead to erroneous opinions in pathology and practice, and to substitute for them facts as displayed by nature, that the science may be sanctioned by nothing but truth itself.

LECTURE XXXVIII.

PECULIAR FEVER.

SYMPTOMS, DIAGNOSIS, MORBID ANATOMY, PATHOLOGY, AND TREATMENT, OF INTERMITTENT, REMITTENT, AND CONTINUED TYPHUS FEVER.—PROBABLE IDENTITY OF TYPHUS FEVER, YELLOW FEVER, AND PLAGUE.

IN my last lecture I endeavoured to show that what is commonly called—

TYPHUS FEVER

proceeds from malaria or marsh effluvia, as its primary source; and I also endeavoured from remarkable facts to show that the commonly received doctrine of contagion with respect to that affection is extremely questionable; that all facts are directly opposed to that doctrine; and that the few apparent exceptions which occur are explicable as satisfactorily, nay, even more so, by the doctrine of malaria.

There is scarcely any place on the earth's surface where malaria is not passing off.

Its nature is not known; but the following three circumstances seem to be connected with its generation:—moisture, heat, and the

putrefaction of vegetable and perhaps of animal matter. When these three conditions are combined, especially in a marshy soil, malaria abounds. The increased prevalence of typhus fever in Rome is attributed to the felling of forests; for it often prevails in Rome when the wind is up the coast, and it appears that trees intercept malaria. Fergusson mentions a pestiferous marsh covered with trees, the inhabitants to the leeward of which are quite safe. Pestiferous air sometimes rests upon trees or the sides of mountains, borne there from places where it has been elaborated. And when malaria comes in a current its influence is very decided.

The time in which, after its introduction into the system, it operates is various. In some cases it operates in a single day; in other cases within a week, or in a fortnight or three weeks. The most common time is from the first to the third week after its application; but sometimes it is a much longer period. On the abdication of Bonaparte, in 1814, persons who travelled over a marshy district in France had typhus fever on their arrival here, at the distance of two months afterward. Some writers confidently assert that it operates at still later periods.

I shall now proceed to point out the various effects of malaria. It produces three forms of fever, namely, an intermittent fever, a remittent fever, and a continued fever: or, as I would rather call them, an intermittent typhus fever, a remittent typhus fever, and a continued typhus fever;—at least this is its regular operation. When it acts on a weak individual, or in a very concentrated state, it sometimes sinks the powers of life at once, producing congestion, cholera morbus, and dysentery.

SYMPTOMS OF INTERMITTENT TYPHUS FEVER.

The intermittent form of typhus fever, or, as it is commonly called, ague, or intermittent typhus fever, has three varieties when it occurs under a regular character. Of these the first has been called a quotidian, the second a tertian, and the third a quartan.

Each of these varieties of intermittent typhus fever consists of a succession of three stages: first, a cold stage; next, a hot stage; and, thirdly, a sweating stage.

1. The cold stage is various in its duration. It generally comes on with the following symptoms; the skin is cold and pale and contracted like what is called the goose-skin or cutis anserina, the teeth chatter, the patient complains of aching or pain in the head, back, and limbs, and of an uneasy sensation or load about the epigastrium, and of languor and lassitude. He creeps together,

and has a constant desire to be near the fire; the pulse is small, feeble, and quick, and often irregular, and the breathing often oppressed. Sometimes there is nausea, retching, or vomiting. The cold stage continues sometimes a quarter of an hour, sometimes half an hour, sometimes three quarters of an hour, seldom longer than an hour; but now and then considerably longer than that period. At length it goes, either very gradually or suddenly, into—

2. The hot stage, in which the skin becomes hot and dry; the pulse becomes quick, expanded, and strong; the face becomes flushed; the eyes become bright; the tongue furred; and the patient usually complains of more or less pain about the head, with some degree of thirst. This stage also varies in its duration: continuing sometimes one hour, sometimes two, sometimes three hours, and sometimes even longer. It then gives place to—

3. The sweating stage, in which the heat on the surface falls; the skin becomes universally moist; the pulse becomes slower; the aching uneasiness of the head disappears; there is a languid expression of the face; and the patient returns after an indefinite period, one, two, three, or four hours, to a state called apyrexia, in which he ceases to have any degree of fever, but remains more pallid than natural, with a tongue somewhat furred, and a pulse somewhat more feeble than natural.

When a patient has had several revolutions of these three stages the face usually assumes a peculiar straw-coloured tint.

The peculiarity of this variety of fever is, that there is a succession of fits occurring at regular intervals.

What is called the interval, differs in the different varieties of intermittent typhus fever.

1. When the interval is twenty-four hours, the case is called a quotidian ague; 2. When the interval is forty-eight hours, the case is called a tertian ague; and, 3. When the interval is seventy-two hours, the case is called a quartan ague. These are three varieties of intermittent fever when it occurs under a regular form.

By the interval, I mean that period of time which is occupied between the beginning of one cold stage, and the beginning of the next succeeding cold stage. By the intermission, I mean that period of time which occurs from the termination of the sweating stage, to the commencement of the next cold stage, during which time the fever is absent. You will be careful, then, not to confound the interval with the intermission.

A very common form of ague in this country is what has been called a double tertian.

Suppose a patient have a cold fit occurring to-day at noon; if the ague be a double tertian, another cold fit will occur to-morrow, not at noon, but either before or after noon. The next day the cold fit will occur at noon, and so on. This form of ague may either be called an irregular quotidian, or a double tertian. In Shakspeare's time it was called a tertian quotidian.

Beside these there are also some other forms of ague. In some the interval or period at which the cold stage returns varies. In a quotidian, it often occurs in a morning; in a tertian, in the middle of the day; and in a quartan, in the afternoon. But you must recollect that there is no certain rule as to this subject. It does sometimes happen that an ague is irregular as to the period of its accession. This is very important to be remembered; because it frequently happens that intermittent terminates in remittent or continued fever; and you might by not knowing this be led into very serious errors.

In some instances the sweating stage is absent.

I attended a lady who was labouring under a continued form of typhus fever. She became convalescent, and in that state her stomach was disturbed. She had in consequence a shivering fit, which was succeeded by a hot fit, but no sweating stage occurred. When I first saw her several revolutions of this kind had occurred, and her countenance had the peculiar strawy tint which I have described.

I have seen several other similar cases.

Sometimes malaria produces intense pains, returning either periodically as to the time of their return, or periodically as to the time of their duration.

DIAGNOSIS OF INTERMITTENT TYPHUS FEVER.

There are very few affections which could easily be confounded with ague.

I. FROM IRRITATION OF THE URINARY SYSTEM.

You might, perhaps, confound any irritation about the urinary organs with intermittent typhus fever. If an individual have a diseased prostate gland, and by taking a long walk or by rough exercise produce inflammation, that inflammation is very apt to be accompanied by a cold and pale skin, and by shaking; the cold stage will be followed by a hot stage, and that by a sweating stage, the same as in ague. The same will occur in cases of disease of the kidney, or bladder, or stricture. This apparently intermittent fever is

distinguished from genuine intermittent typhus fever by the following circumstances:—

1. Because under urinary irritation the return of the cold stage, if it return at all, is extremely irregular; and it only recurs in conjunction with an attack of urinary irritation. The sweating stage is of longer duration than in ague.

2. Because it is accompanied by evidences of the presence of such irritation about the urinary organs.

II. FROM HECTIC FEVER.

A careless observer might mistake hectic fever depending upon internal suppuration for intermittent typhus fever, or the latter for the former. I am attending a lady who labours under phthisis pulmonalis, and who has an attack of cold shivering every noon; the cold is followed by a hot stage, and that by a sweating stage. This revolution is again repeated at about twelve o'clock at night.

I have seen the cold fit occur regularly at a certain hour in internal suppuration. This form of intermittent fever is known from genuine intermittent typhus fever by the concomitant indications of internal suppuration. This suppuration is most frequently occurring in the lungs, sometimes in the liver, and sometimes in the lungs and the liver at the same time.

The patient in ague has a peculiar strawy tint of the face.

With respect to the

PATHOLOGY OF INTERMITTENT TYPHUS FEVER,

or ague, it is a miniature of common simple fever; it has all the circumstances of common simple fever compressed into a small space. What takes place in common simple fever in a few days takes place in intermittent typhus fever or ague in a few hours. Both common simple fever and intermittent typhus fever have three stages: first, a cold stage, or stage of depression, in which there is a state of venous congestion; secondly, a hot stage, or stage of general simple excitement; and, thirdly, a sweating stage, or stage of collapse. These three stages, which in common simple fever occur in a few days, succeed each other in intermittent typhus fever in a few hours.

THE TREATMENT OF INTERMITTENT TYPHUS FEVER

is remarkably simple.

1. During the cold stage the object is to equalize the circulation of the blood; and nothing does that so effectually as the application of the hot air bath: it restores the animal heat on the skin,

and by that means creates a copious flow of blood to the surface, and so lessens the congestion of the internal organs. When this cannot be procured or conveniently applied, a hot water bath of the temperature 100° may be substituted. If neither the hot air bath nor the hot water bath be at hand, you may lay the patient in warm blankets, apply a bladder of warm water to the region of the stomach; apply a bottle, or, what is better, a tin of hot water to the feet, administer tepid drinks, and give a full opiate, say from thirty-five to fifty drops of the tincture of opium. Opium tends remarkably to shorten the cold stage.

2. When the hot stage is established, a different plan of treatment is required. The object now is to diminish the heart's action and the animal heat. You must therefore lay the patient cool, give him cool drinks, sponge the surface with tepid water, and open the bowels by mild aperients, for which purpose salts, senna, and manna, in combination, answer very well.

3. When the sweating stage occurs, supply the patient moderately with luke-warm, bland, drinks; and after this stage the personal and bed linen should be changed, lest the patient should be chilled by their dampness.

4. The cure, however, of intermittent typhus fever or ague must be accomplished in the period of the intermission: that is, in the period of time which elapses between the termination of the sweating stage and the accession of the next cold stage.

If you chance to see a patient just before the accession of the cold stage, fifteen grains to a scruple of powdered ipecacuanha, followed up after its operation by from thirty-five to fifty drops of the tincture of opium (to an adult), will often prevent the accession of the cold stage, and solve the disease at once. If you see the patient after the commencement of the cold stage, it is better to omit the emetic and give opium alone. But if you see the case when the sweating stage is fully established, you may then attempt the cure in the intermission.

Generally speaking, an ounce of good yellow cinchona bark will prevent the return of the affection. If it fail to do so, you will almost invariably find that the bark has been either adulterated, or is of bad quality.

But you need not give the patient so large a quantity of physic as this; for the quinine answers the purpose equally well, especially the sulphate of quinine. I have given it in forty cases, and it has succeeded in stopping the affection in all these cases, with only one exception. Five grains of the sulphate of quinine should be given thrice during the intermission, and continued for a few

days, with a grain and a half or two grains of calomel every night.

In this way it will almost invariably cure ague. I have met with but a single exception to the success of this remedy, and in that case there was not only ague, but combined with it an organic affection of the liver.

Arsenic was formerly a great deal used for the cure of ague. We have now, however, little or no occasion for it, though it generally succeeds, and may be safely tried if it be given cautiously. If good bark or sulphate of quinine cannot be obtained, you may begin by giving three drops of liquor arsenicalis three times a day in a little distilled water, after a light meal of arrow-root or gruel. If arsenic be given on an empty stomach, it is very apt to create irritation of the mucous membrane of the alimentary canal. I have seen a patient die from taking only three drops of Fowler's solution in this way. The dose may generally be increased to ten drops three times a day. Watch with assiduity its effects on the stomach; keep the patient at rest; adopt a spare diet; and give a calomel purge every night.

Secret remedies often succeed in curing ague among the lower classes of society.

A clerk to the Mendicity Society was famed for the cure of ague by some secret remedy. He was a patient of mine, but, though I requested him to tell me his secret, he refused to impart it.

It is sometimes by merely inspiring confidence that secret remedies succeed in curing ague.

In the life of Lord Chief Justice Holt a curious anecdote is recorded. It appears that when a young man Holt had a flow of animal spirits which could not well be restrained, and he happened on one occasion, with some companions, to stop at an inn in the country, where they contracted a debt of such amount that they were unable to defray it. In this dilemma they appealed to Holt to get them out of the scrape. Holt observed that the innkeeper's daughter looked remarkably ill, and was told by her father she had an ague. Hereupon he gathered several plants and mixed them together with a great deal of ceremony, afterwards wrapping them in a piece of parchment, upon which he had scrawled certain letters and marks. The ball thus prepared he hung about the young woman's neck, and the ague did not return. After this, the never-failing doctor offered to discharge the bill, but the gratitude of the landlord refused any such thing, and Holt and his companions departed. When he became Lord Chief Justice a woman was

brought before him accused of being a witch. She was the last person ever tried in England for witchcraft. She made no other defence than that she was in possession of a certain ball which infallibly cured ague. The ball was handed up to the judge, who untied it, and found it to be the identical ball which he had made in his youthful days for the purpose of curing the woman's ague and paying his own bill.

Baron Dimsdale mentions an old shoemaker who was famed for curing ague. The baron asked him how he succeeded, or what remedy he used. "Oh!" said the shoemaker, "I may tell you; I cure people by pretending that I can cure them. People say that I can cure the ague; and when they come to me I say that I can cure them, and then I go into my garden and bid them wait till I return; I cut a twig off some tree, cut nine notches in it, and then I bury it in the garden, and tell the patient I bury the ague with it. I obtain confidence on account of the charm which people think I possess; and by performing these and other ceremonies it generally succeeds so well, that the individual has no return of his ague."

Mild calomel purges are extremely beneficial in intermittent typhus fever. I have cured a great many cases of ague by prescribing a bland diet, rest, and calomel purges. You may give at night about one grain of calomel with three grains of rhubarb; this followed up in the morning by a drachm of cold-drawn castor oil, will almost invariably succeed, especially if you give the patient sulphate of quinine.

If these methods fail, sometimes a change of air, or a sea voyage, becomes necessary to break through an attack of ague.

When a patient lives in an infected district it is sometimes very difficult to cure a protracted case of ague.

A remarkable fact connected with intermittent typhus fever or ague is, that after it has been stopped by bark or other means, it may be renewed by a common occasion.

I knew a physician who travelled through Russia and Persia, and had an attack of ague, which was cured by bark. On his return to England he was one day walking along the Strand, and being exhausted by the heat of the weather, he stepped into a confectioner's shop and ate an ice; it chilled him, and the consequence was a return of the ague, of which he had several successive revolutions.

A lady had ague in Spain, and she has had a return of it about the same day the last three years.

I have seen other examples of a similar kind.

When ague has returned from the application of a common occasion, it would seem that some latent poison has existed, in all probability in the blood, so that upon the application of a common exciting agent, a peculiar and specific affection is developed.

PATHOLOGY OF REMITTENT TYPHUS FEVER.

The remittent form of typhus fever, usually called remittent fever, sometimes arises out of the intermittent form of typhus. It is by no means uncommon, especially in London, for an intermittent fever to become remittent, and for a remittent fever to become continued. This fact seems to have been known to Shakspeare, who was a very accurate observer of nature. His mind glanced over the whole universe, and there is scarcely any path of human knowledge which the light of his intellect did not lead him to explore. Mrs. Quickly calls Falstaff's ague a quotidian tertian, and it is described as passing into the remittent form, under which he is represented as dying, "playing with flowers, smiling on his fingers' ends, and babbling o' green fields."

The intermittent, remittent, and continued forms of fever often occur in the same house at the same time; and you will find one individual labouring under intermittent fever, a second under remittent fever, and a third under typhus fever in the continued form.

The brother of a pupil of mine had intermittent fever, while his mother in the same house had continued fever. After a time her fever became intermittent also.

In a house near this place a pupil of mine had an attack of continued typhus fever, and his sister had at the same time an attack of remittent fever.

There is a very important question to investigate, namely, why an intermittent fever becomes remittent?

The intermittent form of fever has the simple character. In the hot stage the blood certainly circulates more rapidly than natural through all parts of the body: but the circulation is so equally balanced, that no one internal or external part can be said to be the seat of acute inflammation. There is never either acute or sub-acute inflammation of any structure in the intermittent form of typhus fever. Yet a chronic form of inflammation may steal on insidiously, though I repeat that I have never seen an instance of acute or sub-acute inflammation connected with intermittent fever.

When acute or sub-acute inflammation supervenes, the fever changes its type.

If the inflammation be slight in extent or in degree, the fever puts on the remittent form. And this is the source of the modification of the type of the fever: the reason why the intermittent fever puts on the remittent character. Besides, in remittent fever there is a slight degree of irritation about the pia mater and arachnoid membrane; about the bronchial lining; and about the intestinal lining; and these different irritations, some of which assume the inflammatory character, constitute the reason why the fever puts on the remittent character.

If the inflammation be more extended throughout one or several structures, or if it be high in degree, the fever puts on a continued character.

THE SYMPTOMS OF REMITTENT TYPHUS FEVER

are remarkably simple.

The patient has an accession of fever, which is distinguished from ague by the absence of the cold stage, in the afternoon or evening. It increases throughout the night, and in London most frequently ceases about four o'clock in the morning, or from four to eight. During the accession of the fever the skin becomes hot, the face becomes flushed, the eye becomes bright, the pulse becomes quick and strong, the breathing becomes quick, the strength becomes prostrate, the tongue becomes dry in the middle and almost always moist at the edges; and these symptoms are combined with some uneasy feelings about the head, and the patient usually becomes somewhat light-headed.

These symptoms continue till the remission, or a brief intermission, occur: till, in fact, there is a cessation of fever, either nearly or entirely, for four hours, sometimes more, sometimes less. When the remission is perfect, the fever is completely absent. When it is imperfect, only a slight degree of fever remains.

The skin becomes universally cool, the pulse becomes softer and much slower, and the tongue becomes moist and covered with a dirty whitish fur. In other cases the skin is universally warm, but moist.

Sometimes the accession of fever in the remittent form of typhus fever is irregular as to time. Sometimes it occurs in the morning, sometimes in the night, but generally it occurs in the afternoon or evening; continues through the night, and is succeeded by a distinct remission towards the morning.

THE TREATMENT OF REMITTENT TYPHUS FEVER

also is remarkably simple.

During the hot stage the patient requires to have the surface sponged with tepid water. He requires also the exhibition of mild aperients, say a grain and half of calomel, with four grains of rhubarb, followed up by two drachms of castor oil. Generally three grains of calomel ought to be given in a day. In fact, calomel purges are almost a specific for remittent fever. If the patient complain much of uneasiness about the head, you may apply a few leeches to the temples. If the tongue be red at the tip and edges, with obscure pain over the epigastrium, you may apply a few leeches over that part with advantage. If you thus remove the inflammation, calomel will do all the rest. The diet should be remarkably bland, and the patient should be kept cool in the night.

If the remission be perfectly distinct; if the skin be universally cool; if the pulse be soft and compressible; and if the tongue be universally moist for three or four hours; then bark stops the remittent form of typhus fever at once. An ounce and half of bark, with two drachms of magnesia, may be infused in six or eight ounces of water, and given during the distinct remission. Never in remittent fever give bark in the form of powder, for it often produces inflammation of the stomach and intestines. Or two or three grains of the sulphate of quinine may be given every hour during the remission. This, together with calomel purges and cold-drawn castor oil, rest, tepid ablutions, and occasional leeching if there be pain in the head or epigastrium, will remove the affection. Arsenic is a very beneficial remedy in this affection in the form of small doses of Fowler's solution. I prefer sulphate of quinine, though I have not used it so much in remittent as I have in intermittent fever, to the infusion or decoction of bark; and of these I prefer the infusion to the decoction. Though slight inflammation exist, quinine may be given if the remission be perfectly distinct.

When the remission is not distinct, and any degree of fever remains, it is better to omit the bark and give mild calomel purges, cautiously avoiding harsh cathartics. Sometimes in remittent fever the excitement becomes very high towards the evening; the patient becomes excessively hot; the eyes become injected with red blood; the conjunctiva becomes ferretty; the patient becomes delirious and wanders in his mind, and passes a restless night. Then, generally, about four or six o'clock in the morning, the

fever declines; the face becomes sunk and haggard; the conjunctiva becomes blanched; the skin becomes cold as clay; the lips become blue; the cheeks dusky; the respiration weak and panting; the pulse becomes a mere flutter; and the patient lies on his back exhausted and sunk in the bed. In this state of collapse wine is necessary. I am quite sure that I have saved many patients in this state by the administration of a little wine, though, generally speaking, the collapse is fatal.

I recollect a young lady, the sister of a pupil of mine, who had the remittent form of typhus fever. After a stage of very high excitement there succeeded a stage of profound collapse, which was removed by a little wine.

I attended a man near the Fever Hospital in whom a little wine in the stage of collapse was very beneficial. And I saw a similar case in a man who was a patient in the Fever Hospital.

I am very cautious in the administration of wine; and in typhus fever I do not recommend it except under the state which I have just mentioned. The quantity of wine must depend upon the degree and duration of the collapse. It should be given in small doses, frequently repeated; and its effects upon the head, heart, and skin, must be carefully watched. As soon as a state of excitement is established it must be discontinued.

During the collapse the patient should be laid between warm blankets, bottles of hot water should be applied to the feet, and a bladder of hot water to the pit of the stomach, and plenty of fresh air should be admitted.

SYMPTOMS OF CONTINUED TYPHUS FEVER.

The continued form of typhus fever may arise out of either the remittent or the intermittent forms of typhus fever. When it does so arise the history of the case will convince you of the fact.

But more frequently the continued form becomes at once as an original form of typhus fever; and there is then an aggravated degree or a greater extent of inflammation than in the remittent fever. The poison operates as a depressant; and under the excitement which follows the depression some organ becomes inflamed; and the continued heat of the surface, and the continued frequency of the pulse, indicate the type of the fever, which is hence called continued fever. It has no intermissions or abatements. The combination of symptoms which attends continued fever attends remittent fever in a slighter degree.

Under the continued variety, typhus fever begins in three

ways, or has three modes of attack. In other words, it has three forms :—

1. One attended by a very high degree of excitement;
2. Another attended by an intermediate degree of excitement; and—
3. Another attended by a low degree of excitement.

With respect to—

THE FIRST FORM OF CONTINUED TYPHUS FEVER,

namely, that which occurs with a high degree of excitement, it is either ushered in by a cold shivering fit, or by languor and lassitude, under which the patient crawls about for some days.

I particularly wish to point out to you the importance of this languor and lassitude which precedes the attack of typhus fever; because if the patient walk about in that state the subsequent fever will be intensely aggravated.

After this stage of depression has passed away, it is succeeded by a stage of high excitement, with the form of fever which Cullen sets down in his book as synocha. It is a form of most intense excitement, under which the skin is very hot and dry; the pulse is quick, round, resisting, and expanded; the brain is very greatly affected; there is violent pain in the head; a flushed face; and the prostration of the muscular strength is excessively great. There are proofs of irritation (slight in this case) on the mucous membrane of the bronchia: the tongue is white, or covered with a dirty white yellowish fur, and moist all over for the first few days. This form of fever commonly occurs in robust young men, and generally sets in with an acute inflammation of the brain.

This stage of high excitement varies in its duration. Sometimes it lasts two or four days, sometimes five or six days; and if the patient does not die in that stage, then the fever assumes another character. The heat falls on the surface; the pulse becomes soft and compressible; the lip and cheek dusky, or of a purple or leaden hue; the tongue becomes glazed and brown; the voice becomes feeble and very peculiar; the breathing is laborious even to panting; the eye indicates languor; the patient has little or no muscular power; the position of the body is sunk; the brain becomes muddled; the patient mutters and moans at night; he becomes indifferent, and sinks gradually into a state of perfect insensibility; the surface becomes covered with petechiæ; and death closes the scene. The high degree of excitement has passed away, and is

succeeded by a low degree of excitement, the origin of which is the development of the special bronchial affection which characterises this stage. The bronchial lining is excessively loaded with blood, and secretes a sticky varnish, which, preventing the blood from undergoing the natural process of oxydization or decarbonization in its passage through the lungs, thus brings about a most remarkable change in the symptoms of the affection.

The powers of life are sunk while you have inflammation of some internal part. Yet if you abstract blood no buff will be found on it. You will never see malignant typhus fever without a special bronchial affection, which is very different from the common bronchitis. The sticky varnish commences on the tongue and spreads downwards to the bronchia, and generally there is no large accumulation in the bronchia.

THE SECOND FORM OF CONTINUED TYPHUS FEVER

has an intermediate character. The fever is less ardently developed, and the inflammation is less in degree. The same characters exist, but the only difference is, that they are more moderate in the onset. Like the first form, the fever goes on for a period of seven or eight days generally, and then the pulse falls and becomes soft; the tongue becomes dry, glazed, and brown ; the voice becomes feeble; the breathing becomes weak and panting ; and the position becomes weak and prostrate. In fact, in this form, as in the first form, the same symptoms exist, and the same pathological condition brings them about.

Now, what takes place in the first and second of these forms in a few days, takes place on the first or second day or at once in--

THE THIRD FORM OF CONTINUED TYPHUS FEVER:

the form, namely, in which there is a low degree of excitement. Sometimes it arises insidiously. At the onset the patient has a low degree of heat upon the surface; a rapid, feeble, soft, and compressible pulse; a glazed and brown tongue; a feeble voice; an exhausted state of the respiration ; and a prostrate position of the body. In short, there is a state of overwhelming oppression.

This, I presume, as well as the other two forms in the last stage, constitutes what the older authors called typhus gravior. I say, I presume this to be the case, for I do not pretend to understand what they meant by the term typhus gravior ; and I despise these terms, because they themselves attached no precise meaning to them.

In fact, it was with the older authors entirely guess-work; and it is just the same with the modern inhabitants of schools and colleges. We have abundance of words like typhus gravior, and typhus mitior. Indeed, we have nothing but words under the miserable system of Cullen.

When Polonius meets Hamlet in the play, he enquires what he is reading. Hamlet replies, "Words, words, words." And it is the same in the writings of Cullen; for there we have words, words, and nothing but words. After making some remarks on old age, Hamlet says—"All of which, sir, though I most powerfully and potently believe, yet I hold it not honesty to have it thus set down."

Now, as I do not believe any part of it at all, but have an utter contempt for the writings of Cullen, and though I respect the man, yet believing that he has done by his writings more injury to the medical science than any other public character, I can, with a better grace than Hamlet, say—"I hold it not honesty to have it thus set down." And I would say as he does to the players—"Reform it altogether."

Throw away your idle writings, and come to facts, and by an appeal to facts we will decide the affair.

MORBID ANATOMY OF CONTINUED TYPHUS FEVER.

The barber, in the "Arabian Nights' Entertainments," on going to examine the body of Hunchback, very sagely and philosophically remarks, that "no man dies without a cause." But he was mistaken; for if he had lived in modern times, and attended lectures in schools and colleges in this country, he would have found that some, nay many persons, die without a cause. They die nosologically. They die in crowds from the influence of mysterious sounds breathed by the mighty magic of the specious absurdities of the schools.

From the nosology of Cullen we should be led to suppose that these hosts of individuals had died from the workings of some subtile or invisible agent, leaving no trace behind to show the seat or nature of its influence. But you may be assured that no affection leaves traces so deep, so evident, and so constant, on different parts of the body as typhus fever. For the cause of death in typhus fever I would have you appeal from books to the appearances on dissection of fatal cases.

I mentioned to you that there are two kinds of pathology. The

one is the symptomatical pathology,—the only pathology of the ancient writers, who arranged affections under abstract names without any knowledge of a reference to their anatomical pathology.

With respect to typhus fever, I shall come first to the consideration of the different structures, the morbid changes of which are, by a careful and extensive dissection, developed, and shall then assume those changes in order to explain the symptomatical or external pathology.

If you cautiously examine bodies after fatal cases of continued typhus fever, you will find the following appearances:—

You will find, on cutting the brain, that it exhibits more bloody points than natural; that the pia mater is gorged with red blood; that the arachnoid membrane is milky or opaque in some places, and thickened; that there is some effusion of fluid, generally serum with loose coagulable lymph, between the membranes; and that the membranes of the spinal cord are in a similar condition,—at least, as far as my examinations have gone, it has been the case. Of the state of the brain and its membranes I can speak confidently, having invariably found them affected in more than one hundred cases, without a single exception.

The bronchial lining is invariably found highly congested with dark blood, and a sticky secretion which besmears the membrane exercises a most important influence over the pathology of the affection, by changing the constitution of the blood in a way which I have already explained. If the sticky varnish be washed off with a sponge, the membrane exposed to the air soon becomes vividly red.

The liver generally contains more blood than natural, and a venous or arterial tree is found in the mesentery, when no calomel purges have been given. If calomel purges have been given, then the appearance of the liver is pretty natural.

Some traces of inflammation are found invariably in the mucous membrane of the small intestines, and especially of the lower portion of the ilium. This portion of the ilium is invariably found inflamed, either with or without ulceration. When the affection has gone on for a fortnight or three weeks, you will almost invariably have inflammation and ulceration there, and the mesenteric glands will be more or less enlarged. When diarrhœa has existed the upper part of the colon also will be found inflamed.

Occasionally the mucous membrane of the stomach is red, thickened, and pulpy.

Sometimes it happens that the internal tunics of the arteries and veins are inflamed. This seems to be an accidental concomitant, and not a necessary or essential part, of the affection.

Sometimes, though rarely, the serous membranes are inflamed; but this too seems rather an accidental than an essential part of the pathology, if we except the arachnoid membrane of the brain, which I suppose we must consider as a serous membrane.

The skin undergoes great changes: generally it is universally dry, and furfuracious, and more contracted than natural. When the internal mucous membranes are much affected, the functions of the skin are generally considerably disturbed also.

Whatever be the age, whatever be the sex, and whatever be the constitutional peculiarities of the individual, there is this remarkable circumstance—that this malaria, when it brings about continued typhus fever, produces in all persons uniformly the same affection of certain parts—the same affection of the brain and its membranes; the same affection of the bronchial lining; the same affection of the mucous membrane of the small intestines; and the same affection sometimes of the mucous membrane of the stomach.

How can this, then, be explained with regard to the symptomatical pathology?

If a small portion of putrid animal matter be accidentally introduced into the blood in a dissecting room, or if the experiment be made upon the lower animals, it produces a fever having exactly the characters of typhus fever under its continued form. And though, as far as my own observations have gone, malaria or marsh effluvia alone produces typhus fever under an intermittent, remittent, or continued form, yet I believe that putrid matter introduced into the blood produces an affection so exactly resembling typhus fever, that, putting out the local affection of the wounded part, I believe no individual could confidently pronounce that it differed from typhus fever. And in these two affections, as far as I have observed, the morbid appearances are similar. How, then, do you distinguish typhus fever? By its having an intermittent, remittent, and continued character, which pass and repass each other. So, likewise, it is distinguished by the supervention of the special bronchitis, attended then by the combination of the symptoms of an affection of the brain, the bronchial lining, and the ilium. The symptoms of inflammation or irritation in these parts are attended in the perfectly developed form of the fever by that special bronchial affection to which I have alluded. In one person the brain, in another the liver, in others the stomach, or

large or small intestines, may be the parts most affected; but still there is the same combination of symptoms, differing only in their relative degree; and this combination constitutes the peculiarity of the affection.

PATHOLOGY OF CONTINUED TYPHUS FEVER.

Having spoken of the morbid anatomy, the symptoms explain themselves.

In the stage of excitement you have all the evidence of inflammation of the brain or its membranes strongly marked: you have the dropping eyelid; the very glairy eye; the dull intellectual expression, mixed up with the expression of physical brightness; the injected conjunctiva; the uneasiness within the head; the hot scalp; the disturbed sleep. Very frequently, if the excitement be high, a disturbed state of the mind will occur at the early stage of the fever; and when the stage of excitement has passed on for some time, you have the low muttering delirium: then you have indifference, and then insensibility. You should bear in mind that inflammation of the brain has two stages,—one of increased, and another of diminished, sensibility; as I have explained in a former lecture.

With respect to the affection of the spinal cord and its membranes, you have uneasiness of the skin, soreness of the flesh, pain in the neck, back, or loins, with tingling or numbness of the upper or lower extremities, and the patient, upon enquiry as to the seat of his pain, will generally tell you, "I am bad every bit of me."

With regard to the bronchial lining, the duskiness of the face will be very marked, and the more so if you stand at a little distance from the patient's bed, especially if you compare it with the face of an individual in the next bed who labours under some other affection. As the bronchial affection increases, the face becomes more and more dusky, and you have the peculiar shades of colour in the lip and cheek which I particularly described when speaking of bronchitis. It is indicated also by a panting respiration, by prostration of strength, by dulness of intellect, by softness of the pulse, by a change in the voice, and by a husky stuffing noise on coughing. But this special bronchitis differs from the bronchitis which arises from a common remote occasion in one point—it differs, I mean, because the kind of secretion is peculiar: the secretion is so sticky and tenacious as more effectually than the loose secretion of common bronchitis to keep the air from coming into contact with the blood. In the special bronchitis the impediment to

respiration is not, as in common bronchitis, in proportion to the quantity, but has reference to the quality of the secretion. It continues increasing till at last the body undergoes a partial decomposition. And when this bronchial affection is perfectly developed, the term typhus is remarkably applicable to the weak or smothered fire. In short, all those symptoms which medical men call typhus, typhoid, low, putrid, or malignant, are referrible to this affection. I will venture to say that no man ever saw a case answering that description without such a special bronchial affection.

Again:—the liver and the mucous membranes of the stomach and bowels are found in the state I have mentioned, and you have indications of it during life; the stools show, for example, either a deficiency or a depravity of bile, but generally the latter; they are offensive, greenish, or like dark melted rosin, or oleaginous, or sometimes tarry. So, also, you will have slight uneasiness on pressure over the epigastrium, a vividly red tongue, a pungent heat over the inflamed part, and all the other signs which I have in the preceding lectures enumerated as characteristic of inflammation of the mucous membrane of the alimentary canal.

Recollect, however, that the most destructive inflammation may go on in the brain and bowels without pain, on account of the intensity of the bronchial inflammation; which prevents the natural change from taking place in the lungs, so that the blood operates as a narcotic, and destroys the sensibility of the inflamed parts.

You must, then, look for a definition of typhus fever to the combination of symptoms, to the course which they take, and to the ultimate effects which they produce; and with regard to the treatment, you must consider whether it is the intermittent, the remittent, or the continued form of typhus fever. Let us next consider—

THE MEDICAL TREATMENT OF CONTINUED TYPHUS FEVER.

From what I have said you will see how absurd it is to prescribe for mere names. If a man were to treat intermittent typhus fever as he would remittent typhus fever, he would commit a great error of practice: if he were to treat the first form of typhus fever of the continued variety as he would the second or the third forms which I have described, his treatment would be mostly fatal. Yet in books it is set down, and in schools and colleges it is taught, that a certain treatment is proper for cases of typhus fever, and the same treatment for all cases. But what need we the authority of colleges, who give us mere names without any definite meaning,—

who shroud their own ignorance under the semblance of learning, but who in reality stand in the back ground, opposing the dark shade of their absurdities in sombre contrast with the splendour of modern science! Let us despise the names and conjectures which they hold out to us, and let us come soberly to the investigation of the truth. The time is at hand when the attention of the public will be roused to the subject, and when the respect now so extensively paid to names and authorities will be paid only to the truth. In fact, we must not pin our faith upon the testimony of the ancients, but must investigate facts by a reference to the phenomena of nature alone.

With regard to the—

TREATMENT OF THE FIRST FORM OF CONTINUED TYPHUS FEVER,

you will recollect that it commences with a high degree of excitement, and the patient generally requires copious bleeding to save his life. While the skin is intensely hot and dry; while the pulse is frequent, round, and resisting; while the brain is much embarrassed, &c.; the most active depletion is necessary.

I attended a case with a pupil of mine, where, on account of the inflammation of the brain, one hundred and eight ounces of blood were abstracted. Had this patient not been actively treated, he would have sunk under the affection very rapidly.

The rule in the application of blood-letting in these cases is, to remove the pain in the head and the fever. In the case which I have just related, one hundred and eight ounces of blood were necessary to be drawn for that purpose, but it was an extreme case. You will generally succeed by drawing twenty, thirty, or forty ounces of blood, if the patient faint; generally about fifteen ounces at once will be sufficient. Sometimes after the first bleeding no further abstraction of blood is necessary.

But besides blood-letting there are also certain other means which you may adopt.

One of them is the application of cold to the head, while the head is hot and dry: the scalp should be shaved and the head elevated. If the acute inflammation have gone by, and a state of sub-acute inflammation remain, leeching the temples will be proper as long as the pain continues.

During the whole progress of the affection calomel purges are proper, so as to open the bowels three or four times every day. In all forms of disease which arise from malaria calomel really is almost a specific, and has a peculiar influence over the intermittent, re-

mittent, and continued forms of typhus fever. You may give the patient from three to five grains of calomel with eight or ten grains of rhubarb, following it up by cold-drawn castor oil—while the excitement is high. When the excitement abates you will generally find the following sufficient:—a grain and a half of calomel and five grains of rhubarb, with a drachm or two of castor oil. It is astonishing how much offensive matter will be dislodged daily by these medicines. No other medicine is required; but, as neither the patient nor his friends will be satisfied without something further, it is justifiable and morally correct to prescribe a placebo, which may consist of a little coloured water.

The diet should be strictly spare and bland, as I have so often explained. With regard to the—

TREATMENT OF THE SECOND FORM OF CONTINUED TYPHUS FEVER,

in which the pain and inflammation are less urgent, and in which the excitement is more moderate:—in this form of the affection, which is very common in London, moderate abstraction of blood will be sufficient, and will serve to convert the inflammation to a state amounting to almost nothing in its comparative importance. Your object in blood-letting is to remove the pain in the head and to lessen the fever. Many pupils in the Borough have this form of typhus fever. All whom I have seen have been bled moderately, and all have recovered. If you cut it short at all you must do it in the onset. If you fail to do this in the first few days, it usually runs on from fourteen to twenty-one days: it generally becomes what old nurses call a one-and-twenty day fever. This is an important fact, which teaches us to know the extent of our ignorance, and prevents us from doing any harm. I rarely bleed after the sixth day. When the bronchial affection has once set in you cannot stop the course of the fever: you might as well expect to stop one of the planets in its course; and then the milder the treatment the better.

You should be particularly on your guard in the exhibition of certain medicines, such as saline draughts, sudorific and antimonial mixtures, for I have known life after life sacrificed to such medicines, and I again repeat, that they very often do an immense deal of mischief by irritating the mucous membrane of the whole alimentary canal; they are not simple things, but complicated and severe remedies as far as their effects are concerned. If ever, therefore, you prescribe them, watch them narrowly. If you give any thing of the kind, let it be something that will do no harm.

The great secret in the treatment of this form of the affection is

not to do any harm. At the period when the bronchial affection has set in, calomel given daily is nearly a specific; and the only circumstance which would render its omission necessary would be bloody stools: if these occur you must discontinue it, but if not you may go on day after day till the tongue becomes moist.

The means on which you are most to rely as affording the best chance for the patient's recovery, are local blood-letting if necessary, mild aperients, a bland diet, fresh air, absolute rest in bed, and quietude. With regard to the—

TREATMENT OF THE THIRD FORM OF CONTINUED TYPHUS FEVER,

in which the degree of excitement is low from the onset, it requires to be very mild.

I had a patient who was admitted into the Fever Hospital, with inflammation of the brain, inflammation of the mucous membrane of the stomach, inflammation of the mucous membrane of the ilium, and inflammation of the mucous membrane of the bronchia, under the third form of continued typhus fever. If a few ounces of blood had been drawn from this patient it would have been fatal; yet he recovered by the cautious application of leeches to the temples and pit of the stomach; by mild purges of calomel followed up by cold-drawn castor oil; and by a bland diet, with rest, and quietude.

The chief means to be relied upon are the following:—the cautious use of local blood-letting (leeching only if there be pain in the head, or if there be a red-tipped tongue with raised and red papillæ), fresh air, quietude, mild aperients, and a bland diet. In this form avoid general blood-letting: when once the bronchial affection is set in the time for general blood-letting is past. If the inflammation require the application of blood-letting, you must leech cautiously, watching the effect of the leeches. If the pulse sink, do not repeat them; if the respiration become feeble, do not repeat them; if the voice become feeble, do not repeat them; if the position become more sunk, do not repeat them; if there be less power of exertion, do not repeat them. This inflammation is passive: the heart's action is sunk, and struggling to carry on the circulation; the whole mass of blood is tainted; and though all the parts which I have mentioned are intensely inflamed, yet you cannot, on account of that taint in the blood and on account of the prostrate power of the heart and arterial system, treat it as active inflammation. I would warn you strongly against all active measures when once the tongue becomes glazed and brown and dry, and the bronchial affection is perfectly developed. It is astonish-

ing how patients will be revived by fresh air, which is by far the best possible cordial you can administer. Wine in these cases is very beneficial if the patient be restless.

An old gentleman, a student here, between fifty and sixty years of age, had come to London for the purpose, as he said, of making himself acquainted with modern medicine. I felt almost ashamed to give a ticket to a man of so much humility. This gentleman had an attack of typhus fever. His lips and cheeks were pallid and blue; his tongue was brown and glazed; his teeth were covered and crusted with sordes; his extremities were cool; his body was covered with petechiæ. In this state he was placed in a current of fresh air, the bed-clothes being carefully tucked under his chin to prevent his being chilled. In a very short time the affection put on a more favourable character, and he ultimately recovered.

The practitioner must not do too much. He must often be a mere passive spectator, but then he should ascertain that the general management is attended to. A sick room should be sacred; and if a medical man observe any thing wrong there, he should not notice it before the patient. It is necessary that he should have a perfect command of his temper; and, like the sailor in the play, he should allow his heart to be broken rather than his temper to be ruffled.

With regard to—

THE REGIMINAL MANAGEMENT OF CONTINUED TYPHUS FEVER,

I would say that you must be cautious about the following points:—

1. The diet—

which should be bland and spare. Generally speaking, three bland meals in the day will be sufficient: say a little gruel, or thin arrow root, about a tea-cupful in the morning, another at noon, and a third in the evening.

2. The drinks.

Upon the whole, nothing answers better than good water, acidulated with a sprinkling of lemon-juice or orange-juice if there be not much irritation of the mucous membrane of the bowels. The orange or lemon-juice should be strained through fine muslin, in order to avoid the pulp and seeds and skins of fruits, which frequently produce disorder by irritating the mucous membrane of the bowels. I prefer lemon-juice, and next to it the oxymuriatic acid. Acids in their remedial efficacy stand next to calomel. They act on the bowels and liver, and are extremely

serviceable in the last stage, &c., when the use of calomel is prohibited.

The next object is to preserve the most perfect state of—

3. Quietude and absolute rest. And the next, to regulate—

4. The temperature.

1st. Regulate the patient's clothing: avoiding on the one hand a chill, on the other too great heat.

2nd. The temperature of the body should be attended to. If it be very high it should be reduced to the natural standard by tepid bathing. If the heat fail in the lower extremities you must increase it by artificial means.

3rd. The temperature of the apartment should be regulated, especially at night. This should be particularly attended to in private practice. Nurses are apt to consult their own feelings rather than the welfare of your patients, and hence they often make large fires in the night. This points out the necessity of investigating the moral character of a nurse, as your reputation must frequently depend upon it.

4th. When the disease is going on, and during the whole progress of typhus fever, the head should be kept cool: shave the head and apply evaporating lotions.

5. Ventilation.

Have plenty of fresh air admitted into the room, but do not suffer a current of air to cross the bed.

The muttering delirium which occurs towards the close of typhus fever is relieved very much by fresh air.

6. Cleanliness.

The stools should be passed into water, and immediately removed. The urine should not be left in the room.

The next point is to render the patient every possible—

7. Proper assistance; and every—

8. Possible comfort.

In short, you must endeavour to save the patient's strength in every possible manner.

In the last stage a very guarded treatment is required. The heat is sunk, the pulse is small, and the strength is prostrate; but the best test is the patient's becoming giddy and blind if he get up. If he have these symptoms, on no account let him again be lifted up. The stools must be passed in the recumbent posture, and cleanliness will be particularly necessary. When the nurse washes the patient tell her to dry the skin thoroughly, till it is polished, to prevent sloughing. A piece of oiled silk covered with

flannel placed under the patient will be useful to keep the bed clean, and may be removed when necessary.

In these cases, particularly, take care that the urine is passed every day. When the patient lies on his back and moans incessantly, there is generally a distention of the bladder from an accumulation of urine. There is, also, mostly a dribbling, so that the patient's linen and the bed are wet; but you should not suffer this to mislead you. These symptoms indicate the necessity of the introduction of the catheter. Sometimes distention of the bladder is attended by a cold shivering: therefore, whenever a rigor occurs always examine the bladder.

The back must also be examined to ascertain whether there is any redness or ulceration. If any portion of the skin be red, pillows must be placed under the patient to prevent pressure on the part, which may be washed with spirits of wine and water, and covered with emplastum plumbi spread upon soft leather. When ulceration occurs a poultice will be the best application.

You should daily endeavour to inspire confident hope of recovery. Many patients die under typhus fever from depression of mind. Hence fathers and mothers so frequently fall victims to it; and many recover from the influence which the confident hope of recovery has upon them.

I attended a pupil at this school who was under great mental anxiety from pecuniary embarrassments, and he died.

Rush, who has been called the American Sydenham, mentions a very remarkable and interesting case, showing the influence over typhus fever which is produced by cheerful impressions on the mind. When a youth he was educated in the country, in a very remote part of which he was in the habit of visiting, in company with a farmer's daughter, various scenes of beauty and sublimity, and, among others, the nest of an eagle in a romantic situation. For some time these visits were very frequent. Rush afterwards left the school, and settled in Philadelphia, where he found his former associate a married woman. Many years after she had an attack of typhus fever, under which she lay in a complete state of insensibility, apparently lost to all surrounding objects. In this state Rush, then a physician, was called to visit her. He took her by the hand and said with a strong and cheerful voice, "The eagle's nest!" The words revived an association of ideas comprehending the actions of her youth. She immediately grasped his hand, opened her eyes, and from that hour recovered rapidly.

This shows the influence the mind has on the body when prostrate with disease; and that, when patients are apparently dying, they will often recover from that state by the stimulus of pleasant impressions on the mind.

Never allow the patient to transact business or to make a will unless the case is very desperate; but endeavour to stir up the energy that remains, to throw off the deadly oppression. Cheer up the patient, and he is almost sure to do well.

When the patient becomes torpid and insensible to external impressions, then blisters may be applied, but not whilst the stage of increased sensibility exists unless the spinal cord is affected. After leeches you may apply one to the nape of the neck or to the epigastrium. Never apply a blister early in this affection.

Some cases of continued typhus fever require the exhibition of wine, but you should always watch its effects very narrowly. When the heat falls on the surface, and the breathing becomes weak, and the pulse becomes feeble, soft, and compressible, and the muscular power universally prostrate, then wine is sometimes very beneficial; and in these cases attend to the following points, in order to be precise in its application:—

1. If the tongue become more dry and baked, it generally does harm; if it become moist, it generally does good.

2. If the pulse become quicker, it does harm; if it be rendered slower, it does good.

3. If the skin become hot and parched, it does harm; if it become comfortably moist, it does good.

4. If the breathing become more hurried, it does harm; if it become more deep and slow, it does good.

5. If the patient become more and more restless, it does harm; if he become more and more tranquil, it does good.

You must be cautious in observing its effects; and till you see which way they tend you should give it only in tea-spoonfuls, gradually increased.

I seldom give wine and bark in typhus fever, except as I have mentioned in the remittent variety. In at least a thousand cases which have fallen under my care I have not used two bottles of wine in the advanced stages. Keep the bowels open, and it is astonishing how fast patients recover.

Towards the close of some cases there is a cool skin, a feeble pulse, a weak respiration, a tongue moist at the edges and glazed in the centre; and then stimuli, in the form of wine, porter, &c., may be given with safety, and even with advantage, under the

precautions I have just mentioned; for then there is a gorged state of the capillary vessels, with a deficient action of the heart.

Confirmed drunkards require occasional stimulants. They should be watched with great circumspection, as they sometimes sink into a state of universal collapse: and then wine may be given with great benefit, but should be discontinued as soon as excitement is produced.

Sometimes opium does good in the advanced stage, especially where the patient is extremely restless.

I saw a lady in the country with a most violent attack of typhus fever. Some of the family had typhus fever also, and it could be distinctly traced to malaria as its origin. This lady was constantly tossing to and fro in her bed; her pulse was quick and quivering; and her position was sunk. I gave her a full opiate, which produced a most tranquil sleep, and she ultimately recovered.

You must, however, be very cautious about the use of opium. It does harm invariably, except when the patient is at the same time extremely exhausted and excessively restless.

Sometimes, however, when hemorrhage from the bowels is very considerable, and the tongue is moist, opium may be given with great advantage: the patient must also be kept recumbent, in a fresh atmosphere; and recollect that you must do everything in your power to preserve the strength, by avoiding all demands upon it.

With regard to the—

PROGNOSIS OF CONTINUED TYPHUS FEVER,

the medical practitioner should be extremely on his guard; for patients sometimes recover amazingly when the disease is far advanced.

The prognosis should be drawn chiefly from an attentive consideration of the age of the patient, and his previous habits, the state of the organs affected, and the stage of the disease.

Very few children die who are seen from the commencement, not above one in fifty.

Under the wine and bark system typhus fever is dreadfully fatal, and very few patients recover compared with the number who recover under the plan which I have just recommended. The success of the latter plan is indisputably greatest.

I met with an individual who told me that some friends of his lost only one patient in six of typhus fever; but he confessed that

his own success was not so great as this. I told him, that if rightly managed not one patient in one hundred ought to die of typhus fever.

In adults under forty years of age, who were previously healthy, the fatality ought not to be more than one in thirty.

In old weak persons, above seventy, it is generally fatal, on account of the severe bronchial affection which often occurs in them. But many old individuals previously in health, recover; though, generally speaking, I repeat that the majority of old individuals (who have only vitality enough just to creep about) labouring under typhus fever die.

Most confirmed drunkards die. When the mind is depressed the danger is very great.

Of patients first seen in the advanced stages the mortality, if properly treated then, will range from one in six to one in twelve. Such cases are often brought into the Fever Hospital.

Practitioners of the present day might be referred almost without exception to one of the following heads or classes:—

One class there is who consider the pathology of typhus fever to be weakness, and they give their patients wine and bark from beginning to end of the attack. Some individuals take up this opinion from a want of thought; others like to have the sanction of great names to the opinions which they hold, and therefore take them up from interest. But if you appeal to symptoms, to the conditions upon which (as proved by dissection) these symptoms depend, and to the effects of remedies, you will find that typhus fever is not abstractedly weakness, even in the continued form, but disorder of the brain, spinal cord, bronchial linings, stomach, liver, and intestines, and, in the last stage, tainted blood.

Another set of individuals, consisting mainly of the younger branches of the profession, look upon the inflammation as the cause of typhus fever, and they trust entirely to the lancet in all stages of the affection. Blood-letting is their main remedy; and their treatment is just as fatal as that of the first class, who by wine and bark, as these by depletion, send crowds of patients under typhus fever to the grave. Against this opinion, and the practice founded upon it, I protest as erroneous and dangerous.

A third class consists of men who are sceptical as to the propriety of the practice of the old physicians, but who know nothing of modern pathology. If you ask them what typhus fever is, they will admit that they do not know. They will tell you that medicine has no influence upon it—that it will go on for a time: and

they leave it to run its course. The consequence is, that though many of their patients recover, yet many others die for want of proper treatment. Scepticism often arises from superficial observation. It has been said that "a little learning is a dangerous thing." In medicine a great deal of learning is also a dangerous thing. Medical men are in the habit of learning too much from books, from records of the opinions of men in the present and the past ages. This shuts them out from the study of the important and extensive volume of nature, which the Deity himself has laid open for their use, and which should form the object of their investigation and deep reflection every day. There is—

A fourth class, who may be called rational. They neither assert that typhus fever is weakness, requiring only wine and bark; nor, assuming that it is inflammation, rely solely on the abstraction of blood as its appropriate remedy; nor do they say that medicine has no influence on it, but they contend that it is highly efficacious. They pay minute attention to the symptoms and to the effects of remedies under various circumstances during life, and to the dissection of fatal cases. They investigate the particulars of each case, and are thus enabled to treat it with comparatively great success. It is of this class of men, who educate themselves at the bed-side of the sick, and attend to minute circumstances, and are not led away passively by the opinions of men, I would have you form a part, and I will venture to assert that your success will be fully as great as that which I have pointed out. If any man think that the science of physic is a trifling and laughable thing, a mockery only concealed by the semblance of seriousness, he should entirely leave the profession, as his practice must be as fatal as his opinion is false.

PROBABLE IDENTITY OF TYPHUS FEVER, YELLOW FEVER, AND PLAGUE.

Typhus fever undergoes some remarkable modifications, especially by the influence of climate; and as I am inclined to believe,—nay, as I have no doubt, that what are commonly called plague, yellow fever, and typhus fever, are modifications of the same affection, I shall mention some facts to endeavour to prove their identity,—at all events that there is a connexion between them.

In the year 1814 I saw several cases of yellow fever, with enlargement of the glands of the neck, with yellowness of the skin like gold, and (when it was fatal) with black vomit. Each of these individuals had journeyed through marshy districts in France, and the attack came on two months after their return home to this country, at a time when their health was disturbed from irregula-

rity of living. These cases put on the character of typhus or yellow fever in their progress.

In the year 1818, I had several cases in the Fever Hospital of the same kind; evidently from malaria. Heat here seemed to be the modifying circumstance. Heat predisposes to affections of the liver, and hence the yellow skin.

Dr. Hamilton, of Lynn Regis, one of the best practical physicians this country ever produced, has given an account of a marsh fever which prevailed in Norfolk, in which the patients had all the symptoms of the yellow fever of hot climates.

The term—

YELLOW FEVER

is used very vaguely. It is an abstract, and consequently a deceitful term. It comprehends three different affections.

1. If inflammation of the liver occur in hot climates, the skin is yellow before its close.

2. If common inflammatory fever arise from the influence of heat, the skin becomes yellow. The Dutch call it the 'inflammatory endemic of new comers:' it begins with a hot stage, puts on an inflammatory character, and is the common fever of new comers, who are exposed to the heat in the West Indies and have an attack of fever which was at one time supposed to be contagious, but which is proved to arise from the influence of heat on a predisposed individual.

3. A third affection puts on a continued, a remittent, and an intermittent form, arising from malaria: and in the progress of this the skin becomes yellow.

A friend of mine, a resident in Demerara, traced many cases of this kind distinctly to malaria.

A similar affection has occurred in Spain and in America, and has been called the yellow fever.

As far as these symptoms go, it is clear that the affection is intermittent, that it is remittent, and that it is continued; and that these three forms are converted into each other. And the morbid anatomy, as far as I have seen, has been the same as in the typhus fever of our own country, with the mere exception of the yellowness of the skin.

In Boston, in America, the yellow fever was formerly very prevalent. Since the earth's surface there has been kept clean, and it has been well drained, the disease is very rare there.

In New York, where malaria abounds, where the drains are bad and the surface of the earth filthy, yellow fever is still very common.

With respect to—

PLAGUE,

the term was used very vaguely in ancient times, being applied indiscriminately to designate any epidemic or disease which prevailed extensively. Since the time of Procopius, however, it has been confined to a form of fever in which buboes and carbuncles frequently appear: that is, enlarged inguinal glands and ill-conditioned boils. But as these occur in typhus fever, we are not authorized on account of them to consider the affections different.

When I discovered that typhus fever arose from marsh effluvia, I suspected that yellow fever resembled typhus; and that typhus fever, yellow fever, and plague, were the same affection modified by circumstances. Shortly after this I met with a case of typhus fever, in which the bubo was most distinct. An old nurse in the Fever Hospital told me that in cases of typhus fever she had frequently observed bubo, but that it had always been in severe cases. Since then I have met with many cases of typhus fever in London, where there has not only been a distinct bubo in the groin, but there have also been carbuncles in different parts of the body. I have seen many such cases in the Fever Hospital, and many in private practice.

As far as the history which Sydenham has given goes, the analogy is perfect as far as the symptoms are concerned. In the time of Sydenham plague-spots were thought characteristic, but they were only petechiæ. The affection, however, which occurs now in London is in many instances quite as severe as that described by Sydenham.

In the Fever Hospital, where patients are brought in the last stage of typhus, when it has run a course of two or three weeks, such cases may be frequently seen; and if typhus fever were as contagious as it is believed to be, it ought long since to have depopulated London rapidly extending on every side: since the contagion would have been equally diffused in all directions.

Sir James Macgregor mentions that the plague in some cases puts on an intermittent, in others a remittent, and in others a continued, character.

A German physician who was sent to England by the Emperor of Austria, and who had been in various parts of the world, told me that in Turkey he observed that the pestis put on an intermittent, a remittent, and a continued, character, and that his firm opinion was that it arose from malaria.

A friend of mine from the pest-house at Constantinople, came

to the Fever Hospital. I took him to the bed-side of a patient labouring under typhus fever and said, what do you call this case? He replied, plague!

In Constantinople, the pestis begins in May, and decreases after October. The same occurs in Smyrna. On the shores in the line of the Euphrates and the Nile the pestis is very common, and it is remarkable that the inhabitants from time immemorial have attributed it to some slimy exhalation from the river.

Some persons assert that plague is contagious; others as confidently deny that it is contagious. It is astonishing how vague the opinions of some men are upon the subject.

I saw the captain of a ship who had been at Smyrna while the pestis was prevalent there, and I was anxious to obtain as much information as possible upon the subject. All, however, that I could get from him was that it was contagious, though all the facts which he mentioned to me were at variance with such an opinion.

The pestis never appears in the lazarettes of this country. Now, if the disease be contagious, how is it that it does not prevail there?

A friend of mine who resided in Constantinople told me that he thought it was not contagious; that the father sleeping with his child who was affected had not the pestis; that a child sucking at the breast of its mother labouring under pestis was not affected: and that it prevailed in solitary instances and in solitary places.

We have also the opinion of a distinguished individual who is now numbered with the dead,—the opinion, I mean of Bonaparte—who was one of the most accurate observers of nature in his day. He believed that it arose from exhalations from the surface of the earth.

The people in this country when pestis occurs, think that it is not contagious, but they think that typhus fever is contagious. The people have taken this opinion from the profession. Opinions often remain deep rooted in the public mind long after they have been discarded by the profession, from whom they were first handed down to the people.

The name only has been changed, but the disorder remains the same; and I think we have nothing to fear from the contagion either of typhus fever or of plague.

The more I investigate the subject, the more and more I am convinced that the doctrine of contagion is erroneous, and that the alarm which has been excited in the public mind in London is unfounded in point of fact.

There is a remarkable uniformity in all the operations of nature, which becomes obvious when the subject is well understood; and I believe that the laws which regulate human maladies are as fixed as those which regulate the movements and order of the planets. If you ascertain their varieties, you will find them uniform. Some circumstances modify the tides, and yet a general law obtains with respect to them. So also some circumstances modify diseases; but laws—general laws, obtain as much with respect to them as with respect to the tides. And although the general law in regard to the pathology of fever is, that it is congestive; that it is simple; that it is inflammatory; yet it is equally certain that it is modified by various circumstances, some of which are peculiar.

If these lectures have any value, it arises in the first place from the development of general principles; and in the second place from the particular detail of facts and circumstances by which the general laws and principles are modified. In fact it is the development of general principles, and the detail of particular facts, in reference to general pathology and practice, which constitute all that I can lay claim to. This is all that can be associated with my name. My name, however, amounts almost to nothing; it is a faint sound which has arisen, and which, though it may endure for the present, can descend to no late period, but will surely be lost in the immensity of future history. But the principles which I have taught, being true now, will be equally true hereafter, and will be transmitted when my name has been long forgotten—will remain essentially unaffected either by circumstances or by time. And if I have been anxious—extremely anxious, to impress those principles upon your minds, that anxiety has arisen from no personal considerations, but solely from a conviction that the right application of them to practice will enable you to lessen the sum of the physical sufferings and moral distress of your fellow-creatures.

LECTURE XXXIX.

PECULIAR FEVER.

SYMPTOMS, PROGRESS, MORBID ANATOMY, DIAGNOSIS, AND TREATMENT OF SMALL-POX.

INOCULATION AND VACCINATION.

WHAT is commonly called variola or small-pox is contracted in two modes. It arises—

1. From casual exposure to it, and is then called natural small-pox.
2. From inoculation of small-pox matter, and is then called inoculated small-pox.

When it arises from casual exposure, it most frequently appears about the twelfth day from that exposure: sometimes, though in rare instances, at a considerably later period. I know an instance in which more than a month intervened between the exposure and the appearance of the disease. I know another instance in which it appeared at a much earlier period after exposure. This individual was walking in Lincoln's-inn Fields and met a child with small-pox with a woman who followed her and asked if she did not think it was a fine sort. She was extremely alarmed, and said she "felt her blood curdle in her body," and in three days the eruption came out.

When it arises from inoculation it most frequently appears about the eighth or ninth day; sometimes as early as the seventh day, sometimes as late as the eleventh day, after inoculation. The spot has a certain course and character, and about the eighth or ninth day the eruptive fever comes on; the skin becomes hot and the pulse quick, and a similar eruption most frequently appears about the stomach or some other parts.

Before the character of the disease is defined there is a stage which has been called—

ERUPTIVE FEVER.

The patient complains in the first instance of more or less chilliness, shivering, and aching of the head and back. This passes

away, and the surface becomes hotter and the pulse quicker than natural, and the tongue more or less furred: there are, in short, the common symptoms of fever.

It is the fever which precedes the eruption of the rash, generally lasting three or four days; and during the continuance of this fever it often happens that the patient complains of uneasiness, particularly about the pit of the stomach, which you will often find accompanied by a tongue red at the tip; and the patient often has a heavy look about the eyes which are redder than natural, with nausea, retching, or vomiting.

A person having these symptoms when small-pox is prevalent, you may reasonably suspect that he will have it. Most frequently the eruption appears about the third day of the eruptive fever, sometimes as late as the fourth day.

I saw a case recently which was supposed to be one of typhus fever. The eyes were red, the patient complained of uneasiness about the stomach and head, and had some minute spots upon the skin. It was simply small-pox.

When it is prevalent, never venture to give a positive opinion in the very onset of either a slight or very severe degree of fever, because you may be deceived until the eruption appears.

The eruption generally appears first about the face, then, successively, about the neck, the trunk, the upper extremities, and lastly about the lower extremities. Usually the eruption is completely finished in about three or four days from its first appearance.

Van Swieten remarks that cases have occurred in which the eruption has not been finished till six or seven days: this depends upon the management of the patient. I believe that if half the body be kept hot, while the other half is kept cool, the eruption will continue to come out for several days longer in the hot than in the cool parts.

I saw a case in which some parts which had been kept warm were covered with eruptions, whilst on other parts which had been kept cool the pustules were very few. Hence it is that the eruption is often very considerable about the bend of the elbows, the hams, &c.

There are two kinds of pathology; and in reference to the external pathology, the common distinction of small-pox is into two kinds, known under the terms distinct small-pox, and confluent small-pox.

1. In distinct small-pox each eruption is separated from the others. The pocks do not touch each other, or cohere, or run into each other, but each stands in a separate portion of skin.

2. In confluent small-pox the pustules run into each other and coalesce completely.

This description is obviously drawn from the mere external appearance. Almost all ancient physic consisted of such symptomatical pathology; and the reason was, that bodies were not examined after death, and therefore all the internal pathology was bare conjecture. Almost all the old writers from their ignorance of the morbid anatomy have drawn their account from external pathology: hence the division I have alluded to. As these terms, distinct and confluent small-pox, are those which are in common use, I shall adopt them here, and explain the internal pathology of each as I proceed.

Distinct small-pox appears under two forms.

SYMPTOMS OF THE FIRST FORM OF DISTINCT SMALL-POX.

The first and most severe, which is commonly known by the name of distinct small-pox, is preceded by the eruptic fever, which continues for about three days; and the symptoms which then designate the affection are the following:—

1. A small red point or spot is observed on the skin, generally at first on the face, then on the neck, trunk, and lastly about the upper and lower extremities. It is faint at first, and becomes stronger and stronger as the disease advances, so that in twenty-four hours it is obviously red and elevated.

2. This spot becomes a vesicle about the end of the second or early on the third day. The cuticle is raised upon that point which was first reddened, and it is filled with a thin transparent serous fluid.

3. The most characteristic sign is that this vesicle, which is cellular in its structure, has a central depression on its surface between the third and sixth day; but, as the vesicle becomes completely distended and more globular, this indentation commonly disappears. It is such a depression as a pin's head might be put into. It does not occur upon every vesicle, but upon a great many. As the eruption comes out later on the lower extremities than on the face, you may sometimes see a depression there on the seventh or eighth day. Frequently an opaque spot is left on the centre where the depression existed.

4. This vesicle becomes a pustule. It ceases to be distended by a transparent fluid, but is distended by a purulent or puriform fluid. Either the transparent fluid is absorbed and pus poured out, or the fluid is changed into pus: hence the term pustule. At this period, which is between the sixth and ninth day, each pustule

has an appearance like some of the imitations of pearls which are made from glass or from rice. At this time what is called maturation is completed: generally about the eighth, ninth, or tenth day of the distinct eruption; in milder forms about the eighth day from its first appearance, and hence it is called the maturation-day.

5. Around each pustule you may observe a small red elevated base.

6. About the seventh day each pustule becomes yellow, then brown, lastly of a very dark brown, and this scabbing or incrustation generally takes place two or three days after the maturation. The scab is a sort of plano-convex lens, which falls off after a few days, and leaves a pit, which Sydenham has observed arises from a slough.

A gentleman who ranks high in the medical world, was rejected in the early period of his life for what was considered a piece of impudence. At his examination he was asked to describe the character of the pit left by the small-pox. Raising his finger to the face of one of the examiners, he said, "*Ecce signum Domine!*" He is yet living, and I am told that he has still a great propensity to punning whenever he has an opportunity.

The pits are not a necessary part of small-pox. Various expedients have been recommended and tried in order to prevent them, but there is only one which can be relied upon, which is to prevent premature separation of the scabs. If the disease occur in a child and it be allowed to pick its face, pits will certainly be the consequence. The same will sometimes arise from the premature separation of chicken-pox. The scabs should be allowed to fall off of themselves.

During this local process certain other changes take place.

When the eruption appears on the face it begins to swell, as is particularly evident about the eyes; and it subsides in the distinct small-pox when the eruption is completed. Then the hands begin to swell, and when the eruption is completed they subside; in like manner the feet begin to swell, and in their turn subside.

When the eruption takes place on the skin there is almost always some affection of the throat. On examination you will find it redder than natural. In the distinct form of small-pox there is seldom any material inflammation about the throat; and yet you should always examine it, for in almost all severe cases there is inflammation of the throat. If it be violent great care is necessary, as it is very apt to extend to the whole of the lining of

the air-passages. You often see in the mouth a little yellow part seated in the middle of what would be a pustule, very like the pale yellow lichens attached to grey stones. These are aphthous spots, and not pustules, though they would be pustules if they could; but it is physically impossible they can arise. These appear later and disappear earlier than on other parts. When they occur in great numbers about the throat the case is always severe.

During the eruptive form the tongue is generally covered with a slight white fur. When the eruption is finished, it is less furred; and on its tip are often apparent attempts at the formation of pustules. It is moist if the patient be in a fresh atmosphere, but if the air be close and confined it is often dry.

When the eruption is finished in some parts, the fever is either wholly abated, or it is very much diminished. In books you are told that it always entirely abates, but this is not true; for it often happens that a slight degree of fever remains, with the tongue a little furred, with the pulse rather quicker and the heat rather higher than natural, and with some degree of thirst.

At the period when the eruption is completed on the skin, you have a degree of salivation arising from irritation of the mucous membrane of the mouth and fauces.

The bowels are generally constipated throughout small-pox. Sometimes they are loose, and then you should be extremely cautious; for though this diarrhœa very often depends either upon offending ingesta, or upon scybala in the colon, yet it may, and most frequently does, arise from some irritation or inflammation of the mucous membrane of the lower part of the ilium and upper part of the colon.

Sometimes what is called—

SECONDARY FEVER

occurs. It is the fever which arises about the period of maturation, from the ninth to the eleventh day. A patient has distinct small-pox; the fever ceases or abates, but there is an accession of excitement about the ninth or eleventh day. The heat becomes higher, the pulse quicker, the patient becomes more thirsty and more restless, and the tongue more furred; in short, the fever is distinctly increased.

The old authors and systematic writers of this country have described this secondary fever as a constant attendant upon distinct small-pox, which is not the fact. This is an erroneous

opinion passively taken up without consideration. It is a prejudice which they have not troubled themselves to inquire into. Prejudice is the belief of an opinion which we have not examined with sufficient care. I recommend to you again what I have already so often mentioned, never to take up any thing for true in physic without examination. We should make our observations with far more exactness than has been used; and when nature contradicts the assertions of authorities, however great, we may confidently rely upon facts rather than the statements of any men.

I have seen several instances of small-pox in which secondary fever was totally absent. It very frequently occurs, but not constantly. When it does occur it is very often connected—

1. With irritation of the skin. This is most commonly the cause, but not always. The irritation of the skin is highest when the secondary fever occurs. The irritation of one pustule is trifling: it is attended with a pain like the puncture of a needle; but the combined influence of the whole crop is sufficient to disturb the nervous system, and create those changes in the vascular system which we denominate fever.

It sometimes seems to be connected—

2. With the absorption of matter from the pustules. They rapidly decrease in size; and if they be very numerous upon the body you have a tainted breath. The breath, in fact, is very offensive; and the probability is, that the absorption of matter may increase the fever. Hence it is of consequence to prevent absorption by cleanliness. There is a peculiar fætor about the body of the patient, by which in the dark I should know he had small-pox. By the smell, also, I could discover a case of typhus fever.

3. The interruption to the functions of the skin is another cause. When the functions of the skin are interrupted, the surplus of work is almost invariably thrown upon the internal mucous membranes, which are apt to be disordered. Hence you have irritation about the bronchial linings, and irritation about the intestines or urinary organs. These are the parts which are most apt to suffer; and, therefore, you should direct your attention to them in all cases of secondary fever.

4. Accumulation of fæces or of urine may be the cause. Secondary fever was very common formerly when the bowels were neglected; hence we find the old writers constantly mentioning the circumstance that the urine is frequently retained. Patients hardly ever now have retention of urine if the bowels be kept open, and the

brain be not affected. When the skin is dry, the secretion of urine is sometimes copious; and when the fæces become largely accumulated in the colon, the bladder becomes torpid, and the urine is retained. A portion of the fæces and urine is then absorbed into the blood, and sometimes you have a distinct fæcal and urinous odour from the breath and skin of the patient. This, then, was what the old authors called secondary fever.

If the irritation of the skin be slight; if the surface be kept remarkably clean; if the functions of the skin be not interrupted; and if the bowels be attended to; generally no secondary fever will occur.

SYMPTOMS OF THE SECOND FORM OF DISTINCT SMALL-POX.

This form has obtained a variety of names: it has been termed secondary small-pox, mitigated small-pox, modified small-pox, or the varioloid disease. By whatever name it is called, it is nothing more than a mild variety of distinct small-pox.

That this is merely a variety of distinct small-pox is proved by several considerations.

1. It has the peculiar premonitory symptoms of the other form of distinct small-pox—the eruptive fever.
2. The eruption comes out in a similar manner.
3. The vesicles have always a central depression.
4. Here, as in the other form of distinct small-pox, which I have described, the pock has a cellular structure, so that if you puncture one part with a lancet, you cannot evacuate the whole of the fluid. Both in this affection and the other forms of small-pox the pustule is not a mere rising of the cuticle, but is divided into cells.
5. The matter from these pustules will produce, by inoculation, distinct small-pox, or even confluent small-pox in particular habits.

DIAGNOSIS BETWEEN THESE FORMS OF DISTINCT SMALL-POX.

You distinguish this mild form from the other forms—

1. Because it stops, as it were, about the middle, in about five or six days. It is regulated by some cause, the nature of which has not yet been determined.
2. The pock is generally harder and smaller, and has a pearly appearance. This constitutes what is commonly called horn-pox; a disease frequently mentioned by old writers.

Cullen's description of small-pox is drawn from that of Sydenham. If Dr. Cullen had lived to see the mischief of his writings,

and the mental degradation they have produced, I believe he would have committed them himself to the flames. No publications have retarded the progress of medicine so much as those of Dr. Cullen. This is the reason why there has been so much fuss about mitigated distinct small-pox. Sydenham did not describe it; and therefore Cullen did not describe it, nor did the systematic writers who followed Cullen describe it. It occurs perfectly independent of vaccination.

I saw three cases in one family of children (and many more I could mention) who were inoculated by a friend of mine with small-pox matter. In one the disease stopped on the fourth day; in the second the eruption was completed on the sixth day; and in the third it appeared to be running on to the confluent character, when it suddenly stopped on the eighth day. If they had been previously vaccinated it would have been pointed out as a case proving the modifying influence of vaccination.

I have seen the same thing occur in casually contracted small-pox; and cases of it are recorded before vaccination was discovered.

It is the common opinion that vaccination modifies small-pox. This is not proved to be true. I have seen some instances, and I have friends of mine who have seen several, where small-pox has been extremely severe after vaccination. It is, however, the general belief, that small-pox is mitigated by vaccination, and much evidence has been adduced to prove it.

The work of Mr. Crosse, one of the latest which has appeared upon the subject, has been considered as decisive upon this point. Much as I respect the talents and industry of Mr. Crosse, it is my duty to observe that his evidence is not conclusive to my mind, because he has omitted many minute circumstances, as the moral character of the nurses, the diet which the patients took, the air which they breathed, and the temperature by which they were surrounded.

Among lawyers it is an assumption that a person is innocent till he has been proved to be guilty. Medical men should not assume that any opinion is true till they have proved it by most unquestionable evidence.

What I mean to assert is, that there is, independent of vaccination, a milder form than the ordinary distinct small-pox. I do not mean to deny the efficacy of vaccination; I have seen enough of it, however, to be perfectly confident that this form of disease arises entirely independent of vaccination; and I am afraid that

some of the facts bearing upon this point have been suppressed. I have made many inquiries upon this subject, and all the evidence that I have collected accords with the opinion that vaccination does sometimes mitigate small-pox. This point, however, appears to me to be more presumed than proved. Yet I most sincerely hope, for the sake of the memory of Jenner, and for the sake of humanity, that it will hereafter be found that vaccination does modify small-pox, as writers have mentioned.

We shall now proceed to the consideration of the—

SYMPTOMS OF CONFLUENT SMALL-POX.

Confluent small-pox may arise either casually or from inoculation. It is almost invariably preceded by a most violent eruptive fever; so that, from the severity of the precursory symptoms, and from the great disturbance of the system, you might anticipate the form of the complaint, and suspect that it would be confluent. Compared with the first stage of distinct small-pox, the head and stomach are more affected, the expression of the eyes is more heavy, the breathing is more difficult, and the voice more husky, the skin is generally hotter, and the pulse generally quicker, the powers of life are more oppressed, and, in fact, the whole system is more disturbed. The throat is always affected at an early period; and you should remember in every case to examine the state of the throat. About the third day you may observe the minute spots so thickly scattered over the whole surface, that when they rise you are certain they must necessarily run together.

A very important distinction is to be drawn between two varieties of the eruptive fever which ushers in confluent small-pox: one is an open, and the other a masked form of fever. In the first form, which is an open—

I. INFLAMMATORY FORM OF ERUPTIVE FEVER,

the affection is of a highly inflammatory character. The fever is fully developed, with a skin intensely hot and dry, and a quick, bounding, expanded, pulse; the face is flushed, the tongue considerably furred. The face swells rapidly; and the swelling, instead of subsiding, as it does in distinct small-pox, continues through the maturation.

This form of fever frequently attends confluent small-pox in robust men, and runs on a certain number of days, as the excitement often does in typhus fever; and during its continuance the

eruption rises and becomes perfect. The fever does not terminate, as in the distinct form, when the eruption appears.

In typhus fever something similar to the eruptive fever of small-pox takes place, but the excitement continues longer in variola than in typhus. In each of these, however, sooner or later, a change takes place, and from the same cause, namely, the supervention of a bronchial affection; and the powers of life give way gradually or suddenly.

After a time, generally about the sixth or eighth day, the fever of which I am speaking generally takes on the character of what is called typhoid fever; it assumes, in fact, the masked form. The heat on the surface falls; the pulse becomes soft and compressible; the tongue brown and glazed; the voice and respiration feeble; and the strength prostrate. This form of the disease is seldom fatal before the ninth day, and is generally protracted still longer.

The other kind of fever attending confluent small-pox is a masked form. It is, in fact, a—

II. CONGESTO-INFLAMMATORY FORM OF ERUPTIVE FEVER.

There is a combination of congestion and inflammation, which prevents the full development of the excitement.

In this case the pustules never rise properly and the vesicles are paler than in the other form. If the pustules rise at all they are filled with a dirty turbid red fluid, or there is an effusion of blood into them, and there are often petechiæ scattered between them. Sometimes they never maturate at all.

I saw a case in which it was disputed whether the disease was small-pox or measles; and it really sometimes looks like measles, only that here and there a straggling pustule proves the true nature of the disease.

All poor people say it is a bad form of small-pox, and observe how flat the pustules are.

In this form the disease puts on in the onset the character of what has been called typhoid fever. The heat on the trunk is smothered and hardly above the natural standard; the pulse subdued; the tongue becomes brown and baked, and the teeth covered with sordes; the respiration is weak and panting; the strength is exceedingly sunk; the eruption is copper coloured, or dusky, or mulberry coloured, with a leaden hue of the lips and a purple grape colour of the face, if there be any eruption there; and if there be no eruption you have a leaden or tawny hue of the face.

In both forms of confluent small-pox the points are so very

numerous on the skin that you may perceive that if they fill they will touch or run into each other : in fact, that the eruption will be confluent.

Another thing common to both forms is, that in each you have all the signs of an overwhelming bronchial affection; which sets in at the onset of the masked form, and not till the open form of fever has continued several days. You have proofs of this in the leaden or dusky lip and cheek; the deep, stuffing, feeble, inefficient cough; the difficult and oppressed respiration; the dry, brown, and glazed tongue; the compressible pulse; the cool skin; and the exceedingly prostrate strength.

In some cases of the masked form there is no cough at all, or at all events it is feeble: while the cough, if any exist, in the open form, is strong for several days; and the tongue, which in the first four days of the open form is moist and covered with a dirty white or yellowish fur, becomes early in the masked form brown, dry, and glazed, as in the genuine typhus fever.

The second form of confluent small-pox prevails chiefly in weak, feeble, delicate children, and is very common in London, where children, being badly clothed and fed, are tabid before the attack. This is the worst and most dangerous form of the disease with which I am acquainted.

Now it is obvious that you cannot manage these two forms alike: the treatment is entirely different.

It has naturally been enquired why it is that small-pox in one case assumes the distinct form, occurring as a mild epidemic variety of disease; and what is the reason that in other cases it occurs in the confluent form. The explanation lies in the consideration of four things.

1. The remote occasion is peculiar, and operates very remarkably. It operates specifically upon the skin, upon the heart, upon the mucous membranes of the air passages, and I believe it operates specifically upon the blood also. We have distinct evidence of the blood being tainted.

I think the humoral pathology has been by far too hastily abandoned. A secretion is given off from the blood which is capable of communicating the disease to another individual; the heart's action becomes disturbed; the liver, the head, and the bowels, become disturbed, and seem to indicate a taint in the blood. The poison—which is a human contagion—seems to be more concentrated and violent in some seasons and places than in others. Sometimes the pathology of the affection is modified by—

2. Surrounding circumstances.

1st. It is modified by the air which the patient breathes.

In the cellars of London small-pox is almost invariably confluent and violent, while in garrets, especially in open streets where there is a free circulation of air, it is often distinct and generally more mild. Why this is we know not. The air of a garret and that of a cellar show the same properties upon analysis; but there is something in the latter which strikes and destroys, and is not the less evident because it is unseen.

2nd. Another modifying circumstance is the temperature by which the patient is surrounded, and which often makes all the difference between the confluent and distinct forms of small-pox.

If a child with small-pox be kept hot during the eruptive fever, the disease is very apt to become confluent; while another child, if kept cool, will most likely have the distinct form.

These two circumstances explain a great deal with regard to small-pox.

3rd. It happens sometimes that in one epidemic almost all the cases are distinct, while in another they are almost all confluent; and this seems to depend upon some surrounding circumstances which have not yet been discovered. It would be interesting to notice (which has not yet been done) all the concurring circumstances, especially the condition of the atmosphere, &c. which attend the general prevalence of the distinct or the confluent forms of the disease in different seasons. Possibly we might then arrive at a knowledge of some modifying circumstances with which we are at present unacquainted.

According to the observations of Humboldt, in South America small-pox has remarkable epidemic varieties; at one time a mild and comparatively harmless affection, at another season it walks the earth like a destroying angel, sweeping off thousands in its progress. Here the modifying circumstances probably are to be found in the combined influence of heat, physical want, and moral excitement.

Another circumstance which modifies the character of small-pox, is what is called—

3. The constitution of the patient.

If the patient be unhealthy before the attack, the disease is almost sure to put on the confluent form. Almost all children in London who have wasted, withered forms, and irritation of the mucous membranes of the air-passages, before the attack, have the confluent form of small-pox. The same obtains in measles; and hence both these affections are far more formidable in London

than in the country. Hence the advantage of preventing any break-up of the general strength is sufficiently obvious.

4. The medical treatment is another modifying circumstance upon which the form of the affection often depends.

No set of men have so much the pride of opinion as medical men; and no set of men require to be self-humbled so much as they. It is not a knowledge of empty terms and sounding names which constitutes solid acquirements. We know very little of physic, because till lately we have not cultivated the science in the right way. Men are now beginning to study medicine properly, and therefore the knowledge of our profession is now advancing with astonishing rapidity. The improvement of the last thirty years thrown into the scale, would weigh against all the knowledge of preceding ages. There is a great difference of opinion now between men educated in the old school, and those educated in the modern one; but this will be of short duration: thirty years hence difference of opinion will cease to exist among medical men to any considerable degree.

The medical treatment has considerable influence on small-pox. A neglected diet, neglected temperature, an impure air, and the application of stimulants, will convert what would have been distinct small-pox into confluent small-pox; and no doubt this was the occasion of the dreadful fatality of the disease in former times. The histories of small-pox as it occurred in the time of Sydenham, are very horrible. Patients were then confined in bed, loaded with bed-clothes, and kept in apartments stifling from the high temperature. This was the common treatment when Sydenham came to London and found the disease shockingly mortal. He had the simplicity of a child, and rose so far above the age in which he lived, that he not only discovered that this treatment was really bad, and sanctioned only by notions entirely erroneous, but had the high and positive merit of discovering and pointing out a method in every respect preferable; and it is surprising that he made the most direct approach to the precise pathology, without any examination of the bodies in fatal cases. Men may say what they will of Hippocrates, but there is not a proof of genius like this in his works. Sydenham parted with his old errors, and for a great part of his life was rewarded with nothing but opposition, except that he had the substantial satisfaction of doing good where he confidently believed others would do harm. And though he was sent to a premature grave, doubtless he had a triumphant anticipation that his name would be respected

by posterity. And his memory has been honoured; his genius and his moral character have obtained the well-earned eulogy of all the good and the great men who have cultivated medical science in modern times.

MORBID ANATOMY OF SMALL-POX.

But let us proceed from the external to the internal pathology of small-pox. You must not take the superficial view of fever which surgeons are generally content with, but look to the internal parts of the body: appeal to morbid anatomy. By the examination of bodies after death, we make an approximation to first principles,—we ascertain the causes of death. The probability is, that some taint of the blood is the cause of this affection assuming some peculiar characters. Almost all specific poisons operate on the skin and internal mucous membranes: for instance, malaria, those epidemic states which produce influenza, &c., the contagions of measles, small-pox, and hooping-cough, each operate on the skin and internal mucous membranes. The contagion of small-pox cannot operate but through the blood; and I repeat, that in all probability there is some taint of the blood by which the skin becomes thus affected.

1. Distinct small-pox, with regard to its internal pathology, is nothing but simple fever; the inflammation being confined to the skin, and the internal organs being in a state of what I have called local simple excitement. If there be occasionally inflammation of the mucous membrane of the fauces and air-passages, it is but slight, and the vital organs are free from disease. Hence it is that few cases are mentioned of its being mortal. I never saw a case of distinct small-pox fatal.

2. That variety of confluent small-pox which occurs with an open excitement is clearly a highly inflammatory form of fever. The disease goes on, and what was irritation or excitement, in the distinct variety, here becomes the most intense inflammation of the lining membrane of the air-passages; and no person dies in confluent small-pox without your being able to detect the vestiges of such inflammation, beginning in the fauces, invading the pharynx and larynx, and extending down the trachea to the most remote ramifications of the bronchial tubes, as will be obvious if a careful examination be made. And this is not all; for you will frequently find proofs of inflammation of the mucous membrane of the bowels, especially of the ilium. Sometimes the liver becomes affected, which you cannot be surprised at; and I have

been told upon good authority, that the vessels of the head of a person who has died of small-pox never bear injecting. One friend of mine attempted to inject several bodies, and the vessels in every instance gave way. The bronchial passages are invariably affected, the brain and bowels sometimes.

3. The last form assumes the congesto-inflammatory character, because it attacks weak subjects. If it be not speedily relieved the patient sinks and dies; and after death, besides a more intense inflammation of the air-passages, you often find the bowels, you often find the lungs, you often find the brain, and you often find the liver, gorged with blood, and a tree of blood in the mesentery.

It sometimes happens, as with malaria, that the specific contagion of small-pox destroys a patient at once, without any eruption at all. The person exposed to it dies in the cold stage, with a feeble pulse, a cool skin, an oppressed respiration—in short, with symptoms of congestive fever: this, however, is comparatively rare.

In the 8th number of the Medical Intelligencer, for June, 1820, is a paper written by my friend, Mr. Alcock, which will be found to contain the result of minute attention to the symptoms during life, and to examinations of the morbid anatomy of the disease after death; and he has indisputably shown that the cause of death in fatal cases is the intense inflammation of the bronchial passages. It is the most valuable publication on the subject since the time of Rhazes the Arabian, and contains more valuable information than any book I ever read on the internal pathology of small-pox. The view which Mr. Alcock takes of the subject, however, is not quite satisfactory; it has one defect, its pathology is too exclusive. A more extended examination has shown what I have before mentioned, that sometimes the mucous membrane of the bowels, and sometimes the brain, is inflamed.

The reason why the fever is masked in one, and openly developed in the other case is, that in the former the intense inflammation of the mucous membrane of the air-passages, preventing the decarbonization of the blood, occasions it to put on the typhoid character at an early period; while in the other there is a more free and copious expectoration, though after a time this form also assumes the same character.

DIAGNOSIS OF VARIOLA FROM VARICELLA.

Only one affection can be confounded with small-pox, and that is chicken-pox. Attend to the following indications, and you will be at no loss to distinguish the one from the other.

1. The precursory symptoms of varicella are far slighter than those of small-pox, generally speaking. Now and then there are exceptions to this. A friend of mine had a case in which the child died of inflammation of the brain; and I saw a case of varicella where the affection of the head was considerable.

2. The eruption is more irregular as to the time of its coming out, as to its formation, and as to its continuance.

3. The vesicle is not so well defined.

4. The cuticle is not elevated around the base of the pock.

5. The vesicle is only a raised cuticle. It is not cellular as it is in variola, and if you puncture it the whole fluid contents will escape.

6. It has not the central depression; at least I have never seen it. One friend of mine, who has seen between one and two thousand cases of small-pox, has never observed an instance in which the central depression was not present.

7. The contents only become a turbid yellow fluid; they never become perfectly purulent or puriform.

8. Some vesicles burst by the spontaneous movements of the child in the first three days, which never takes place in variola.

9. The scabs are formed about the fifth day, and are much flatter than in variola.

Louis the Fourteenth was on one occasion travelling through a certain district of France, and arrived at a small town where he was not received with a salute. The mayor of the town, who was a very weak and vain man, waited on his majesty to explain the cause of the apparent disrespect to his royal person, and told his majesty that he had seven reasons; first, that he had neither powder nor shot. Here Louis stopped him, and begged he would not trouble himself to state the remaining reasons, as this was very sufficient. So, though I have mentioned nine points of distinction between variola and varicella, yet one only is to be relied on, which is the presence or absence of the central depression.

A very distinguished author, whose opinions are deserving of all respect, gives, as the result of his inquiries, the opinion that varicella is a modification of genuine small-pox, and will sometimes produce small-pox. My observations have led me to a different opinion; but I have not perhaps had sufficient facts before me to enable me to decide. The author I allude to is Dr. Thomson, of Edinburgh, and to his work, which you will find very interesting, and which contains some very valuable facts on the subject, I must refer you. I wish to speak in these lectures from my own

observations, and to give mainly the result of my own experience. It is right that a lecturer should have practised many years, and that he should have collected the opinions and practices of others, so as to be able to explain how his opinions differ from theirs.

Let us now pass on to the—

TREATMENT OF DISTINCT SMALL-POX.

In distinct small-pox there is a state of fever coming on before the eruption; this eruptive fever may be simple or inflammatory. If it be simple it requires a very mild treatment; but whether simple or inflammatory, whether arising from casual exposure or from inoculation, be not a careless observer; never allow it to go on without interruption: it modifies the character of the future disease. Do not take up the absurd notion that small-pox is a peculiar disease,—a specific fever, which must go on and cannot be modified. If you see the disease early, and treat it properly, you may generally make it as mild as you can wish.

Sometimes inflammation is present (occasionally strongly marked in the brain, sometimes in the mucous membrane of the stomach or of the ilium,) at this early period, and if it be allowed to continue you have intense inflammation with confluent small-pox. I saw a young lady who had all the marks of inflammation of the brain, and she had great pain in the stomach. I treated these symptoms actively; it turned out to be a case of small-pox, and it was very mild. Had I not been prompt in relieving the inflammation of the brain, I am sure she would have died before the small-pox eruption came out. It is excessively absurd to allow the fever to run its course if it be severe. The quantity of eruption, if I may so speak, depends upon the quantity of fever; that is, upon the degree of the eruptive fever, generally speaking, depends the mildness or severity of the future attack.

If there be no inflammation you may open the bowels freely, and put the patient on a bland diet. Put the patient where he can breathe a fresh atmosphere, with a free ventilation, avoiding exposure to currents of air; let him lie cool on a hair mattress. Sponge the surface of the body with tepid water.

If there be inflammation you must remove it: bleed the patient by the lancet or by leeches according to circumstances.

Sometimes the patient is very much depressed, and requires the treatment which I have recommended in the intermediate form of common congestive fever. A young gentleman, who

was taken ill at school, was brought home, and when I saw him the extremities were cool, and the heat upon the surface of the trunk natural. He was heavy and confused in his head, and paused and pondered before he gave me an answer, as if he tried to recollect something, and his replies were not always satisfactory. I observed two or three spots on his face, and ten or a dozen on the trunk. The tongue was intensely red at the tip. I considered it a case of small-pox, and thought the patient would sink from congestion without any development of fever. The pulse was very labouring, just as if a weight were pressing on the heart, which was reacting and endeavouring to throw it off. I bled him a few ounces, and the pulse rose and rose till perfect excitement was developed, and a mild attack of distinct small-pox occurred. When a medical man inoculates a patient he chooses a healthy subject, and selects a favourable period of the year. He keeps the patient on a spare bland diet, he surrounds him with a proper temperature, and regulates the bowels by mild aperients. As far as you can, pursue a similar plan when small-pox arises casually, and a similar result will be perceived. I would almost venture to say that ninety-nine cases out of a hundred would recover. Rhazes mentions a pearl syrup, a single drop of which will, according to his assertion, stop small-pox at once. This remedy not having been handed down to us, with others as employed by him, we must be contented to adopt the best means we can, and they are those which I have just pointed out.

When distinct small-pox takes place, give the patient a little thin gruel or arrow-root three times a day. Keep the surface moderately cool, but do not chill the patient; let him be lightly covered, but avoid a stream of cold air. Let the temperature of the room be from 56° to 60°; let the room be freely ventilated, for a confined atmosphere will induce or aggravate the bronchial affection. Keep the skin clean, and if hot, sponge it with tepid water, or, what is better, dab it with pieces of rag dipped in tepid water, and dry it in the same way; or pour tepid water over the patient, and as before dry the skin by dabbing it with pieces of fine dry rag. Keep the patient's bowels gently open every day or every other day by some mild medicine. Be cautious about harsh purgatives which may induce inflammation, and so also may saline mixtures and antimony. I am very much afraid of antimonial medicines, because I have so frequently seen them create inflammation of the mucous membrane of the stomach and bowels. I am perfectly satisfied from experience that they are a very com-

mon occasion of that state, especially in children. Do not interfere too much in this stage, and there is no danger.

If any secondary fever arise it will generally be removed by aperient medicines. If there be inflammation, or a threatening of it, bleed till you remove it entirely, or its precursory signs.

TREATMENT OF INFLAMMATORY CONFLUENT SMALL-POX.

Confluent small-pox is a highly inflammatory fever. I know no fever, except puerperal fever, which requires a more active form of treatment in the commencement. If you do not arrest the fever, the disease will be confluent; if you arrest it, the disease will be distinct. The external sign of small-pox is the eruption, the form of which rests generally upon your treatment adopted during the eruptive fever. If you look at the works of some authors you will find their treatment of small-pox is external; hence arises this dreadful mortality. Only get rid of the circumstances precursory to small-pox, as I have mentioned, and this form of it will almost always give place to the distinct form. I am confident of this from my own observations and from the observations of my friends, Mr. Alcock and Mr. Charles Haden; for both they and I have used blood-letting in these cases with a most satisfactory result. No man, perhaps, has seen more of small-pox than Mr. Alcock, and his treatment of this fever is very successful. The truth is, that all the great authors of past times are in favour of bleeding in small-pox. Rhazes speaks of it highly. Sydenham, perhaps the greatest author in ancient times, in my estimation far beyond Hippocrates—for Hippocrates was enlightened by his ancestors, but Sydenham came to London and discovered the cheat; he found out the errors; and the consequence was that he was opposed, reviled, injured, and sent to a premature grave;—Sydenham, I say, is the author of almost all that has been done in physic; and he is distinctly in favour of bleeding. He used the lancet with great advantage in confluent small-pox, and saved almost all his patients, while almost all who were not so treated died; and for this he was branded as a dangerous innovator. Mead, a learned man and an honest man, though not a man of much talent,—for men of original minds never waste their time in perusing books of old times, they study the volume of nature,—he also speaks in favour of bleeding. Freind, a man of more vigorous intellect than Mead, speaks in favour of it. Huxham, a distinguished individual in his day, and perhaps to be ranked by

us next to Sydenham, speaks very strongly in favour of it. None of these authors, however, have pointed out with sufficient distinctness the cases of confluent small-pox in which they have found bleeding so successful; but we may presume that it was in the eruptive fever, when there was inflammation. A very clever work has appeared lately upon the external pathology of small-pox, by Mr. Crosse, who says that almost every case of confluent small-pox was fatal. And do we wonder why? He bled them early, but seems to have been entirely in the dark as to the internal pathology. He never seems to have examined a body, but to have been satisfied by noting, like Cullen, the external appearances of the disease; and if men will do so, they may well be unsuccessful in the treatment of cases in which the internal structures are affected.

Almost all the patients die in confluent small-pox; and shall we still suffer it to become confluent? The American Indians even, when they fail, try a series of experiments instead of going on in the old way. We have proofs before us of one form of confluent small-pox being most highly inflammatory. We have the evidence of symptoms, we have the evidence of the effects of remedies, and we have the evidence of the appearances upon dissection. Of what consequence to us are the opinions of men of past ages? We have nothing to do but to adhere to those opinions which are true, and to reject those which are false.

Bleeding may be beneficial or fatal in confluent small-pox, therefore precision in the application of this remedy is necessary. There is a stage which would be invariably fatal from bleeding. I only recommend blood-letting upon the common principle of lessening the violence of the fever and the local inflammation; after this has been accomplished you must be content to prescribe a very mild and very simple treatment. In that form which is ushered in and attended by open fever, with a high heat, and a pulse rapid and expanded and hard, or small and hard, something like whip-cord, treat the patient boldly and decisively by blood-letting. The fact is, that so long as the excitement continues, blood-letting is the main remedy, and the only remedy on which you can rely. There is the most intense inflammation occurring under circumstances the most favourable for blood-letting; but this state having passed away, bleed the patient, and you will destroy him. Select the proper time for it, and let your rule be to bleed till you subdue the inflammatory symptoms. Keep the skin cool by sponging it with tepid water. Give the

patient a spare diet, and make use of aperient medicines. Calomel must not be given when the rash comes out.

On these measures you may rely in the highest excitement which ushers in and attends one form of confluent small-pox.

If you see a patient with a pulse fallen, the strength sunk, and the respiration laborious; if he be suffering from an accumulation of phlegm in the air-passages; the time is past for doing good by the lancet, and the patient has no chance of recovery but by a bland diet, fresh atmosphere, a regulated temperature, and moderate laxatives. At night, if the tongue be moist, an opiate may be given to allay the tickling cough, which is often very troublesome.

If secondary fever occur after this form of confluent small-pox, and arise from the bowels being out of order, a purgative will relieve it, and a spare diet should be adopted. If it be inflammatory, you must bleed according to circumstances.

Contrast this form of treatment with that which is usually adopted, and the difference is remarkable and important. Almost all the patients die in confluent small-pox under wine and bark; but under this treatment they almost all recover.

TREATMENT OF THE CONGESTO-INFLAMMATORY FORM.

As to this I scarcely know what to say about it; for under the masked form of confluent small-pox, do what you will I believe the patient will die in the majority of cases: by far the greater proportion have died under every plan of treatment. It is a most difficult subject. There is intense inflammation of the mucous membranes of the bronchia occurring in a delicate habit. You generally find the bronchia diseased; you often find the liver grey and diseased; and the mesenteric glands often diseased. Here you have generally a skin cooler than natural, and sometimes the extremities are cold; a blue, dusky, or leaden lip; a leaden hue of countenance altogether; a weak respiration: and if the patient attempt to speak to you, he heaves and pants for breath; a feeble, fluttering pulse; a dry, furred tongue; and, lastly, the patient lies in a sunk position, like a dead weight in the bed. When you have this combination of symptoms from the onset, a cautious plan seems to me to be the best. I generally apply a few leeches about the fauces early, and watch the effects upon the pulse. If the pulse sink, you must stop the bleeding; if it rise and become full, the bleeding does good. The inflammation seems to spread by continuity; and this early application of leeches to the throat seems to prevent it spreading extensively.

Another point is to give very mild aperients; and the next is the admission of fresh air. The clothes should be tucked under the chin, and care taken that the surface be not chilled. A patient having this form of the disease in a cellar has no chance of recovery if he remain there. I have seen a patient in a cellar in this form of small-pox removed to a garret, and the fever has been more fully developed, and the petechiæ have disappeared. If the heat be lower than natural, the best remedy is the hot bath. All the surface must be kept warm. When petechiæ appear, the acids are beneficial. Sydenham recommended the sulphuric acid; and others the nitric, and muriatic, and oxymuriatic acid. I have given them all a fair trial, with the exception of the oxymuriatic acid. I prefer the lemon-juice to all of them: the cautious use of it is attended by very great benefit. As far as I have tried the oxymuriatic acid it acts nearly the same as calomel; but my own experience is insufficient to enable me to speak decidedly upon the subject. Some time ago a gentleman told me that in a certain district in London many persons died, one after another (attached to a workhouse), and the undertaker was constantly employed. After this they were treated mildly with muriatic acid, and the patients all got well. The contrast was so striking that the undertaker became alarmed, and applied to know why his work had been taken from him. The oxymuriatic, the muriatic acids, and lemon-juice, seem to convey oxygen to the blood. I am inclined to think the oxymuriatic acid will be found a very valuable remedy if cautiously given. If acids do not produce watery stools and a red tongue, they are often extremely beneficial; but if they irritate the mucous membrane of the bowels they must be omitted. In advanced stages, when the skin is cold, the tongue moist, and the pulse fallen, with rattling in the throat, and difficulty of breathing, even though there is bronchial inflammation, you may give warm wine and water, or ammonia and camphor, with a chance of benefit. They enable the patient to expectorate the mucus accumulated in the bronchia, and thus admit fresh air to the blood in its passage through the lungs. They must, however, be given with great caution. If they quicken the pulse, if they heat the surface, and if they render the tongue dry, they are injurious. When the tongue is as dry as a stick, and does not when touched communicate any moisture to the finger, I have never seen stimulants of any benefit. If the surface is cold, keep it moderately warm. According to the bills of mortality, nearly one thousand persons die annually of small-pox in London

alone; this has been the average for the last twenty years. As the majority of these cases occur under the second form of confluent small-pox, is it not lamentable to see them treated with wine and bark? It shows how prejudice prevails, and how difficult it is to introduce truth. Since error, then, is so enduring, let it be our wish to maintain the truth, which must ultimately prevail, whatever difficulties may now oppose its establishment.

From what I have said I trust you will see the folly of treating confluent small-pox by the wine and bark system. In short, whatever form it assumes, patients treated upon that plan die in crowds: I have never known one recover; but if you follow the plan I have pointed out, you will not fail of treating small-pox more successfully than has generally been done.

Convalescence is an important period in small-pox: if the patient be exposed to cold then, inflammation is very apt to occur.

I saw a pupil of this school, Mr. Ralph, who died of small-pox. The disease was confluent: he was exposed to cold; inflammation came on: I saw him about four or five o'clock in the evening: he was seized that evening with pain in the chest. His friends gave me no notice of it till the afternoon of the next day, and I saw him as soon as possible, but had the misfortune to find him then very nearly dying: he was bled, but this afforded him no relief, and he expired that night. On examination, the pleura pulmonalis, the pleura costalis, and both lungs were found to have been violently inflamed, and the inflammation had run a most rapid course.

If a fatal result of this kind occur, it commonly arises from cold; or consumption may arise from cold after it; or if consumption does not arise, the development of scrofula, under various forms, may be the consequence of the application of cold when the skin and mucous membranes are out of order. I saw a remarkable instance of this from the diet having been neglected. If the diet be improper at this period insidious chronic affections are very apt to arise. Either ill-conditioned inflammation may occur, or tubercles may be formed and developed when the strength is broken up in this way. The practitioner should be careful to attend to the diet himself; the physician has no opportunity of doing this. The intercourse between the physician and his patient is far too peculiar. I mostly, however, hint to the general practitioner the propriety of seeing his orders carried into effect. The return to the former habits should be very gradual, and the patient should be immersed twice or three times in a warm bath.

INOCULATION.

If ever you would inoculate a patient for the small-pox, which I would only recommend as a test of security after vaccination, if it be effective you may look for either the presence of a slight eruption from about the eighth or ninth day, or the formation of small pearly pustules having a circumscribed red areola around the inoculated part. Either of these is a good test. But as I am confident that vaccination is a perfect preventive in a large majority of cases, with only an exception now and then, we are bound to adopt the Jennerian practice rather than to practise inoculation. And since small-pox is a contagious disease, we should on this ground also be cautious about inoculating any person, because we cannot limit the effect of a single inoculation: I would not therefore advise you to inoculate any person who has not previously been vaccinated.

It is a curious circumstance that some individuals who have been exposed year after year do not take the disease. Adams observed that a nurse after thirty years' exposure took the small-pox. And when inoculation has been practised the patient is not secured from small-pox, for it sometimes occurs twice. I saw a patient at Brixton with small-pox who had suffered from that affection at a former period. Dr. Thomson mentions several cases. We need not wonder then that small-pox occurs after vaccination.

VACCINATION.

The best plan is to practise a double mode of vaccination by making two punctures in one arm, not so near that the vesicles will run into each other, and at the end of the fourth or beginning of the fifth day making two similar punctures in the other arm; and if at the end of the ninth day from the first vaccination the second spots have the same appearance as the first, or rather if the last two vesicles be miniatures of the first two, you may conclude that the system is affected: because, if the second two spots assume an appearance in miniature in five days which the first two spots did in nine days, the inference is that some change has taken place in the system which has enabled the progress of the last to differ in time from that of the first. This is an extremely satisfactory plan. It requires a little more trouble, but this will not be an object when the advantages are considered. I think it is of importance to have one or two perfect vesicles. In small-pox after vaccination, the scars have been found to be of irregular shape or size, from having been disturbed.

Be cautious, as Dr. Jenner has recommended, not to vaccinate unless the skin be clear from any eruption: when you perceive any spots you should wait, for this is a very common source of failure in vaccination. Another source of failure is this:—a person brings a child to a dispensary, or to a private practitioner; punctures are made in the arms, and the person is told to call again at a certain time. This, however, is frequently neglected, and the person is satisfied that vaccination has been properly performed. Another cause is the careless way in which vaccination is performed from having been done repeatedly. When persons first sold goods in the streets of London, no doubt they said plainly and distinctly what they had to sell, but now their cries are so indistinct that we cannot understand them without an interpreter.

It is an interesting and important question whether the influence of vaccination continues through life or only for a definite period. Two individuals who were vaccinated in their infancy have recently been re-vaccinated: in one of them, twenty years of age, the vaccine disease took its regular course; on the other, aged seventeen years, the vaccination had no effect.

The preventive power of vaccination is so great that inoculation for small-pox has no claim to our notice, except as a test of the efficiency of vaccination. Why persons should have small-pox after vaccination is a problem to be solved after more minute observation; but all medical philosophers, nay, all who take an interest in the welfare of their fellow-creatures, must admire the character and respect the memory of Jenner, the benefactor of mankind.

LECTURE XL.

PECULIAR FEVER.

ORIGIN, SYMPTOMS, PATHOLOGY, MORBID ANATOMY, DIAGNOSIS, TREATMENT, PROGNOSIS, AND PREVENTION, OF SCARLET FEVER, MEASLES, HOOPING-COUGH, AND EPIDEMIC CATARRH.

I SHALL in this lecture offer some observations on scarlet fever, measles, and hooping-cough. These three affections, like small-pox, all proceed from certain peculiar and specific contagions.

The proofs of this are two-fold, and seem to me very decisive. For example, if a child be taken to a house where small-pox, measles, hooping-cough, or scarlet fever, prevails, the probability is that that child will be affected by that particular disease which does there prevail. If this occurred in solitary instances it would not be decisive; but occurring as it does in numerous instances, it is decisive. I have seen patients labouring under scarlet fever, measles, or hooping-cough, visited by other persons, some of whom have been attacked by the disease. This you would say is no direct proof of contagion, for it might have arisen from some local taint of the atmosphere. But there is one very remarkable difference from typhus fever with respect to these affections; for if a second child thus affected be removed into a healthy family, in a fresh atmosphere, the disease will generally propagate itself; and thus you may have a series of cases arising out of each other. I have seen boys removed from school—one with scarlet fever, another with measles, another with hooping-cough, and another with small-pox; and the disease has propagated itself from individual to individual: and if I met with a similar uniformity of facts with respect to typhus fever, I would believe it to be contagious; but till then I shall not believe it. These affections, then, do appear to arise from, or at all events propagate themselves by, contagion. We do not know whether contagion is generated *de novo* within us, or by a combination of circumstances without the body.

SCARLET FEVER.

The peculiar poison which occasions scarlet fever sometimes gives rise to congestive fever at first, so that life is overpowered at the onset. I have seen several individuals thus overwhelmed who were exposed to the contagion; but I have seen only one such case since I came to London. Upon the whole it is a rare form of this affection. A lady had an abortion on Thursday, and on Saturday she came into the drawing-room, and played at whist that evening; on Monday scarlet fever appeared, and her medical attendant was sent for, and thought it slight; the rash soon disappeared, and she was exceedingly oppressed; her medical man was sent for, and I was called in the same night. I saw her at about eleven o'clock, and found her dying; she was then without any pain, and was obviously dying of congestion about the bronchial linings, about the lungs, and about the head. I gave a fatal prognosis, and she died in a few hours. This case differs in

nothing from congestive fever proceeding from a common occasion, and requires the same treatment. If the means which I have mentioned be not used, this sometimes destroys life in three or four hours, and generally in the first twenty-four hours, in the extreme forms. All the specific contagions operate in the first instance as depressing agents, diminishing the heart's action, the animal heat, and the muscular strength through their primary operation, and producing a cold stage. This stage, however, generally passes away, and is succeeded by a hot stage, in which the peculiar character of the disease becomes evinced. Sometimes the specific contagions act in the first instance as direct and universal stimulants, increasing the heart's action and the animal heat. In a large majority of cases scarlet fever commences with a cold stage; but sometimes no cold stage can be made out, and it commences at once with a hot stage. The contagion of scarlet fever operates more speedily than any other contagion. Many individuals have been affected with scarlet fever about four days after exposure to the contagion, sometimes earlier; and it generally appears within the first week after the exposure. The patient complains of languor and lassitude, of aching and uneasiness about the head, and of uneasiness about the back and extremities; the face and surface are pale, and the pulse more feeble than natural, and the appetite is prostrate or capricious. In short, the precursory symptoms of scarlet fever are those which usher in fever in general. The throat should be examined, for the patient complains in many cases either of soreness of the throat, or of stiffness about the neck; after these precursory symptoms a rash appears at an uncertain period. The efflorescence generally comes out very rapidly, in many cases in twenty-four hours from the commencement of the precursory symptoms, sometimes it is longer, as forty-eight hours. Some writers assert that it comes out on the fourth day after the accession of the fever; but it mostly occurs in the first three days, and seldom longer than forty-eight hours from the appearance of the fever.

When the skin becomes hot, and the pulse quick, the fever is then either simple or inflammatory. Hence Sydenham, who was a true observer of nature, has described a simple form of the affection, coming without any sign of internal or external inflammation, which he terms scarlatina simple.

SYMPTOMS OF SIMPLE SCARLET FEVER.

Till my residence in London I never saw a case of scarlet fever that was not inflammatory, and for a long time I doubted the

affection ever being simple, but I am convinced that Sydenham's account is correct. Fourteen patients (I believe all of them from the Freemasons' School) were brought into the Fever Hospital. Twelve of them had scarlet fever in the simple form, neither the throat nor any other part being inflamed; and two had inflammatory fever, one very seriously: the twelve all recovered speedily under a spare diet, and the use of mild aperients.

The efflorescence of scarlet fever varies very much in its duration, depending on the fever. If the fever be short, the duration of the rash is short; and if the fever be protracted, the duration of the rash will also be protracted; if likewise the fever after having disappeared be reproduced, the rash also will be reproduced. For instance, if it be receding, and a physician be called in, it will return from the influence of the mental impression. I have known it reappear without fever. It is generally followed by a slight disorganization of the cuticle, especially when the rash continues some time; but sometimes there is none at all. In mild forms it generally disappears in four or five days; in protracted cases, in seven or eight days; and I have seen cases where it has remained fourteen days. The best idea I can give you of the appearance of the skin in scarlet fever is, that it is somewhat like the shell of a boiled lobster. It is generally of a brighter colour when the fever is fully developed than before. It is a redness composed of very small points, which are the red and raised papillæ of the skin, with broad blushes or flashes spreading, especially in delicate habits, over the whole surface. It is a redness commencing from a centre, and diffused over a large portion of the skin, and the redness runs into other patches. The rash generally appears especially about the joints, and is reddest and most distinct over those parts which are kept covered by the bed-clothes; so that if one arm were wrapped in flannel it would be more covered by the eruption, and nearly as red as scarlet, while the other arm which had lain exposed external to the bed-clothes, would be found to be nearly natural in appearance, with a faint rash. And so with the throat: I have ordered leeches to the throat, and then a poultice, and the throat has become very red from the accumulation of caloric.

Simple scarlet fever can only occur in a sound subject; for if any part be predisposed it will become inflamed.

SYMPTOMS OF INFLAMMATORY SCARLET FEVER.

This is by far the most common form of scarlet fever. It has had various names; but it is nothing further than inflammatory

fever arising from a peculiar occasion. All the specific contagions operate remarkably upon the mucous membranes. Sudden epidemic states of the atmosphere, as those which produce influenza, and the contagion of the small-pox, and malaria, which are other peculiar occasions, operate remarkably on the mucous membranes. The contagion of scarlet fever operates in like manner; hence the throat is the part generally first inflamed; though if the person have predisposed parts, they will become inflamed even before the throat. What is called by writers scarlatina anginosa, I would call inflammatory scarlet fever; it occurs in strong subjects, and is ushered in by a hot skin and quick pulse for many days. You have inflammation of the throat, and a red rash on the skin, combined with ardent fever, an intensely hot and dry skin, a moist tongue, a very rapid pulse, either full and expanded, or small, hard, and contracted, and the patient displays considerable strength in moving. This fever generally runs on for many days, if not moderated, and the throat becomes inflamed early. Sometimes in the onset even there is stiffness about the throat, and inflammation or ulceration of the tonsils before the fever is fully developed. This is the common character of inflammatory scarlet fever. The inflammation at its commencement has all the characters of common cynanche tonsillaris. The tonsils are swelled, and sometimes have white patches and stripes of coagulable lymph deposited upon them. These supposed ulcers it is very important to distinguish from sloughs, of which they have the appearance; but they may be washed off with any gargle, and they are raised about the surface of the mucous membrane; while a slough implies a loss of substance. If scarlatina occur in a weak subject, sloughs generally occur in or about the tonsils, obvious to the sight, and covered with a grey substance. This is still nothing but inflammatory scarlet fever; though some writers have chosen to call it, when in aggravated degree, scarlatina maligna. It very often happens when sloughs form about the throat early, the linings of the air-passages become more intensely inflamed than ordinary; and, instead of the vividly red efflorescence, you have a copper-coloured efflorescence, which is very remarkable, and the cause of which is obvious. It depends on the interruption to a vital change which takes place in a healthy state in the blood in its passage through the lungs. There is nothing, however, extraordinary in this; you see the same thing occurring in what has been vaguely termed erysipelas. You have an open or a masked form of inflammatory scarlet fever, and this open inflammatory form if allowed to go on, very frequently ends in the—

SYMPTOMS OF CONGESTO-INFLAMMATORY SCARLET FEVER,

under which form the inflammation of the throat goes on many days, the bronchial affection increases, and at length it affects the strong subject in the same way that the weak subject is affected in the beginning; and when this occurs in weak subjects, it arises from the intense inflammation, in which you have sloughs forming. Here you have ulceration of the throat, with the heat on the surface of the trunk but little above the natural standard; the extremities generally cool; the pulse quick, feeble, soft, and yielding to pressure; a weak respiration; a coppery hue on the surface; the tongue glazed and dry; the teeth often crusted with sordes, especially if the apartment be not well ventilated; and extreme prostration of strength. In all specific fevers in the advanced stages, you have the special bronchial affection, which is one of the main characteristics of typhus fever; yet these never propagate typhus fever.

What happens in the inflammatory fever in five, six, seven, or eight days, sometimes happens in the onset. Sometimes the occasion of this masked form of fever is the air which the patient breathes; hence it is very common in cellars and close stifling apartments. Sometimes it depends upon the constitution of the individual, as in the tabid children in London, whose mucous membranes often become most intensely and rapidly inflamed. Sometimes it arises from defective ventilation, so that the apartment becomes too hot.

All these forms you will occasionally find occurring in the same family, and if you investigate the cases you may generally refer the varieties to these circumstances. If the child be strong, it may have the simple form of fever; but more commonly you have inflammation about the throat, with a very hot skin, and a very quick pulse. If a child attacked be very delicate, it often puts on the character of what has been called scarlatina maligna, or cynanche maligna.

Cynanche maligna was once thought to be a different affection from scarlatina maligna, but no doubt it is the same affection.

In individuals who have had scarlet fever before, it is common during an epidemic to find them with only a sore throat, with no fever; sometimes with a very aggravated sore throat, but no rash at all. This should be particularly remembered, as it requires the same treatment as scarlet fever.

MORBID ANATOMY OF SCARLET FEVER.

In fatal cases of scarlet fever you almost invariably find proofs

of inflammation of the fauces extending down the larynx, trachea, and bronchia. In nine cases out of ten the air-passages are inflamed. Now and then other parts of the body are inflamed; for example, very frequently the brain; in other cases the mucous membrane of the bowels is the seat of inflammation; and sometimes the liver is inflamed. I would say that the throat and air-passages stand first on the list of inflammations; and next the brain and the bowels, which seem to be affected on the common principle of excitement. The pulse in scarlet fever often ranges from a hundred and twenty to a hundred and forty in a minute; it cannot, therefore, be a subject of surprise, that a predisposed part should become inflamed. The treatment turns mainly on this point. And the smothered or subdued form may be considered, as it really is, a congesto-inflammatory form of fever: the lungs become gorged, a copious quantity of mucus is poured out from the lining of the air-passages; the respiration becomes more and more interrupted; and life is suspended by suffocation.

In the progress of scarlet fever it sometimes happens that the glands of the neck become enlarged. Sometimes the inflammation spreads along the Eustachian tube, and the patient becomes deaf.

Occasionally in the progress of scarlet fever an affection occurs precisely resembling rheumatism in its symptoms and pathology, and in its course inflammation of the pericardium sometimes occurs, the inflammation then leaving the part originally attacked.

In scarlet fever the tongue is generally red at the tip and edges, for the same reason that the skin is red. The skin is in the condition of local simple excitement. Sometimes the efflorescence goes down the whole mucous membrane of the alimentary canal; hence the red tipped tongue does not always denote inflammation of the mucous membrane of the bowels. In some cases of scarlet fever the conjunctival vessels carry red blood, not from inflammation, but from local simple excitement. Yet if the cases be badly managed, this state frequently passes on to actual inflammation of the mucous membrane of the alimentary canal.

THE TREATMENT OF SCARLET FEVER

is very simple, and remarkably satisfactory from its great success. A century ago scarlet fever was the scourge of England. Dr. Fothergill wrote a book on scarlet fever in a popular form, on which account he became one of the most celebrated practitioners in London. Dr. Withering says that Dr. Fothergill lived, however, to be convinced that his whole book was a tissue of errors; and yet

he never had the manliness to acknowledge it. When a man commits an error which is capable of affecting the comfort, the health, and the life even of his fellow-creatures, he should, when he is convinced of his error, show the independence and greatness of his mind by confessing it; he should not merely mention it to a few individuals; he should not speak of it merely in a corner; but he should acknowledge it before the whole world. This, therefore, if true, with regard to Dr. Fothergill, is in my opinion the greatest stain that was ever left on the memory of any medical man.

TREATMENT OF SIMPLE SCARLET FEVER.

Open the bowels regularly every day with some mild aperient medicine, such as senna or castor oil. Keep the patient at rest, between cool clean sheets, in bed or on a mattrass, with light clothing, in a regulated temperature from 56° to 60° Fahr.; sponge the surface with tepid water twice or three times a day while it is hotter than natural, especially when it is hot towards evening; admit plenty of fresh air, allow a bland diet, and in two or three days the patient will be well. It is of the greatest consequence that the diet should be strictly spare; for instance, a small cupful of arrow-root thrice in the day, and toast and water for common drink.

From sudden exposure to cold after the subsidence of scarlet fever, or from cramming too early, or from neglect of the bowels, or from over-exertion, the patient is very apt to have dropsy.

TREATMENT OF INFLAMMATORY SCARLET FEVER.

When it assumes an open inflammatory form of fever, prompt evacuations may be used. You will most frequently find inflammation limited about the fauces, tonsils, and adjacent mucous membranes, extending slightly down the air-passages. Generally you will find it sufficient to apply eight, ten, or twelve leeches to the throat if the patient be an adult, provided you see him early. Give three to five grains of calomel, with ten or twelve of rhubarb, followed up by an ounce of cold-drawn castor oil, or a draught composed of a drachm of manna, a drachm of sulphate of magnesia, and an ounce and half of infusion of senna. If the inflammation of the throat be not lessened so much as you expected, re-apply the leeches: they mostly require to be repeated once or twice.

If the heat be high, pour tepid water on the patient. Have a

common washing-tub, and put a little warm water in the bottom of it, to cover the patient's feet. Place a three-legged stool in it, and upon this let the patient sit naked. Then have two jugs, each containing two gallons of water, of the temperature of 96° Fahr. Let them in succession be poured upon the patient's shoulders. After each let the patient remain a few minutes, that evaporation may take place. Then dry the skin thoroughly, and lay the patient in clean and well-aired sheets. This process may be renewed as often as the heat becomes high. Keep the patient at rest in bed, and perfectly quiet, in a regulated temperature. Continue the purgatives daily; allow a spare diet; and the patient will do well. I have seen several hundred cases of scarlet fever since I came to London, and only two have died, with the exception of that which I have already mentioned as fatal in the congestive form; and another to which I was called very late, and which the practitioner told me was typhus fever, but it was the masked form of scarlet fever. It is best to use the affusion first, and then apply leeches, and give aperients directly. Apply the leeches early, and you will generally prevent the inflammation spreading more down the larynx. Free ventilation should be observed. It may happen that in other parts of the body beside the throat there is inflammation; for instance, in the bowels or in the brain; and then bleeding from the arm is sometimes necessary. If the inflammation be acute, bleed decisively; if subacute, bleed moderately. I have done this repeatedly in the Fever Hospital with great benefit in these cases. When the mucous membrane of the bowels is inflamed, you will generally succeed best with the daily application of leeches until the pain is removed.

TREATMENT OF CONGESTO-INFLAMMATORY SCARLET FEVER.

Be extremely careful about the abstraction of blood. I generally order leeches to the throat in the first instance, if I see the patient early; and if the pulse rise under the application of the leeches I let the orifices bleed a moderate time, and often repeat them with benefit; if the pulse sink, I staunch the bleeding orifices, or leave some proper person to do so, and I do not apply them again. Moderate leeching to the throat is generally very beneficial in this form, but I never apply above four at one time. A tepid bath, or, rather, a bath of from 98° to 100° Fahr. (not lower than 98°), is exceedingly useful. Put a considerable quantity of salt in the water; put the patient in the bath for fifteen minutes;

and when you take him out, lay him between warm blankets. By far the best cordial is a sufficient supply of fresh air.

Cold affusions have been recommended by Dr. Currie. When the skin is preternaturally hot, when it is perfectly dry, and the patient is not sensible to the influence of cold air, they are very beneficial; but I never use them, because I can subdue scarlet fever without them. If not used under proper circumstances, they are exceedingly dangerous. If they were used in the masked form of fever, I believe the patient would die under the application: hence the propriety of attending to first principles. A friend of mine who had read Dr. Currie's reports, applied cold affusions in this form of the fever, and the patient died under the shock. Equalize the animal heat, and bring the blood to the surface, either by the warm bath, or by laying the patient in blankets and applying bottles of hot water to the feet and stomach. Mild aperients are of great benefit. Give the patient a grain or a grain and half of calomel, with six or eight grains of rhubarb in the day, followed by a drachm of castor oil. Allow him lemon-juice in the common drink, and give him a diet of arrow-root and lemon-juice, with absolute rest and quietude. A remedy which will probably be found very beneficial in this form of the affection is the oxymuriatic acid. I tried all the acids with the exception of this, and my observations were in favour of very good lemon-juice in water. But lemon-juice is often too expensive, and by some classes cannot readily be procured; and I think the oxymuriatic acid will be found equally useful in those forms of fever attended with intense bronchial affections. It often has an extremely good effect in typhus fever, in sustaining the strength. It emulges the liver, and produces healthy evacuations; and perhaps there is a great similarity between its effects and those of calomel. From half a drachm to a drachm may be given to an adult in the twenty-four hours. Put a drachm of the acid into six ounces of water, and let him take two table-spoonfuls every four hours. When it does not open the bowels castor oil may be given. During the progress of both the ardent and masked forms of scarlet fever with sore throat, the best gargle is the infusum rosæ compositum of the London Pharmacopœia, to which a little syrup may be added if it be too acrimonious to the fauces. Acid gargles sometimes seem to be of benefit by promoting and increasing the secretion of the throat when there is no ulceration. A gargle of lemon-juice or muriatic acid answers very well. Gargles in this affection are certainly very beneficial; though I believe they

do very little good except when there is ulceration of the throat. A friend of mine is in the habit of using a gargle of Cayenne pepper, vinegar, and salt, and, he says, with great advantage.

Towards the close a gentle stimulus is necessary, as carbonate of ammonia. In some cases wine is beneficial: when the skin becomes more and more cool; the pulse more and more feeble; the respiration more and more weak; the position more and more sunk. But always watch its effects: if it render the skin hot, it does harm; if comfortably warm, it does good; if the pulse become more rapid, it does harm; if slower, it does good; if the respiration become quicker, it does harm; if slower, it does good; if the tongue become drier, it does harm; if more moist, it does good; if the patient become restless, it does harm; if it procure sleep, it does good. Give it by tea-spoonfuls at first; or you may give a wine-glassful, frequently, of whey made with one or two glasses of sherry to a pint of milk.

I have not seen more than one case of scarlet fever in two hundred fatal since I have adopted this treatment. I had but two patients who died of it in the Fever Hospital. My colleague had four fatal cases. Two of his and one of my cases occurred under the masked form.

If you attend to scarlet fever early you will seldom have any affection of the ears, which very usually occurred in the old treatment of scarlet fever. When there is pain in the ear, leeches behind the external ear, or the abstraction of blood from the throat or from the arm are generally necessary. When suppuration occurs the ear should be syringed daily with tepid water.

Dropsy is very apt to occur after scarlet fever where patients are not well managed: indeed I have seen this so frequently occur that I once thought it was a necessary consequence of scarlet fever, and it is set down by most writers as a part of scarlet fever: but since I have been attentive to patients and made them adopt proper regulations during the state of convalescence (though I have seen some hundreds of cases), I have never had but one case of dropsy after scarlet fever, and that occurred in the child of a medical man from cramming. Cold is one occasion which often produces it. The patient should be kept moderately warm, and should be confined within the house till his strength is improved. Attend to the skin; you will find it dry and husky and the cuticle peeling off; and then immerse the patient occasionally in a tepid bath and keep him there twenty minutes or half an hour, so that the skin is completely soaked; then soap the skin all over, and, having

washed this all off, dry the surface thoroughly: this puts the skin in a healthy condition. If the weather be cold, the patient should wear flannel, and be kept within the house for some time. Restore the strength by passing gradually from a spare to a full diet, and avoid the use of tonic or stimulant medicines. Attention to the diet is a point of very great importance after scarlet fever. A very fine boy was admitted into the Fever Hospital with scarlet fever, from which he was convalescent. I allowed nothing to be brought into the Fever Hospital except tea and sugar. The boy's father, however, brought with him an apple, which the boy ate, and which I believe killed him. He had intense inflammation of the mucous membrane of the stomach and of the intestinal canal, and sunk with great rapidity.

Scarlet fever, then, is a disease which has been most successfully treated in modern times. Formerly it was very fatal, and I am confident that the mortality arose from bad treatment.

SYMPTOMS OF MEASLES.

Measles may occur at any time from three days to three weeks after exposure to its specific contagion. The most common time of the appearance of the rash is from seven to fourteen days after the exposure. In one family I saw four children who were all attacked seven days after the exposure; and this is by no means an uncommon occurrence. I attended another family in which it occurred in one case on the fourth; in another, on the sixth; in a third, on the seventh; in a fourth, on the ninth; and in the fifth, on the fourteenth day after exposure. One of these had no catarrhal symptoms, but went to bed well, and awoke in the morning with the rash. It is preceded almost always by catarrhal symptoms: by a watery eye, which is rather redder than natural; by a slight running of the nose, with occasional sneezing; and by some degree of rather a hoarse cough; in short, by the common symptoms of what is popularly called a cold. These symptoms usually go on from three to five days or longer before the eruption of measles comes out. The patient often complains of sudden chills, of languor and lassitude, and of pain or heaviness in the head.

It sometimes happens that the catarrhal symptoms are absent. I saw four children in Holborn with measles, of whom the youngest, an infant, had no catarrhal symptoms. I saw the same thing in a school last year; several boys had no catarrhal symptoms.

Sometimes inflammation exists before the rash comes out, and if

you were not attentive to it the patient might die before the rash appeared. I have seen this inflammation seated about the mucous membrane of the trachea, having precisely the character of croup. I have seen it in the brain, in the liver, in the peritoneum. I was called to see a boy who was threatened with hydrocephalus internus, as it is called. He had inflammation of the brain, which I removed by prompt measures, and then the eruption of measles came out. The mother of the boy thought I had mistaken the case. Ignorant persons suppose medical men to know more than they do, or than they ever will know. Any man that is disposed to entertain romantic ideas of human nature should be united with the middle class of men; but the similiarity between the highest and lowest classes is most conspicuous for thorough selfishness. Talents and virtue arise more particularly in the middle classes; and this will be the case till the education both of the higher and lower classes of society is better than it now is.

The rash of measles generally comes out first about the neck, then about the chin and face, &c.; the eyes become affected and swollen; and then it comes out also about other parts of the body. It consists of small red points or tumours, about the size of a millet seed, which give the skin a rough feel, so that it may be known in the dark by running a finger over it. These points are distinct, and scattered separately in every direction. The rash of measles is rather more dusky than the eruption of scarlet fever, because the bronchial linings generally suffer more in measles than in scarlet fever.

The eruption of measles continues out during various periods; its duration depends upon that of the fever. Sometimes it lasts one, two, or three days, mostly about four days, and then it disappears generally; but where the fever is protracted, I have known the rash remain out several days longer.

PATHOLOGY OF MEASLES.

The fever which attends measles is the same which attends scarlet fever and small-pox; when it attacks a healthy person, the fever is simple; more commonly it is inflammatory: and generally an open, but sometimes a masked form of inflammatory fever. It may be ardent and open at first, and yet in a few days it may change to a low or smothered form of fever. In the Medical Observations and Inquiries is an account of this by Sir W. Watson, which Dr. Willan has noticed in his book, but of which he completely mistook the pathology. He supposed that scarlet fever had been mistaken for measles.

Measles in the country is scarcely ever fatal in healthy children. A strong child has a hot skin, a quick pulse, the catarrhal symptoms, and the cough.

Sometimes the cough occurs as a distinct attack before the eruption comes out; and active inflammation about the larynx and trachea occurs sometimes before the rash comes out, and this should be remembered. In strong children, generally, you have inflammation spreading down the mucous membranes of the air-passages; sometimes the brain is inflamed; and you should pay strict attention to its functions whenever the air-passages are inflamed, for it is very apt to be inflamed in all specific affections. Sometimes the mucous membrane of the bowels is inflamed; but recollect the precaution I mentioned when speaking of scarlet fever, that simple redness of the tongue is no criterion of muco-gastritis, or muco-enteritis, because it is only a continuation of the rash modified by the structure of the part. Frequently there is inflammation of the substance of the lungs, or congestion of the lungs, which generally attends special bronchitis, and a portion of lung when cut into will sink in water. In weak children you have the masked form of fever, which is mostly fatal, and on examination after death you almost always find some organic disease. You often find the liver grey and granulated, the lungs studded with tubercles, the bronchial and mesenteric glands diseased; the child is, in fact, the subject of disease before this affection comes on. The inflammation of the lining of the air-passages is very intense.

In some of these cases the child becomes gradually hectic and consumptive. After measles, small-pox, and scarlet fever, if patients be not well managed, they are very apt to become consumptive.

DIAGNOSIS OF MEASLES FROM SCARLET FEVER.

By attending to the following facts you will have no difficulty in distinguishing these affections.

1. In scarlet fever you have no precursory catarrhal symptoms, but they generally do occur before the rash of measles makes its appearance.

2. In scarlet fever the mucous membrane of the fauces is inflamed as well as the tonsils, but it is one uniform blush of inflammation; and generally, but not always, there is an ulcer or slough upon the tonsil. In measles there is a dotted appearance on the mucous membrane of the fauces in a diffused

blush of inflammation, from the eruption occurring in an inflamed part.

3. The eruption of scarlet fever is diffused like a sort of blush, and smooth. In measles the eruption is dotted, in small points, like millet seeds in size.

4. In scarlet fever the colour is brighter, as well as the eruption more diffused over the whole skin, except when it puts on a masked character. In measles there is generally more bronchial affection, and hence the eruption is generally darker than in scarlet fever.

THE TREATMENT OF MEASLES

is simple. It sometimes appears almost as a simple form of fever, the inflammation being so slight as hardly to deserve the name. When the patient has little or no fever, keep him in a regulated temperature, let the diet be very bland, keep the bowels gently open with cold-drawn castor oil or some other mild aperient every second day, and the patient will generally be well in two or three days. He generally would run about, but it is best to keep him at rest. Patients with this form invariably do well; some old women manage it with great success.

If measles be inflammatory treat it accordingly, considering whether it is open or masked. If it be ardent, generally there is inflammation of the throat and air-passages, and if the symptoms of that condition be distinct you may bleed the patient, largely or moderately according to the degree of inflammation, to diminish the excitement and lessen or remove the local inflammation. If the local inflammation be in the brain, you may remove it at once; but not if it be in the bronchial lining, for then it has a determinate duration, and can only be moderated. Adopt a bland diet, keep the bowels open, and be sure to regulate the temperature, avoiding a high degree of heat, which will stimulate the heart, and a low degree of temperature, lest you chill the patient; from 60° to 66° Fahr. is the best temperature. I have seen restlessness and other bad symptoms arising from bad management, from a high temperature and defective ventilation, from having a fire and admitting too much light into the room. You must just be guided by the principles I have laid down in common fever, excepting that the bronchial affection has in these specific diseases a determinate duration.

When the fever is masked use a tepid bath, in order to bring a flow of blood and heat to the surface; apply leeches to the throat and to the head if necessary; put the patient into a fresh atmosphere; regulate the diet; and keep the

bowels gently open. Cases which occur in tainted children will generally be fatal. Some medical men have used cold affusions in measles; I have never seen any necessity for them, and when repeatedly used they often do a great deal of mischief. For if the skin be hot and moist, there is great danger in using cold affusions; but they might be tried if the skin were hot and dry, without any bronchial affection. In the year 1808 cold affusions were used at Plymouth with great success. Sponging the surface with tepid water, or tepid affusions, I have often tried, and have frequently found them have all the good effects of blood-letting.

When the rash suddenly goes in it is generally connected with a bronchial affection, which often continues after the rash disappears. If the skin be cold, use a tepid salt-water bath. Sometimes it goes on without any uncommon circumstance, and then it is of no consequence.

Great care should be taken in a state of convalescence, as after scarlet fever. Keep the patient within doors until the bronchial affection has subsided; let him occasionally use a tepid bath, the skin being well soaped; avoiding chills and excitement.

HOOPING-COUGH,

or pertussis, I believe arises from peculiar contagion. A friend of mine saw a dog lap up some bread and milk which had been vomited by a child under hooping-cough, and the dog distinctly had hooping-cough. Another friend of mine saw a woman who suckled two children, one of which had hooping-cough; she was accustomed to wash the breast before she applied the healthy child, which for some time was not attacked by hooping-cough, but she forgot it one day, and this child was affected. I have seen children from school bring it into families where they resided. It is at present disputed whether it is contagious or infectious: it is supposed by some physicians to arise from an infection or local taint of air. I think that it is contagious, and not infectious. The reason that convinces me of its contagiousness is, that I have seen several children from school propagate the affection in families to which they have come home. I attended a child of a very sanguine man; in its first attack it had measles, with pneumonia, bronchitis, and muco-enteritis. Having unexpectedly recovered, it had a similar inflammation entirely from cold, and again recovered. I happened to visit a child at a short distance in the country with hooping-cough, and this child was there; I told its father it was so predisposed, that if it had hooping-cough it would sink very

rapidly, and that I would advise them to remove it immediately. He allowed it to remain; it had hooping-cough; and as I had predicted, died of inflammation of the brain, of the bronchial lining, and of the lining membrane of the intestines.

SYMPTOMS OF HOOPING COUGH.

Hooping cough very often comes on like catarrh, except the running of the nose, which seldom occurs in hooping-cough. It is frequently preceded for some time by a cough, which goes on one, two, or three weeks; the patient often coughs long before the disease shows the peculiar symptoms which designate hooping-cough. At length comes on the "hoop" which characterizes this affection. A patient about to be seized with the hoop has a dread of it, and suddenly lays hold of a chair to prevent himself from falling. The child is suddenly seized while at play, for instance, with a remarkably strange sensation about the larynx, and then he makes several short rapid expirations one after another, and finally takes a very deep inspiration, during which there is a peculiar noise in the larynx, probably from specific affection of the membrane of the larynx connected with slight inflammation there, and there seems to be a secretion of mucus about the larynx. The eyes are turgid and frequently red during the cough, and there is a suffocated expression about the face. The paroxysm of coughing is generally terminated very suddenly by vomiting, or by expectoration of a large quantity of mucus or, in protracted cases, of pus, by which the patient is relieved. Pus is sometimes secreted in large quantities from the trachea without any lesion. After this he is well for a little time, and then the paroxysm returns.

PROGNOSIS OF HOOPING-COUGH.

The question in hooping-cough is this; has the child any permanent fever, and permanent difficulty of breathing? If there be, great care is necessary, and the danger is very considerable. In many examples there is little or no fever or dyspnœa; and the child after each attack would run about, and eat and drink in the ordinary way. This is a most important distinction.

Hooping-cough has a sort of determinate duration. Some medical men say they can stop it, but I have never seen it cured directly. It generally occurs in the autumn and spring: if the spring be mild, it generally terminates in six weeks or two months; in autumn, when the weather is cold, it is more protracted, unless the patient lives in an artificial climate, and then you may usually

get rid of it in six or eight weeks. The hooping-cough affects the mucous membranes particularly; therefore it is very dangerous in weak children. Very frequently children die in consequence of hooping-cough, particularly in London.

PATHOLOGY OF HOOPING-COUGH.

The poison which produces hooping-cough operates specifically on the larynx. I never saw a case where there was not inflammation about the larynx, either recent or of long standing; the inflammation generally extends down the trachea, and down the bronchial passages. In the progress of hooping-cough, when the respiration is much affected, the head is very apt to be affected, and the membranes of the brain become inflamed, and in many cases the lining membrane of the bowels is inflamed. The affection of the head is generally secondary to that of the air-passages or bowels; and this is often the case in other affections. It is important in all cases to trace the history backward, so as to take into account the state which preceded the disorganization. Infants very often die suddenly after the cough, from an apoplectic state of the brain. Sometimes a child apparently dies under convulsions; yet if you trace the history of the case backward, you will generally find that the mucous membrane of the air-passages or of the bowels was inflamed previously. Even when hooping-cough occurs with a mild character and a very slight degree of hooping, do not allow the child to go out of the house in cold or damp weather; but if the weather be fine it may go about as usual. If it contract a cold, the disease often becomes extremely violent. A medical man had three children labouring under mild hooping-cough; they went out in cold weather, and all became suddenly and severely ill with inflammation of the brain, and two of them died, but one recovered.

TREATMENT OF HOOPING-COUGH.

When there is merely a slight attack always treat the child very mildly. Give an emetic once a week or so, and, if necessary, a mild aperient, for instance, castor oil. The emetic should consist of a few grains of ipecacuanha. The surface must be kept warm, and, if the weather be cold, the temperature should be regulated in the sitting and sleeping-rooms, which should be from 56° to 62° Fahr.; the diet should be bland, and the child should be in a fresh atmosphere. You need not abstract blood. If there be any acidity of the stomach, give a little carbonate of potass. Three or four children living in the same apartment labouring

under the same disease, it will be aggravated; they should, therefore, be separated if possible. The occasional use of a tepid bath is beneficial. No doubt a mild emetic now and then, as I have advised, is beneficial when the patient does not expectorate freely; but harsh emetics of antimony, &c., and nauseants repeated three or four times a day, destroy a great many children either by exciting inflammation of the alimentary canal, or by breaking up the general strength; and the greater activity of practice which prevails in London I think is one reason why the disease is far more fatal here than in the country, making all allowance for the influence of the air and the general debility of children in town. Under the treatment I have mentioned it will generally yield in six or eight weeks. You cannot cure it at once; and why do harm by attempting it? A little of Roche's embrocation is very useful.

When you have fever and dyspnœa, watch the case very narrowly, and manage it upon the ordinary principles which I have before laid down. Endeavour to remove the inflammation; the only rule you can be guided by is to bleed according to the degree and the seat of the inflammation in the first instance. Recollect, that when the inflammation is seated on a mucous surface, with the exception, perhaps, of the larynx, you cannot remove it at once, especially when it arises from a peculiar occasion. Remove it to a considerable extent, and then keep the bowels gently open by mild aperients; apply a few leeches; excite nausea now and then by small doses of ipecacuanha; regulate the temperature, and adopt a bland diet. It will go on a certain time do what you will, and if the bleeding be repeated it will sink the child. Act simultaneously and gently on the bowels and on the skin, and these, with a bland diet and rest, will cure the bronchial affection.

Watch the effect of all remedies upon the alimentary canal, and if the tongue become more and more red, and the stools more and more frequent and loose, omit them altogether; and if inflammation have been set up, apply leeches. After this, when the head is free, a small opiate, or tincture of hyoscyamus, is of advantage, for children often become excessively restless after even leeching. When the disease assumes the character of acute inflammation of the brain or of the bowels, with ardent fever, it requires prompt and active treatment for a time. The inflammation must be removed, or the child will, if the brain be inflamed, in most cases die hydrocephalic.

When the disease assumes the chronic form, regulation of the diet, regulation of the bowels, regulation of the clothing, and

change of air, are the most to be relied on. Adopt a bland nutritious diet; keep the bowels gently open; keep the surface warm with flannel; and change the air; and the disease will abate after a short duration, if no fever be present. If there be fever, put the child in a fresh atmosphere, apply leeches, and use a spare diet. Many specifics have been recommended, but these simple measures which I have mentioned are perfectly sufficient. It is very desirable to remove all those circumstances which oppose the natural tendency of the system to return to established habits. Correct all these before you attempt to arrest the disease. Explain the efficacy of general management honestly, and if you practise among sensible people, you will have at least the comfort and satisfaction which must always arise from the consciousness of doing what is right. When the cough exhausts the child's strength you may give iodine, tincture of cantharides, or bark, with benefit, but they are only secondary to general management. I have seen great mischief from prussic acid; indeed, I have seen several children nearly killed by it. If the parents be very anxious, a bland placebo is all that is necessary, and a very good one is almond milk, with a little carbonate of potass, if necessary, or a drop or two of tincture of hyoscyamus. The almond paste is very apt to become sour, and the emulsion is better made in the old way.

PREVENTION OF CONTAGIOUS DISEASES.

1. When you are satisfied that a complaint is contagious, it is an object to prevent it from spreading, and you must entirely cut off, if possible, the communication between the sick and healthy. If you attend a school, for instance, the patients should be separated from the other children at once; and the same in a private house.

2. Another point is to dilute the poison to the utmost by free ventilation, bearing in mind not to expose the patient to currents of air.

3. Another point is to attend to the linen: both that which the patient wears, and the bed-linen, should be put into cold water before being sent to be washed.

4. Small-pox, scarlet fever, and measles, frequently propagate themselves by minute portions brushed from the skin and diffused in the atmosphere: hence after these affections a warm bath is of great benefit; and after the skin is quite free from scurf, you may allow the patient to hold intercourse with the family.

5. It is very important to consider the constitutions of children,

and if any of these contagious affections occur, and the other children be delicate with a faded skin, you should separate them; for in these cases, small-pox and measles especially are exceedingly fatal, and scarlet fever is mostly severe.

EPIDEMIC CATARRH

is generally called influenza. One occurred last winter, and I saw no patient who required blood-letting. Bronchial affection was very common. An occasional tepid bath, a bland diet, rest, a regulated temperature, and the bowels being kept moderately open, generally removed it. Influenza requires great care as to blood-letting: there is remarkable feebleness of the whole muscular fibre of the body; though it is inflammatory, it is attended with great prostration of strength. It consists of inflammation of the mucous membrane of the air-passages, but more intense than in common catarrh. Bleed largely, and the patient sinks; and in these cases you seldom find any buff on the blood. After the subsidence of epidemic catarrh, do not let the patient go out directly. Patients are very frequently dying from chronic organic affections occurring after acute and sub-acute diseases: this is especially the case after catarrhal complaints. I have seen many medical men lose their lives in this way. The late Dr. Baillie contracted the epidemic of the winter of 1823; anxious to do as much good as possible, he went about as long as he could. The last time I saw him he had chronic inflammation of the mucous membrane of the trachea, larynx, and bronchia, and irritation about the small intestines. Whatever was the opinion of the medical talents and acquirements of Dr. Baillie, all medical men are agreed as to the excellence of his moral character, and to him may be applied the words inscribed on the tomb of a distinguished foreigner,—

TANTO NOMINI NULLUM PAR ELOGIUM!

LECTURE XLI.

PECULIAR FEVER.

PREDISPOSING AND REMOTE OCCASIONS, PATHOLOGY, SYMPTOMS, DIAGNOSIS, MORBID ANATOMY, AND TREATMENT, OF FEVER IN THE PUERPERAL STATE.—GENERAL MANAGEMENT OF FEBRILE AFFECTIONS.—TREATMENT OF CONVALESCENCE.

I SHALL in this lecture offer some observations upon the nature and treatment of what has been so loosely called puerperal, or child-bed fever.

An author once wrote a very large volume upon a subject upon which I am going to deliver a very long lecture,—nothing; for, strictly speaking, there is no such thing as puerperal fever; no such thing I mean as a fever *sui generis* occurring in that state. Here let me again urge you never to allow any person to think for you, but always to reflect for yourselves. By thinking for ourselves, we throw off the burden of the errors of past, of ignorant, of dark ages; we breathe the pure air and walk in the cloudless light of science. The subject surely is not, as it has been pretended by systematic writers, complicated, but exceedingly simple; for, as I trust I have satisfactorily shown, all the various symptoms of disease are referrible to a few pathological principles. Modern medicine does not rest upon airy nothing; it is not a flimsy fabric which has no foundation, but it rests upon substantial facts; its foundation is not upon sounding and empty names, but upon solid things, on conditions which are tangible or perceptible; and if a man will only trouble himself to collect facts, to collect symptoms, and to make careful dissections, he will find that all forms of fever may be referred to the principles which I have mentioned. With regard to states of the blood produced by peculiar occasions, we cannot in the present state of our knowledge turn them to any practical account; but probably hereafter more may be ascertained upon the subject than is at present known.

As general principles are the elements into which particulars

resolve themselves, so these circumstances are of great use in directing us to the ultimate facts or principles.

In febrile affections we must take into account specific states of the body, and one is that which occurs in a woman after delivery. When I began to compile the second edition of my treatise, I felt myself in a dilemma. I was not satisfied by the vague term puerperal fever, but I endeavoured to reconcile it by giving a definition of what has been called by different authors puerperal fever. If I were to write again I should have no such feeling of delicacy, but would discard the name altogether. It is certainly important to have a distinct conception of the subject; and the term puerperal fever seems to imply something peculiar. Medicine has been so much improved as to require a nomenclature as different from that which was formerly in use, as the nomenclature of modern and of old chemistry. What would you think if I were to call fever, because it occurred in a child, infantile fever? or because it occurred in an adult, adolescent fever? or because it occurred in an old person, senile fever? or because it occurred in a plethoric person, full fever? or because it occurred in a weak person, slender fever? or because it occurred in the city of Bath, Bath fever? or because it occurred after eating a cake, bun fever? or because it occurred in a negro, black fever? or in a fair complexion, white fever? These would be very absurd terms, but not more so than the term puerperal fever; for what is called puerperal fever I repeat will be found, by an appeal to nature, not to be a disease *sui generis*. Fever is frequently occurring in the puerperal state, sometimes from common, sometimes from peculiar, occasions; and it has in some instances a congestive, in others, a simple, in many, an inflammatory character. The only modifying circumstances are the state of the patient, and the occasions which produce it. If a woman were seized with small-pox two or three days after delivery, would you call it puerperal fever?—Certainly not; because you would see the indications of small-pox, but it would be so modified by the condition of the patient, that the inflammation would fall on the serous membrane of the abdomen. If she were attacked with scarlet fever, would you call it puerperal fever?—Certainly not; because you would have the indications of scarlet fever. If she were seized with measles, would you call it puerperal fever?—Certainly not; the external character would be distinct, with a superadded abdominal affection. If either of these occurred in the puerperal state you would have abdominal affection invariably occurring, because the abdomen is the pre-

disposed part; but the puerperal state would not make the affection peculiar. If typhus fever were to occur during the puerperal state, that state would not make the disease peculiar; the only modifying circumstance would be the state of the abdomen. And the fact is, that all these affections do occasionally, though rarely, occur in the child-bed state. Typhus fever occasionally occurs in this state in London, especially in those districts where malaria exists. Last year I saw four or five cases in St. Pancras, and superadded to the affection of the membranes of the brain, bronchial lining, and mucous membrane of the intestines, there was a most intense inflammation of the peritoneum from the peculiar condition of the patient. The attack of typhus fever in a puerperal state, in the majority of examples, occurs as a congesto-inflammatory form of fever, with a low heat on the surface, with a feeble and even a fluttering pulse, with a glazed brown tongue, with a weak and hurried respiration, with a red-tipped tongue, and with intense tenderness of the belly. I saw two cases of this kind recently with a very intelligent friend of mine, who treated them very properly, yet both cases were fatal. Both during life had the symptoms of genuine typhus fever; and after death both had the appearances which are found after fatal cases of typhus fever; the state of the abdomen was the only modifying circumstance. From one of these I took a pint of blood. When the linings of the bowels, or the linings of the bronchiæ, are inflamed, the redness disappears shortly after death: this should be remembered. In both the cases I am alluding to there was great organic disease; they both had disease of the lungs, and they both had disease of the liver: in one there were appearances of inflammation in the inner parieties of the heart. All this, however, does not constitute any difference from common fever, except the modifying circumstances. Typhus fever generally sets in, in the puerperal state, with intense bronchial inflammation; and yet, from the seat of the inflammation, you cannot treat the case actively; for in all cases when the bronchial affection is very distinct, and the tongue is at the same time brown, glazed, dry, and varnished, there is an inconsistency in the case. If you treat the abdominal inflammation on ordinary principles, the patient would sink rapidly from the influence of copious and repeated blood-letting; while, if you treat the bronchial affection mildly, the abdominal affection will advance so rapidly as to destroy the patient's life. These cases are exceedingly difficult, and the best plan is to pursue a middle

course: to act on the bowels by calomel and cold-drawn castor oil, and apply leeches to the abdomen. A patient in the last month of pregnancy had typhus fever in the Fever Hospital, and was delivered in a few days. She still laboured under typhus fever, and serous inflammation came. Leeches were applied at a very early period, and she was saved.

You may have an open form of typhus fever, with an intensely hot and dry skin, and a quick, hard and contracted, or expanded, pulse; and after a certain period the case will put on all the characters of typhus fever. This may be promptly met by active treatment; and in these cases the patient has a fair chance for life if she be properly treated. I saw a case of typhus fever in the wife of a surgeon. It occurred after delivery, in an open form, and by copious and repeated blood-letting she did well.

Most frequently, however, typhus fever in the puerperal state, especially in low stifling apartments, rapidly puts on the characters of the advanced stages of typhus.

An interesting question may be asked: "Is puerperal fever contagious?" Suppose a case of common inflammation of the lungs, of the brain, or of the abdomen; would you suppose it could be propagated by contagion because it occurred in the puerperal state? I cannot, upon reflection, believe that this ever occurs. But if the affection arise from the contagion of small-pox, it will propagate small-pox; and so of measles and scarlet fever. Another very important question is, "Would you consider typhus fever, which arises from malaria or marsh effluvia, capable of being propagated by contagion because it occured in the puerperal state? I doubt exceedingly whether it is so in any stage. I once thought that typhus fever arose from human contagion; I have, however, lived to change my opinion. I cannot come to a certainty upon this question without more facts than I possess. If it be propagated by contagion it will be so in the puerperal state. Most practitioners of medicine are disposed to believe that all puerperal fevers propagate themselves by contagion; but this appears, after extensive observation, to be a very absurd proposition, and not borne out by facts. Why is an inflammatory fever occurring in the puerperal state to propagate itself by contagion, which it does not do under any other circumstances? and what is there so peculiar in the puerperal state as to render the fever then occurring so peculiar as to propagate itself by a poison which is formed during its progress? It is surprising

how the opinion of the contagiousness of typhus fever occurring in child-bed influences some men. Since my residence in London I attended a lying-in hospital, in which two medical men declined attending because they were so much afraid of propagating the contagion. I could not but admire their principle, but on investigation I had no reason to believe the affection was at all contagious; and I am satisfied that it arose from a local contamination of the air in those wards, from the odour of the stools, of the urine, of the breath, and of the lochial discharge. All the women whilst I attended the institution had fever in the puerperal state; but the question is, "Do individuals removed from such an atmosphere propagate such an affection?" It is just possible that a medical man might imbibe some taint in his clothes, and give it out in another atmosphere, but it is not probable. I have never heard of a well-authenticated case of small-pox, &c. being so propagated. In determining this very important question, we want facts, and not assumptions; and the facts require to be most accurately examined, because human testimony is liable to very serious errors, an instance of which I mentioned when speaking of typhus fever. If a single doubt remain on the mind of any man he is bound to act as if it certainly were contagious: yet I do not say that it is contagious. What has been called hospital puerperal fever I have seen under a highly inflammatory form. I cannot say that it has the character of typhus fever; and authors state that it is contagious.

The occasions, then, which most frequently lead to fever in the puerperal state are the common occasions of common inflammatory fever, but sometimes they are constitutional states of the atmosphere; and they are favoured in their operation by the peculiarities of the puerperal state.

PREDISPOSITION TO FEVER IN THE PUERPERAL STATE.

1. One of the most remarkable predisposing occasions is a plethoric condition of the system. There is, in consequence of the mother having two systems to support during gestation, a large increase of blood, and an alteration in the quality of the blood; for it has been correctly remarked that the blood drawn in the puerperal state generally exhibits the buffy coat, and is redder than natural. There is then an excessive generation of blood; the appetite continues good, and the bowels are slow, and, especially in the advanced stage, the pulse is more round and expanded than natural. You should therefore avoid, during, and

especially towards the close of, gestation, a too full or a too stimulating diet. I would recommend you to make a point of frequently visiting in a friendly way females whom you are engaged to attend as an accoucheur, during the last month of pregnancy, because simple fever often occurs then, and inflammation generally succeeds. The skin is hotter and the pulse quicker than natural, the tongue slightly furred, the eye bright, the face flushed, and the woman's rest at night is disturbed. When you observe these symptoms in the last month of pregnancy, particularly the disturbed sleep, so that the woman tosses to and fro at night, or gets up to cool herself, you should attend to them carefully. If you allow this state to go on, it generally happens that the fever, which was simple, goes into the inflammatory form, or at all events exists in a greater degree after delivery; and perhaps the patient may lose her life. Keep the patient at rest in a cool atmosphere, open the bowels gently, lessen the diet, and take off all stimulating drinks; and if this fail, moderate bleeding may be had recourse to.

2. In pregnancy there is an increase of the sensibility and irritability of the body. A pregnant woman is a perfect sensitive plant, alive to the slightest touch. Any slight circumstance, whether a stimulant or an irritant, which in a healthy condition perhaps would produce no sensible effect, now makes a most powerful impression, and increases the heart's action remarkably. It is therefore of importance to avoid stimulating the system before and during delivery; and you should be very cautious in regulating the diet, so as not to offend the stomach, either by the quantity or the quality of the food, and not to encourage the formation of too much blood. Sedentary females generally have a far higher degree of sensibility and irritability than those who take much exercise in the open air; hence I am confident that fever in the puerperal state is far more common in London than in the country; and the diet and habits of the persons who live in the country are more temperate than of those who live in London. Delicate females who shut themselves up during gestation, and who sit up late at night, are rendered extremely prone to fever after delivery. A practitioner in the country told me that he had never seen a case of fever after delivery; but he said that all his patients were constantly in the open air. Lycurgus, the lawgiver of ancient Sparta, compelled pregnant women by his institutions to pay attention to the diet, to early exercise, and to the hours of rest.

Tranquillity of the mind is very necessary in the puerperal state. Mental associations have amazing influence, for instance, alarm at hearing of other cases. A lady lost her sister in puerperal fever, and she brooded over the loss in the pregnant and puerperal state; fever came on after delivery, and she also died. Many a woman is worried into fever by the bad treatment of her husband. The anxiety of mind too that follows seduction is very frequently the occasion of fever after delivery. Surely no criminal is more base than the seducer; he is a cold-hearted, hypocritical, and cruel wretch; and considering the great extent to which the crime is carried on, it is surprising that the legislature of this country do not attend to it. After the great national loss which occurred in 1817, fever in the puerperal state was extremely common in women pregnant at that time. The sensibility and irritability of their bodies were increased by the recollection of the death of the Princess; and the state of the abdomen predisposing it to inflammation, fever came on, and thus many lives were lost. Sometimes the same circumstance occurs in certain epidemic states of the atmosphere. A medical man should endeavour to inspire his patients, especially those who are anxious, with confidence in his power of preventing what is called puerperal fever; and thus he will very often prevent an attack altogether. When it is prevalent in a town, or even in the country, he should, during the puerperal state, regulate his patients' diet, and afterward their exercise, and administer some placebo; and he should be exceedingly careful when the patient labours under any mental anxiety.

When copious hemorrhage occurs after delivery, a medical man should be very guarded as to the treatment: signs of fever may arise which runs a rapid course, and soon becomes ungovernable, like a wild horse without a bridle. After a copious internal hemorrhage it is important to watch the patient narrowly; to keep her cool, and strictly at rest in a recumbent position; to adopt a bland diet; to keep the bowels moderately open; and to allay irritation by a full opiate in the first instance.

3. The peculiar condition of the uterus and abdomen powerfully predisposes to inflammation. This should be taken into account before delivery. The uterus, uncommonly enlarged, presses on the abdominal viscera, disturbing their functions, distending the peritoneum, creating a tendency even then to disease in these parts, especially if the bowels be neglected. If the colon become overloaded the delivery is apt to be far more painful than otherwise, and the bladder is apt to be distended. The accumulation of fæces

frequently acts as an irritant, and induces fever. Hence you may infer the great importance of keeping the bowels gently open during gestation, so as to prevent the retention of scybala, by castor oil (which is one of the best aperients), by injections, by infusion of rhubarb with an alkali, or by some bitter with infusion of senna with manna and salts. Avoid harsh purgatives, for they increase the action of the mucous membranes, and predispose to inflammation.

Sometimes before delivery women cannot take exercise without feeling a downward dragging pain in the lower part of the belly; and when this occurs you may suspect that it probably arises from the navel string being twisted round the child's neck, by which the uterus is actually dragged. A friend of mine tells me that he has known this circumstance predispose a female to inflammation. In these cases great care should be taken after delivery.

If the labour be severe you should be exceedingly attentive for several days, because fever may arise. If there be external irritation be very careful; and the greatest care is also very necessary even if the labour be natural. Celsus observes, that after delivery the abdomen is to be considered as wounded to a great extent: the peritoneum has undergone great change, and it not only covers the abdominal muscles, but is reflected over the intestines, and inflammation is apt to be communicated from one part to another. One rule which above all others I advise you never to forget nor neglect is this: for the first five days after delivery visit every patient twice a day. You need not tell the patient that it is necessary, because it is desirable not to alarm her; but a woman might be attacked with fever in the evening, and from a delicacy of feeling towards the medical man might not send for him until after ten or twelve hours, the loss of which time might be fatal. I know several excellent men who have lost patients from not attending to this rule. Some months ago an intelligent friend of mine delivered a patient on a Saturday. On Sunday morning he visited her, and finding her going on very well he did not think it necessary to call again that day. At seven o'clock on Sunday evening she had a cold shivering fit, and at eight o'clock the hot stage was fully developed, with violent inflammation of the abdomen. It was thought to be of no importance, and they did not send for the medical man till ten o'clock on Monday morning, and then he was horrified by finding that all was over as far as treatment was concerned: the mischief was done; the inflammation had gone on very rapidly, and she died shortly after he

saw her. Had he called upon her on Sunday evening she would probably yet have been alive. This is not a solitary case; always, therefore, observe this rule, that if fever arise you may have an opportunity of arresting it at its onset.

THE REMOTE OCCASIONS OF FEVER IN THE PUERPERAL STATE

may be peculiar, and will be marked with peculiar effects, but generally they are common.

1. Depressing agents are amongst the most frequent. What we call cold is one of these; a low or variable temperature. It frequently chills the whole surface, because the body has previously been exhausted by pain; and this congestive stage is followed generally by excitement, and the abdomen being predisposed becomes inflamed. Any mental agitation, such as alarm, or fear, or any unpleasant intelligence, will sometimes produce this stage and its consequences. Sometimes indigestible food, for instance, solid food, taken within the first three or four hours after delivery, will have the same effect. I saw a lady who ate some indigestible food on the second day after her confinement; and such a shock was produced that the surface became pale and the strength prostrate; after which a hot stage was established. In some cases the patient never rallies, but dies in the congestive stage, and after death you find distinct proofs of congestion. These are the most formidable attacks of congestive fever that I know of, and the object is to bring on excitement if possible; after which you may have simple, but more commonly you have inflammatory, fever. Excitement generally takes place; and if it happen in two, three, four, or five days after delivery you have inflammation of the belly, because it is the predisposed part. Avoid then all this class of occasions.

2. Stimulants, either mental or material, may produce fever after delivery. I have seen several cases arising out of these sources. If a woman be allowed to remain in a hot apartment after delivery, and if she be allowed to converse much with her friends, or servants, the material and mental excitement may concur in producing fever. A lady was delivered in the evening, and was transported at the sight of her babe; the feeling was novel and exquisitely pleasurable to her. There is no feeling in the human breast so pure as that which is awakened on this occasion; there is no intercourse so mysterious as that which exists between the mother and her child; but it should be restrained if possible. The fire was too large, and the temperature of the room was too high; several

friends of the lady were conversing with her and admiring the child, and the excitement produced by these circumstances was followed by an attack of fever, accompanied by most violent inflammation, under which she died. Repose is the best preventive of fever in the puerperal state.

After delivery give the patient a dose of opium: not a small dose, not less than thirty-five or forty drops of the tincture. Avoid a chill. For the first four or five days allow but one person to visit the patient, and let that person be some confidential friend, who is to be admitted only once a day.

An intelligent friend of mine told me that two cases of fever in the puerperal state in his practice occurred after taking a cup of tea. I have seen strong tea, particularly green tea, excite fever in the puerperal state. From gin it occurs almost certainly. I saw a case which occurred from taking a large draught of porter immediately after delivery; it terminated fatally within twenty-four hours. Diffusible stimulants should be strictly prohibited.

3. Local irritants. One of the most common, perhaps, is the too repeated examinations made by young practitioners. They are disposed to be too officious in the practice of midwifery. They also commit another great error, which is a too hasty or too rough removal of the placenta, which often produces fever by operating on the whole nervous system, in consequence of the local irritation. A gentleman extensively engaged in the practice of midwifery had case after case occurring, which induced him to use a little violence in extracting the placenta; and he was surprised to find that all his patients had puerperal fever. He told me that after he was more cautious no future attack occurred in his practice. Bear in mind that nature is generally quite sufficient for all the purposes of delivery with very slight assistance. Beware of instruments, which require a great deal of caution, and delicacy, and dexterity, though they are sometimes necessary; and I think Dr. Davis has produced a great improvement in the forceps, which seem to me formed better than any others. I have seen him apply them with very great dexterity; in his hands they answer very well, and are perfectly safe: but I have seen so much mischief arising from the abuse of instruments, that I caution you against it. The use of instruments is hardly ever required except in cases of deformity. A man who is in the habit of carrying instruments in his pocket, should do as Obadiah did with Dr. Slop's instruments at the birth of Tristram Shandy, Esq.; he put them in a bag, and tied and sealed them so tight that the doctor should cut his

fingers before he could get at his instruments. It is remarkable how much the uterus will bear if the woman be well managed after delivery. A lady in the early months of pregnancy had inflammation of the os uteri, which was sealed up by a cartilaginous or fibro-ligamentous substance. All the pains of labour were insufficient to rupture this substance, and to produce an opening; and as the patient seemed to be sinking, it was agreed by three accoucheurs and myself, who were present, that an incision should be made into the part by the scalpel. This was done, and the child was extracted by instruments, yet the woman had not a single bad symptom, and recovered rapidly, from the diet and drinks and rest and temperature being properly regulated. In the north of England lives an old woman, of simple manners but of strong sense, who is courted by all persons of consequence, as she is very successful. She attends to the patient's diet very strictly, allowing nothing but gruel for the first five days after delivery, and she not only gives directions, but sees that they are carried into effect; and I recommend you to adopt the same practice. She endeavours to avoid all mental excitement, abstracts diffusible stimulants, regulates the temperature of the room, and the bed-clothing, and she has scarcely ever lost a patient in the puerperal state. The prevention of these affections if possible is most important; for though you get no credit by preventing fever, though you will, perhaps, make no noise in the world as one who has cured fever in the puerperal state, which is really one of the most formidable affections that ever attacks the human body; yet you will have self-approbation, which affords the purest gratification which we can enjoy, which it is at all times desirable to possess, and which is far preferable to the shouts of the crowd, or any other species of applause. It is like the blood which is in the heart,—it circulates around the body, visiting, refreshing, and sustaining all parts of the system, and yet its course is silent and unseen, as secret as if it had no existence.

I am in the habit of tracing things through their general consequences, and I am confident that purgatives, especially early given, have actually led to fever in the puerperal state; some give them immediately after delivery. My attention first was directed to the effects of purgatives, by hearing of some cases in the country in which they were used and appeared to produce the fever; and from my own observations I am equally inclined to condemn this practice, for I have certainly seen peritonitis induced by the early use of harsh purgatives. If the diet be spare, the temperature regulated, and the patient kept at rest, I advise you never to

give a purgative till the third day: to allow the bowels to rest until the milk begins to appear in the breasts, at which time some irritation generally supervenes. The best aperient then is, not castor oil, but an ounce or an ounce and half of infusion of senna, a drachm each of sulphate of magnesia and manna, three or four grains of magnesia, and a few drops of tincture of henbane: which may be repeated in four hours if necessary; and if this produce any irritation, allay it promptly by opium. If there be any accumulation of scybala in the colon after delivery, remove it by means of an injection, which should be properly administered, for otherwise it may cause irritation of the intestine, and fever may arise. If, therefore, you have no person upon whom you can depend for its proper administration, you should give the injection yourself. Nothing which affects the comfort, or health, or life of a fellow-creature is mean or degrading to you, for the principle dignifies whatever you do. From the bladder being distended, irritation may arise and lead to fever; therefore you should relieve the bladder, if necessary, by the introduction of the catheter. If any external irritation or inflammation arise, be very careful to allay it.

4. Interruptants occasionally give rise to fever in child-bed; for instance, a torpid condition of the liver. If there be any impediment to the circulation through the liver, the mesenteric vessels become unusually gorged, and the intestines are thus rendered very prone to inflammation.

5. Peculiar constitutions of the surrounding atmosphere sometimes act as predisposing, and sometimes as remote, occasions. In London fever occurs in child-bed in certain states of the atmosphere, and I have seldom seen one case at a time. I generally find that it prevails in other parts, which seems to show that there is something peculiar in the atmosphere. This condition, analogous to what exists when epidemic catarrh is generally prevalent, seems rather to predispose to, than to excite, fever; but whether the one or the other, by proper management you may prevent an attack, as I have explained in a former part of this lecture. Sometimes you will find it epidemic in whole countries; and it lately prevailed in Edinburgh. Sometimes it occurs in hospitals, sometimes in particular houses at particular times.

When fever arises in the puerperal state it may be congestive, for instance, when it arises from depressants; it is sometimes, though rarely, simple; generally it is inflammatory; and why? There are three reasons why persons should have inflammatory fever in the puerperal state.

1. The sensibility and irritability of the body are increased, which renders the excitement excessively high when fever does occur.

2. The plethoric condition exists in the system, which would be more general were it not for the milk and the lochial discharge; and where this discharge has been very sparing fever is apt to arise.

3. The condition of the pelvic and abdominal viscera is tender. The observation of Celsus is very practical and just, that a woman after delivery should be treated exactly as if she had undergone an operation. You must endeavour to avoid all those occasions which produce the effects of which we are speaking.

PATHOLOGY OF FEVER IN THE PUERPERAL STATE.

When fever does occur in the puerperal state, especially from common remote occasions, the inflammation mostly falls upon the proper peritoneum and upon its reflections over the bowels and the uterus. These are shown by dissection to be the seat of the acute inflammation which occurs in the first five days after delivery. If inflammation take place at a later period other parts also may be inflamed; for example, I have seen the brain at the same time inflamed, and in other cases the chest, because these other organs have been predisposed, and then sometimes there is no abdominal affection. I saw a case which occurred nine days after delivery, in which only the lungs were inflamed.

SYMPTOMS OF FEVER IN THE PUERPERAL STATE.

It comes on most frequently in the first five days; and the earlier it arises the more severe will be the fever, and the more intense the degree of inflammation.

When it arises from depressants, there is a cold stage; when from stimulants, the cold stage is generally absent; most frequently, however, it comes on with a shivering fit and all the marks of abdominal inflammation, the indications of which I have mentioned in a former lecture, and to which I shall allude in speaking of the diagnosis. Dr. Hamilton thinks nothing deserves the name of puerperal fever unless the lochial discharge is continued. If the opinions of any individual, however high his authority may be, are incorrect, they should be promptly and openly refuted; for the opinions of men are only valuable to us as far as they are true. Now this opinion of Dr. Hamilton's is excessively absurd and dangerous. I have seen a great deal of fever in the puerperal state, and am sure that sometimes the lochial discharge is

arrested, sometimes continues: but this is of no consequence as far as the fever is concerned. The secretion of milk is generally suppressed.

When the pulse becomes quick, and the skin hot with inflammation, you have two stages.

First, you have a skin hotter than natural, and a pulse quicker than natural, and either full and expanded, or small, hard, and contracted, like a cord; the patient has a flatulent stomach, with pain on pressure over the bowels. Watch the countenance of the patient when you make the pressure: when she winces, and has a hot skin with a quick pulse, you are sure there is abdominal inflammation, and you may determine by reference to the symptoms whether in the peritoneum, uterus, or bowels. This is not of much consequence, as the same treatment is required.

If the inflammation be very acute in this stage perhaps it runs its course in twelve or fourteen hours, sometimes in twenty-four hours, and sometimes it is even protracted to forty-eight hours, but seldom beyond the third day.

The second stage, or stage of collapse, is announced by the pulse becoming small, weak, and quick, ranging from one hundred and forty to one hundred and sixty in a minute; by the skin becoming cool even about the central parts of the body, but especially about the extremities, and becoming clammy; by the abdomen becoming round and distended like a barrel from the generation of gas in the intestines, and generally painless; by the patient having a weak and anxious expression of countenance, a hollowness about the eyes, and almost always a passive gulping in the stomach, and sometimes an excessive oppression of the chest; sometimes the matter vomited is like coffee grounds in appearance. It is astonishing how tranquil and serene the mind sometimes is in the last stage of simple abdominal inflammation. I attended a lady who believed herself to be dying, and she made a most solemn appeal to me to inform her whether her fears were correct or not. I remained silent: but she read my looks. She took a most affectionate leave of her husband, and gave him all the consolation she could; and thanked me and another physician for our attention. She gave the most precise directions about her affairs; until at length she placidly resigned herself to the slumbers of death:—she became dim in her sight, and her hearing became obscure; and then she was wrapt in that cloudy void which separates the dying person from her friends at the close of life. She died in a most calm state of mind. But the last illumination of the mind was bestowed

on those around her: it was that pure and parting gleam of intellect which beautifies and sanctifies the body in its fall to earth and ashes.

Generally patients in this state die very gradually, and the mind acts distinctly sometimes when the pulse has left the wrist. Bear this in mind lest you commit yourself by giving an erroneous opinion. In a former lecture I mentioned a case illustrative of this point.

MORBID ANATOMY OF FEVER IN THE PUERPERAL STATE.

The appearances after death are the common appearances of inflammation of the bowels, peritoneum, or uterus.

DIAGNOSIS OF FEVER IN THE PUERPERAL STATE.

If the proper peritoneum, and the uterus also, be inflamed, the abdomen is tense and hard all over and very tender, the skin is very hot, the face flushed, the breathing very much hurried, and the pulse excessively quick and expanded; the patient lies on her back with the legs drawn a little up. There is no vomiting in the first stage; but if the serous membrane of the bowels be affected at the same time, vomiting does occur at an early period, and you have, with universal tenderness of the belly, a much smaller pulse with greater oppression of the whole body. There is pain on pressure, either over the whole abdomen if the proper peritoneum be inflamed, or limited in extent if the uterus alone be affected.

You may mistake a distended bladder for inflammation of the uterus. The uterus will be found a smaller, very hard, circumscribed, distinct tumour above the pubes, easily distinguishable from the distended bladder, which is more diffused. If you have any doubt, however, introduce a catheter, and, having drawn off all the urine, if the tumour remain you are certain that it is the uterus; and if there be pain on pressure, with a quick pulse and a hot skin, that it is inflamed.

After-pains may be distinguished from inflammation of the uterus: in fact you could hardly confound them if you were attentive, because in after-pains the patient has distinct intervals of comparative ease, while in hysteritis the pain is constant, and is increased by motion or by pressure, by coughing, sighing, or stretching the legs. In after-pains, slow, gradual, firm, and steady pressure on the uterus will be borne, but in inflammation of the uterus steady pressure cannot be borne well. Look also at the position; when the peritoneum is inflamed the patient lies on her back with the legs drawn up, and is cautious in every movement

of the trunk; in after-pains the movements are easy and free. In after-pains you have never the hot skin and quick pulse to the same degree in which they attend inflammation of the uterus: fever is present in the one, and absent in the other case.

If you want to distinguish whether the inflammation of the uterus arises from common occasions, or from contagion, or from genuine typhus fever, you must recur to the conditions I mentioned as those on which the symptoms depended. In typhus fever you have an affection of the brain; a dusky face and lip; and you may almost always perceive a varnish like glue upon the tongue, or a glairy edge with varnish on the centre; and this never occurs from a common occasion.

In sub-acute inflammation, on the one hand, you have a small, soft, compressible pulse, and but little heat on the surface of the body; in acute inflammation, in addition, you have a hot skin, a moist tongue, disturbed respiration, a pulse full and expanded, or hard and contracted, and a bright eye.

TREATMENT OF FEVER IN THE PUERPERAL STATE.

Recollect that the inflammation runs a far more rapid course than any other inflammation except acute laryngitis, on account of the peculiar state of the abdomen, and the increased sensibility and irritability of the body: this rapidity of progress, with the great extent and high degree of intensity of the inflammation, must never be forgotten. If any man cannot make up his mind to treat inflammation of the abdomen, occurring from a common occasion, or from constitutional states of the atmosphere, with great promptitude and decision, he should have the candour to confess it to the patient's friends. If he have not the manliness and honesty to do this, but content himself with having recourse to subordinate remedies, he will violate that duty which he owes to the patient, and betray the most sacred and hallowed trust which one human being can confide to another. Nowhere is promptitude so successful, nowhere is indecision so mischievous. Your patient has claims upon you which you must be vile and brutal not to fulfil: she comes before you in a peculiar character, she comes before you as a mother, and can you, dare you, deny her sacred claims upon your talents? Surely if there be one object which can interest the head and heart of a medical practitioner more than another, it is a woman dying in childbed. The husband too is intimately concerned; no circumstances can grieve him so much as the death of his wife in the puerperal state, not only because

he becomes by the death of his wife perhaps the father of a motherless family, but he looks upon himself as almost the murderer of his wife; and can you, dare you, refuse to repay the confidence he reposes in you? Amidst such circumstances too the infant is apt to be neglected; and thus, if you fail to use decisively and promptly the talents which you have received from God for the use of your fellow-creatures, you may have the galling consideration in the evening of your life, that but for your misconduct the flower and the stem would not have withered at once. So frightfully rapid is the advance of the inflammation that in twelve or twenty-four hours all hope is lost—we cannot roll back the tide of time—we cannot recal the circumstances even of a few brief hours: it is your duty, therefore, to attack it early, to crush it as it were with a giant's grasp. If you treat the patient actively at the onset of the inflammation you will certainly be successful, and will be able to save nineteen cases out of twenty even in London; but if you do not act with promptitude and judgment when the patient is in this perilous condition—if you waste hour after hour of precious time, which give opportunities that never will recur, in subordinate things and in any secondary remedies, the life of your patient will fall a sacrifice to the disease. Now, inflammation is the cause, and bleeding and opium are the remedies;—inflammation, I mean, of the uterus, peritoneum, or bowels, or all of them, arising from common occasions or from constitutional states of the atmosphere.

My attention was strongly called to the necessity of some addition to blood-letting in the treatment of peritonitis five years ago. I attended a lady in a very acute attack of inflammation of the peritoneum; which seemed twice to be arrested, but excitement returned, and the affection was renewed, so as to defy all my efforts to subdue it. On reflection I came to the opinion that she died of the hemorrhagic reaction which succeeded each abstraction of blood. The heart's action fell, and the inflammation was perfectly removed by the copious evacuation of blood; therefore I thought that if some remedy could be found to prevent the hemorrhagic reaction, the treatment of the affection would be materially improved. On consideration I thought we had such a remedy in opium. Some time afterward I saw a lady who had peritonitis, for which she was bled in the morning with complete relief of the fever and inflammation, both of which returned in the evening, and were again removed by blood-letting in the evening. Still they returned at night, and on the following

morning required the evacuation of blood, which was carried to approaching syncope. Three grains of opium were then given. Three one-grain pills of opium were given after the first dose at intervals of an hour; the patient fell into a tranquil sleep, with a copious perspiration, and recovered perfectly.

Half measures do no good, but harm: they sink the strength without removing the disease. Absolute debility rightly managed is never dangerous. I attended five or six cases of typhus fever with one gentleman who knew my opinions and practice. I wished one patient to be bled to approaching syncope, and when he got half way he became afraid, and bound up the arm. I knew that if I alarmed the patient I should do mischief, and therefore I retired with the medical man into another room, and requested that he would unbind the arm, and let the blood flow to approaching syncope, or if he would not do that, I must have left the house, and left to him the responsibility of the case. He consented to do as I wished, and afterwards gave her a full opiate, and the patient recovered rapidly. I have met several medical men who have lost patients by temporizing. They bleed a patient to-day and to-morrow, and the next day they send for a physician; whereas you should do all you have to do in eight or ten hours, and then adopt mild treatment afterward. One medical man told me he had adopted my plan: but upon inquiry I found he had bled his patient twice in forty-eight hours, and was doubting whether he should abstract blood again. Now what he did in forty-eight, I should have done in eight hours. Called to such a case I recommend you to bleed the patient, without regarding the quantity of blood, to approaching syncope—until the pulse completely faulters, the face becomes pale, and the hands drop by the side; this is the effect you are to have in view. As soon as the patient recovers from the syncope, administer three grains of opium, made into a soft pill, or an hundred or an hundred and twenty drops of tincture of opium in a very little water. A small dose will be no more effectual in overcoming the tendency to reaction than a drop of rain falling on the wing of a waterfowl will in arresting its flight through the air. Let the apartment be quiet, and you may leave the patient two or three hours, not more than four hours. When you return, if you find any pain on pressure—(and you must not be deceived by the patient telling you that the pain is slight, or that she has no pain at all—watch the countenance when you make the pressure), adopt the same decisive means again. If pain and fever be present, why wait?

Bleed to approaching syncope; and when the patient has recovered, give her two grains of opium, with two or three grains of calomel, because opium locks up the secretions of the liver. If the pain and fever continue after the second bleeding, it should be followed at the end of two or three hours more by a similarly decisive bleeding, and by the administration of a grain and half of opium, and three grains of calomel. Never be satisfied until the pain and fever are quite gone. I seriously and solemnly assert that I have treated nineteen cases out of twenty successfully when they have come under my care from the onset; but I will not dwell longer upon the subject now, because I have adverted strongly to the advantages of this practice in a former lecture. I have generally succeeded in removing the disease by the second bleeding.

If any slight degree of inflammation prevail you may apply leeches.

If the bowels be full after delivery you may administer an injection of a pint or a pint and half of tepid water; and if inflammatory fever should occur, after the inflammation is subdued, open the bowels gently with mild aperients, such as castor oil; ensure perfect quietude and absolute rest, and regulate the diet very strictly. Recollect that aperients are but secondary measures in the treatment of these cases, and that the inflammation may be easily superinduced by harsh purgatives.

Sometimes after the inflammation is subdued you have what I call simple fever supervening. This gives way to a spare diet, absolute rest, regulated temperature, and daily mild aperient medicines. If these fail, digitalis has an excellent effect; and sometimes calomel may be required when the liver is affected.

Lastly, as a relapse is very easily induced, you should avoid the extremes of heat and cold, but select a medium temperature; avoid all anxiety as far as possible; avoid a confined state of the bowels, cramming, and all those occasions which are apt to produce a relapse.

I have, I trust, in these observations, made it clear to you that the treatment of fever in the puerperal state rests on common principles. In the time of the late Dr. William Hunter almost every woman died of fever in the puerperal state; and now, if it be the extreme congestive form of fever, or the masked form of typhus fever, which are always formidable, it will mostly be fatal. A woman now rarely dies of any other form of fever if she be properly treated. Dr. William Hunter is said to have lost thirty-

one patients out of thirty-two, and if you advert to the treatment which he adopted you cannot be surprised at his want of success. Some he bled ineffectually, and to some he gave cordials; but no plan was adopted which would remove the symptoms of inflammation. If we feel any degree of wonder that so eminent a man should have been so unsuccessful, we should remember that he lived in an age when the pathology and treatment of fever were but little understood: the fault was not his, but is to be referred to the time; and if we have advanced further—however great the change in our times may be—though a few men have assumed to themselves a proper independence of intellect and opinion and have in part dispelled the delusions and bigotry of past ages—it is only because we have partaken of the spirit of this enlightened era; and still I have no doubt that what were once considered as the lights of the medical world will be lost in the splendour of the improvements of future years—will be eclipsed by the brilliancy of the observations which will be made by the present generation.

Before concluding this lecture I wish to refer to some subjects connected with the mental and general management of all febrile affections; and inasmuch as the state of the patient's mind often has an influence upon disease, and requires to be watched with great attention, I shall call your attention to some qualifications which every medical man should possess, in order to practise successfully, and which are peculiarly necessary when he has occasion to treat acute affections.

1. What is called talent is an acquired thing. There seems to be an original difference between man and man, as to the facility of acquiring information. Talent, in medicine, is to be wholly acquired. A medical man should acquire as complete an acquaintance as possible with anatomy and physiology, which are the foundations of rational physic. Unless he knows the healthy structure and functions of the body, he cannot discover when disorders and diseases exist; because they form a contrast to the healthy state. A medical man should see patients constantly, and note down accurately all the symptoms which occur from time to time; and when a case terminates fatally, he should, if possible, find the cause of death, by examination of the body. The effects of remedies, too, should be attended to; and this includes the consideration of a knowledge of what those remedies are, the states of the body under which they are prescribed, and the effects which they produce.

2. Attention is very important; and it should be displayed especially on the first visit to a patient, for the first impression is generally most powerful, and will guide a medical man through the progress of a case. The first time, then, you visit a patient, satisfy yourself not only of the symptoms, but of the conditions upon which they depend. In all the acute forms of inflammation the life of the patient depends on the attention of the medical man; for instance, in the puerperal state, the fever allows but a short time for active measures, and this being suffered to pass over, the case will almost inevitably be fatal; but if the time be promptly seized, and its opportunities made use of, the patient will probably recover.

3. Temper is necessary; for if the temper be disturbed the judgment is overcast; and not only does it influence the practitioner's judgment, but it influences the patient. You should acquire the most perfect control of your temper with regard to the patient and to your medical brethren. For if, in a consultation between two practitioners, one loses the command of his temper, the other, who preserves the control over his temper, has an immense advantage, because passion clouds the judgment.

4. Integrity is necessary. No man ought to practise a profession so vitally important as that of physic unless he holds the lives of his fellow-creatures as among the most sacred things with which he can have to do. Harbour not the idea that it is a light profession; a man's heart and soul should be in it, or he should retire from it altogether; for if any man take up the practice of the profession of physic as a business of little importance, he will sacrifice his own reputation—he will forfeit an invaluable possession, which is his own peace of mind; and not only so, but he will sacrifice the health, the happiness, and the life of his unfortunate patients. He who studies the profession of physic properly will be repaid by the confidence and gratitude of those who are intimate with him, and by what is still more precious, though its value is too often depreciated till it is lost, namely, self-approbation.

In addition to the qualifications which a patient has a right to expect of you, there is one thing which you are to expect of him. In acute and sub-acute diseases a medical man often finds that his reputation and the life of his patient depend on strict obedience to his orders, and therefore it becomes of the utmost importance that they be not disregarded. If my orders were not

punctually obeyed in a case of acute or sub-acute disease, I would cease to attend the patient.

With regard to the general management of febrile affections I made some remarks in the lecture on common simple fever, which are applicable to the treatment of common inflammatory fever.

In all the infectious and contagious forms of disease be careful not to allow any curtains about the bed. They are very pernicious; because by accumulating the effluvia about the bed they aggravate the disease. In a cellar I have said that a more severe form of fever prevails than in a garret; and in typhus fever, scarlet fever, and measles, especially, you should lay the patient in an airy apartment. I saw a young woman in Holborn who was apparently dying of typhus fever, in a small room on the ground floor. Her tongue was quite black, and her skin was covered with black petechiæ. I ordered her to be carried up stairs, and gave her no medicine but lemon-juice. Contrary to my expectation she recovered, but I am confident she would not have lived twenty-four hours longer where I first saw her. I have repeatedly seen a great change produced in typhus fever by a change of apartment, especially to a room above the ground-floor, where the air travels more rapidly and you can consequently command a more perfect ventilation. I believe that petechiæ almost always arise in consequence of a bronchial affection, except what are called *petechiæ sine febre*. For the purpose of better ventilation, have a fire-place in the room, and make a little fire every second or third day. I recommend you as students never to sleep in a room where there is not a fire-place. The sleeping-rooms which are occupied by students in the Borough, are many of them very bad. I have seen many students who have been very ill from this circumstance, and whose health has been improved by ventilating their apartments. The air which we breathe is very influential on our health. A very common deficiency in ventilation in all classes arises from a species of false reasoning; things are often done because they have been done before, without reason. A room is shut up, and some aromatic is burnt in it which covers the offensive odour, and it is supposed that the air is purified; but the fact is, that one odour is stronger than the other, but still the impure air remains in the room. Never let this deceive you. Always ventilate the apartment daily if the patient has been confined more than three or four days.

It is gratifying to a patient to see comfort and cleanliness around him: aromatic waters, or flowers, are very beneficial; but if

flowers be used they should always be removed at night, because they then give out carbonic acid gas. A little vinegar and water is often very refreshing to wash the patient's head and face with. Sometimes lavender water, or rose water, or any thing of that kind may be used.

Quiet is of great importance. More patients recover in the Fever Hospital than in private practice, because they are kept very quiet there. The proportion of deaths is not more than from one to ten or twelve, and those who die are literally moribund in most cases when they are brought in. In private practice the anxiety of friends prompts them to do too much, and they are asking the patient every half hour in the day whether he feels himself better or worse, and whether he will not take any thing. Point out to the patient and to the friends the importance of keeping him quiet; only allow food to be given three times a day; take care also to administer the medicine at stated periods, and not too frequently in serious cases.

Attend to the manners of the nurse, that they are quiet, and attend to your own manners as an example to others. I have seldom seen an individual more still in a sick room than the late Dr. Baillie. He was quiet, and unpretending, and cool, and acquitted himself as became a philosopher. I do not much admire a polished man, I like to see neither a dandy nor a courtier, but this is a mere matter of taste. No man can be popular and successful as a physician unless he possesses kindness of manner, which is necessary in attendance on patients under febrile diseases, when the mind is so prostrate and yet so sensible.

Our hospitals are planned without reference to the human mind. Twenty or thirty persons are placed in the same ward; a patient is admitted who is incessantly moaning, and disturbs those who are near him, so that their affections are aggravated by the noise. I have seen cases in the Fever Hospital lost from this circumstance. If I had to plan a hospital I would have several different apartments, and not a moan in any room where there was any other patient beside him who uttered it.

When a medical man visits a patient he should not betray any carelessness of action or of manner. In many cases a single unguarded word, or mysterious look, would destroy the patient. In cases of fever always say something consolatory to the patient before you leave him. The practitioner should be very punctual with regard to his visits; if he promise to see the patient at a certain hour and should not come, the patient will be uneasy till he

arrives. Let me advise you not to get into a habit of disregarding your word, for your word should make every circumstance, although trifling intrinsically considered, of the highest importance; and if you neglect it you may waste the time of your fellow-practitioners, and time is not only "the stuff that life is made of," but it is the medical man's estate. I know two physicians in extensive practice who met in the street, and one of them said, I cannot think how you manage to be so punctual to your appointments as you are: "The reason is," replied the other, "that I never waste my time in talking to old women as you do." I have often seen a medical man, who seems always in a hurry, stop every now and then, and talk over all the chit-chat of the day for half an hour.

Lastly, the diet is very important. While the skin continues hotter than natural, and the pulse quicker than natural, the diet may be a little barley-water, or thin gruel, or thin arrow-root, with a little lemon juice, three times a day. You might as well attempt to build a house in flames as to sustain the strength in fever. Food keeps up a very great irritation upon the heart, &c. When the mucous membrane of the stomach or intestines is involved, food will do no good.

In the last stage of fever, when the strength gives way, the patient sometimes requires support or stimulus, as I pointed out in speaking of remittent fever under certain circumstances; here a little wine may be used, and the strength afterwards supported by light broths. If the advanced stage of fever be without inflammation, if you avoid all demands upon the strength, the patient will generally struggle through; and if fever be combined with inflammation, you will do harm; the only exception is in bronchial inflammation. The body, it should be recollected, is weaker than natural under fever, in conjunction with some disorder and disease.

These, with what I have before referred to, are the leading points with respect to the general management.

TREATMENT OF CONVALESCENCE.

I have seen more patients die from relapses of fever than from original attacks. These relapses generally arise from the inattention of the patient, or from the ignorance of the practitioner. I am sure that in the earlier part of my practice, I lost many patients in the state of convalescence from sheer ignorance; and, perhaps, man learns as much, nay, derives more advantage, from his errors than from his successes in life. If a man lose a patient, it is a sacred duty, which is incumbent upon him to perform, seriously to

reflect upon it, and candidly to inquire of himself whether he did any thing which might have been omitted, or omitted any thing which ought to have been done. He should strictly examine himself, that he may in future avoid the same error under similar circumstances.

Do not commit the common error of supposing that convalescence is recovery. Convalescence is a state in which all the powers of life are weaker than natural. There is general weakness, with great predisposition to affection in some part. This is especially the case in the subsidence of all inflammatory attacks. A convalescent should be treated as an invalid.

There are seven occasions which produce relapses.

1. Errors in diet. These may be either in the kind or quantity of the food. For the first two or three days of convalescence allow only a little increase in the quantity of gruel; then you may substitute broth for two or three days; and then you may allow a small quantity of animal food gradually. Moderation in the quantity, and simplicity in the quality, of the food are necessary, and form the golden rule of diet. Old women think they may give a convalescent any thing he wishes for, but this is a great error; there is a difference between the degree of hunger and the power of digestion which convalescents have. I saw a patient in a state of convalescence, she ate a piece of pork-sausage, and died in a few hours.

2. The administration of tonics and stimulants. Tonics are believed to be those remedies which convey strength; I do not believe that there is such a thing as a tonic in nature. I know that certain medicines produce a flow of bile, or evacuate the bowels, or decompose acidity, thus acting indirectly as tonics; but that any medicines convey strength, is a fallacy taken up and handed from age to age without examination. The only tonics are diffusible stimulants. A patient is alarmed at the relation of ill news, but if you give him a glass of wine, or of brandy, you increase the heart's action, and give strength. If you give strength by means of stimuli in fever, you renew or increase the fever, and this under very unfavourable circumstances. The best tonic I know of is a mild laxative daily.

3. A low or variable temperature. A low temperature will chill the surface, and should therefore be avoided: a high temperature will stimulate, and should also be avoided. If you chill the surface of the body, a hot stage succeeds. This especially occurs if the patient be allowed to get up. This leads me to observe that—

4. Another occasion of relapse is over fatigue. A good rule when the patient is allowed to sit up long, is, if the patient sit up and the pulse continue not more than sixty or seventy, he may continue up some time, but if the pulse rise to a hundred and twenty, a hundred and thirty, or a hundred and forty, be careful not to allow the patient to sit up too long, or a relapse of fever will be produced.

5. Mental depression, or excitement. Bad news, or good news, will produce fever; either by a chill followed by reaction, or by exciting the heart's action and thus directly producing fever.

6. A very common occasion is overloaded bowels. Empty the colon every day by those medicines which act on the large intestines, as two or three grains of socotrine aloes with the same quantity of extract of gentian, or castor oil, or infusion of senna with sulphate of magnesia. If the stools show a deficiency of bile, give a mild alterative, as a grain of calomel or two grains of blue pill, every or every other night, to emulge the liver.

7. The state of the skin is of great consequence, especially in fever arising from peculiar occasions. In small-pox, scarlet fever, or measles, when the patient is convalescent, soak the skin in a hot bath for a considerable time, then soap it all over, wash the soap off, dry the skin thoroughly, and lay the patient between clean sheets.

If you prevent these occasions you will conduct the patient through the state of convalescence to that of confirmed strength. A medical man is apt to be thrown off his guard in cases of convalescence, but the patient is to be considered as in the same state as when an invalid, and if a relapse follow, it will occur under still more unfavourable circumstances than before.

Sometimes a patient is lost from chronic diseases arising out of convalescence from acute and sub-acute diseases. I have seen a very great number of cases of this kind. A person, for instance, after having had inflammation of the liver, has still a slight degree of inflammation; he goes about careless of his diet and drinks, and a chronic affection goes on in the liver of that patient to complete disorganization.

LECTURE XLII.

PREDISPOSING AND REMOTE OCCASIONS OF CHRONIC DISORDER AND DISEASE.

It is next required that I should enter upon the consideration of the second class of affections: namely, chronic diseases.

I have adopted the familiar arrangement of diseases into two classes, because it is more natural than the complicated system which is met with in books, and because it affords me a better opportunity than any other arrangement of illustrating my principles. It has probably prevailed from time immemorial, is now commonly adopted in medical conversation, and affords a lecturer an opportunity of being more precise than he could be with an artificial system, such as Cullen and others have adopted.

The treatment of acute and sub-acute diseases, (for I add the term sub-acute to express the same affection of different duration,) is very simple,—a few agents are brought to bear on them, generally very successfully. The reason of this simplicity depends on the simplicity of their pathology. A man whose prescriptions are varied and complicated shows that he has no precise notions of the conditions on which the symptoms depend, and, consequently, that his practice is empirical. The main principles of pathology in the first class of diseases are ultimate facts, deduced from more particular facts. These ultimate facts are congestive fever, simple fever, and inflammatory fever. General principles show the kind of fever; particular principles show its seat, degree, and duration, and all the circumstances which materially modify these affections, and which are of great use in a remedial point of view. A man selects a few remedies; prescribes them in reference to the modifying circumstances of each case; notes their effects under various states; and thus acquires great precision in the application of them.

The treatment of disease is not only medical, but it is general; and the general treatment of diseases is important, and is composed of many particulars: temperature, diet, and so forth. The medical and general treatment should be combined together, for in them is an efficacy which neither of them separately possesses.

A physician frequently visits a patient, writes a prescription, and leaves him as if nothing more were to be done; but before he leaves any patient under acute, sub-acute, or chronic disease, he should lay down precise directions as to the management. We must not look for success in the efficacy of single measures, but in that of a judicious combination of measures. If I were asked whether, in the first class of diseases, the medical treatment or general management is most efficacious, I should say the medical treatment, and the general management stands next. Still, however, the general treatment is of vast importance, for a neglect of it would destroy the efficacy of the medical treatment. Medicine is only efficacious, at least it is only highly efficacious, in acute and sub-acute diseases. If I wished to shake a person's confidence and make him a complete sceptic, I would take him to acute and sub-acute diseases in the advanced stages, of which he would see almost every case fatal.

There are some men who are sceptics in physic, and who pretend that it has little or no efficacy; this opinion they think they confirm by an appeal to great authorities. Thus we are told that in acute and sub-acute diseases in the early stages, Heberden had no confidence in medicine. There are several reasons why such men as Heberden have little confidence in physic. In the first place, they take a superficial view of the subject; and in the second place, they are called in late. No man can read the works of Heberden without perceiving he was a very superficial observer of nature. He was one of those who referred almost exclusively to symptoms, without any reference to conditions; and his opinions, however popular he might have been in his day, are of little use. When a man becomes a very popular physician he soon ceases to be useful; he is called in generally in the advanced stages, when the patient is moribund, just to give a sanction to the measures which have been previously adopted. This is the common routine of popular physicians in London. Heberden was a very popular physician in London; but his literary productions will soon be forgotten—they will be swept away by time, as wrecks from the shore by a spring tide.

We must then appeal to nature, and I confidently assert that no man can make such an appeal, and say that the efficacy of physic is not exceedingly great.

Another reason why some men say they have no confidence in physic is, that they do not like to blame themselves. There is a pride of opinion among medical men especially; there is a pride

even in the fallacies taken up in early life—they attribute death to the violence of the disease, to the unfavourableness of the surrounding circumstances, and so on; but they never arrive at the true cause, because they never suspect their own ignorance, which very often is the cause of failure. To see the efficacy of physic you have only to turn to the results in typhus fever, in scarlet fever, in all inflammatory affections in their various states. But the efficacy of physic is not confined to this. Convalescence is an important state; it is apt to be followed by a renewal of acute or sub-acute diseases, or by insidious attacks of chronic diseases, to the prevention of which I have lately directed your attention. If I were asked whether the medical or general treatment is of the greatest efficacy in chronic affections, I should say that the general management is of most importance, and next the medical treatment. Both, however, require to be taken together; their efficacy consists in a combination of measures directed to one end. There may be, or there ought to be, nearly or quite as much simplicity in the pathology of chronic, as in that of acute and sub-acute diseases. A popular physician, especially if he be an adherent to the nosology of Cullen, gives a name to affections which he sees the symptoms of; he adopts vague terms, and talks of Dyspepsia, Indigestion, Disorder of the Digestive Organs, General Irritation, &c. He prescribes for names as if they were things; and hence his prescriptions are complicated and vague. Nothing struck me so much at the commencement of my medical study as the number of medicines which were used. I first studied the structure of the body in the dissecting room: and then I went into a shop, and found that the number of medicines which had created in me so much surprise, were not only used, but used in combination. This I thought must be the result either of profound learning or of extreme ignorance. I then went to a large hospital, where I determined to observe and think for myself; and I was led to believe that the number of medicines, and the complicated prescriptions of them, were the result of the most profound ignorance—of ignorance covered with a semblance of learning. Nosologists use vague names as a covering to their ignorance; and thus they pretend to know something of many circumstances, of which, in reality, they know nothing.

A physician should appeal to the common sense and not to the ignorance of his patient. If he have a direct reason to give why he uses certain remedies, there is no reason why he should not explain it. If a patient ask of you the nature of his disease, it

is your bounden duty to point it out, and the effects which you expect from the remedies. I would not employ a physician unless he explained his opinions thus. It may be that a man, although he had paid attention to diseases, has no reason to give; and then let him confess his ignorance, and not be ashamed of it, for he can at least abstain from doing mischief. Why should he deceive his patient, when his want of honesty may destroy his patient's comfort and even his life? I would rather not practise physic at all than practise it as a system of deception. Patients have a right to know, and ought to know, these things; and if a physician attempt to cover his ignorance with the flimsy texture of sounding names, common sense will detect it; and it is humiliating to think that any man can so far descend from the dignity of his profession as to affect information which he does not possess. Candour is absolutely necessary in order that a physician should practise successfully.

But let us proceed now to consider those affections to which we apply the epithet chronic; and I hope I shall be able to show you that in chronic affections, as in those which are acute, there are precise principles of pathology, and that some of these belong to both classes in common.

In considering this subject I shall adopt the arrangement which I have before explained of predisposition, disorder, and disease.

Chronic disorders, like acute disorders, admit of a radical cure; but chronic diseases admit of only a palliative mode of treatment generally.

Between acute and chronic affections there are many circumstances of close connexion and resemblance. For example, in each a state of simple excitement is common, congestion is common, and inflammation is still more common. Inflammation in fact makes up most cases of chronic disease; it is inflammation, modified only by the duration, producing the same effects as acute inflammation, and requiring to be treated on the same principles.

Acute or sub-acute inflammation is frequently becoming chronic, in consequence of our treatment or of a spontaneous change; and chronic inflammation often becomes acute or sub-acute: thus the three forms pass and repass into each other.

But the doctrines of congestion, simple excitement, and inflammation, would not explain all the pathology of chronic diseases; for some of them depend on certain depraved states of the solids not referrible to either of these conditions, as depositions in the

substance of the lungs, dilatation of the vessels or the heart, &c. There occur also certain changes in the quality of the blood, as in chlorosis and in scurvy, and in the secretions from the blood, as in stone in the kidney or bladder, &c. This shows that we have been too hasty in excluding one part of pathology—namely, the humoral pathology.

If you be called to a case of chronic affection, you will generally find that there is some faulty organ in which either the disorder or disease commenced; and the duty of the medical practitioner is to discover the organ and the kind of fault, and the object of treatment is to remove that fault.

The investigation of chronic affections requires to be preceded by physiological anatomy; physiology and anatomy being taken in conjunction to explain the natural structure and healthy functions of the various parts.

The changes which mark disorders of the chronic as well as those of the acute and sub-acute kind are referrible to three heads, namely—

1. Changes on the external surface of the body.
2. Uneasy sensations externally or internally.
3. Impeded functions.

By cultivating pathological anatomy we arrive at a condition or conditions which explain the symptoms as well in chronic as in acute or sub-acute diseases; and to this condition or these conditions I would apply the term pathological cause or causes of disorder or disease.

THE PREDISPOSING AND EXCITING OCCASIONS OF CHRONIC DISORDER AND DISEASE

may be classed under three heads;—

1. Inherent occasions.
2. External occasions.
3. Errors of diet and other ingesta.

I. INHERENT OCCASIONS.

The first kind of these are—

1. Hereditary peculiarities, which may be either corporeal or mental; and whether the one or the other they frequently predispose to, and even excite, disease.

1st. Peculiarities of formation, and the tendency to particular affections, are transmitted in families from one generation to another; so that in one family you will see a peculiar form of the

head prevail, predisposing to inflammation of the brain, madness, epilepsy, palsy, apoplexy, and so forth : in a second family you will find a remarkable formation of the chest, leading to consumption : in a third family you will find a peculiarity of structure predisposing to disorders and diseases of the heart: and in a fourth an innate tendency to disorder or disease of the stomach, liver, and bowels. These hereditary corporeal peculiarities are sometimes connected with peculiar conditions of the nervous system, but more frequently of the capillary portion of the sanguiferous system. Some persons are generally torpid, not being easily excitable; others are generally irritable, easily prone to receive impressions. The peculiarity may consist in a comparative state of strength or weakness; thus there may be great muscular power combined with internal weakness, or internal strength with extreme muscular weakness. This is an interesting subject of inquiry; because from seeing the parts which are predisposed you may avoid the exciting agents, and prevent the threatened disorder or disease in other members of the same family. When apoplexy or consumption, for example, are threatened, you may ward them off; so that this knowledge is of vast importance in a preventive point of view.

2nd. Independently of these, there are certain constitutions of mind which are very peculiar. In one family you will find but little irritability or sensibility prevails; so that each member may be compared to a lake sunk between two hills—the wind and the storm may pass over it and not ruffle its surface. In another family you will find a high degree of irritability and sensibility prevails; so that one of its members may be compared to a delicate tree planted on some mountain top—blown about by every breath of wind—bent before the slightest breeze, the rude blast tears it up by the roots, and it withers!

In speaking of the predisposition to acute and sub-acute affections, I mentioned certain ætal and sexual peculiarities which give a tendency to chronic affections also, but I need not here repeat the observations which I then made upon the subject; and the next kind of inherent occasions to which I shall advert are—

2. Acquired peculiarities, which also are either corporeal or mental.

1st. Previous attacks, especially those of an inflammatory nature, leave an acquired peculiarity or predisposition to disease; so that all the diseases which beset us from infancy to advanced life lay the foundation of other affections. The air we breathe, the

climate we live in, the occupation we follow, and many other circumstances, predispose us to disorder and disease by tending to affect particular organs.

2nd. Education has great influence upon the body by producing peculiar states of mind; and, independently of this, the situation in which a person is placed has great influence upon the body, predisposing it to various affections. No physician can practise in London without seeing the truth of this. In London most men have to make hard struggles; most men in fact come to London to have "golden hopes" either ruined or realized; and how often do we see a high degree of excitement produced by success, and that deep and melancholy depression which is too apt to be consequent upon failure! It is important then in chronic affections to ascertain the state of the patient's mind, for anxiety is far more prevalent in London than in the country. In the country you see persons lounging about with their hands in their breeches' pockets, and with any thing but anxiety pictured in their countenances. In London, on the contrary, you see every body in a bustle, walking along the streets as quickly as possible. Each seems of vast importance to others as well as to himself; and the mind acts upon the body and produces excitement, with the exception of the cases of persons who follow sedentary occupations. Sedentary habits produce considerable effects both on the mind and body; they render the body torpid and depress the mind.

All the mental and bodily agents operate chiefly by exciting or depressing, and thus predisposing to some disease or other.

II. EXTERNAL OCCASIONS

are made up of the surrounding agents of nature, which are constantly operating upon us, and which are either common or peculiar: and whether common or peculiar they may be arranged, according to their effects, under four heads: namely, 1. Depressants; 2. Stimulants; 3. Irritants; 4. Interruptants.

III. ERRORS OF DIET AND OTHER INGESTA.

These, as occasions of chronic affections, relate in a great measure to our diet and drinks, which are influential by their quantity and by their quality. In civilized life the stomach keeps a daily festival: it would be well that it should have its fasts. It would be well that the unruly subject, which is called the human stomach, should be restrained and subjected to a reasonable degree of discipline.

When the stomach is disordered by the quantity or the quality of the food, it operates on the human body in five different ways.

1. The first operation is direct on the stomach itself or intestines.

An indigestible meal, for instance, produces irritation felt about the stomach. If this irritation be in a low degree, it is called simple excitement: if in a high degree, it amounts to inflammation, which is often chronic, and is then very insidious: and these two circumstances or conditions constitute a great number of chronic affections. The food may not be digested in the stomach, but it may pass into the intestines, fermenting and corrupting there, and setting up an extensive irritation.

2. Errors of this kind invariably operate, indirectly, by what may be called particular sympathy.

Sympathy is a connexion pre-existing between one part and another, so that if an impression be made upon one part it is communicated to the other. Thus, in one individual, disorder of the stomach will produce a depressed state of the heart; in a second it will produce an excited state of the heart; in a third it will produce pain in the head; in a fourth pain in the chest; and in a fifth pain in some external part of the body. This I call particular sympathy. I do not know why disorder of the stomach should produce these various consequences in different individuals: all that I know is the plain fact, which can be readily proved. This connexion between the stomach and other parts appears to be attended with some change in the quantity, quality, or distribution, of the nervous fluid; the first effect of which is an injection of the capillary vessels, and from which in the next place arises inflammation. In speaking of gout, I remarked that it was only a small part of an extensive class of diseases referrible to particular sympathy.

3. Errors of diet and other ingesta operate by general sympathy.

You find individuals with disordered stomach in whom you can detect no other affected part: the pulse is not quick, there is no local pain, and there is only a furred tongue with indications of disorder about the stomach, and at length the characteristics of chronic inflammation of the stomach or other organs connected with digestion are produced.

4. These errors operate by the production of plethora, or an excessive quantity of blood.

Surrounded by the comforts of life, some individuals eat and drink largely; their bowels become torpid; they take little exercise; and hence they generate too much blood. The heart and vascular system are greatly over-distended, whence a vessel bursts in the head and the individual dies of apoplexy; or a vessel is ruptured about the lungs or bronchial linings, as in hæmoptöe; or you have a gush of blood from the mesentery or from the lining of the bowels. Sometimes you have only an over-distended state of the vessels; hence organic affections of the heart and large vessels, combined with a plethoric state of the system: the heart being not only over-distended by the increased quantity of blood, but having its force and frequency of action also increased.

5. Errors of diet and drinks operate by changing the constitution of the blood itself.

In scurvy, and in chlorosis, which is an affection depending upon disorder of the stomach, liver, and bowels, the blood is changed in its constitution.

Disorder of the stomach, liver, and bowels, you will tell me, is a vague term; and so it is: hereafter I will explain more fully what I mean by it. I may just state now that what I mean is, that the lining of the stomach is in a state of irritation, that the liver is torpid and irregular in the distribution of bile, and that the colon is torpid or irregular in the discharge of fæces. This is the most common form of disorder in these parts. When this state exists, digestion is impaired, and pure blood is not made.

Sometimes the blood itself is changed in its constitution, and sometimes the secretions from the blood are changed.

If you draw blood in chlorosis, you will find that there is a deficiency of red particles. Here you have a distinct proof of a change in the blood.

Examples of a change in the secretions from the blood you have in stone in the kidney or in the bladder.

Trace these cases backward, and you will find they were invariably preceded by proofs of disorder of the stomach, liver, and bowels.

You see a child ruddy and healthy, living much in the open air in the country, and simply fed. This child is brought to London; it is living in a close atmosphere; its diet and clothing are neglected; it becomes pale and emaciated, and dies. On examination the lungs are found tuberculated, and the pleura in the same state. Circumstances which tend to break up the general strength very frequently either develope or occasion tubercles.

Independently of errors of diet and drinks, chronic affections are produced by other ingesta; by one especially, namely, physic. I believe that all practitioners who prescribe according to nosological principles often do very serious mischief. I have already pointed out the injury done by drastic purgatives and by antimonials when the stomach and intestines are irritable. The mischief of such poisons as these occurs again and again in chronic diseases. They often produce not only purging but inflammation of the lining membrane of the stomach and intestines. And these effects are produced not only by drastic purgatives but by tonics, stomachics, and antispasmodics, so called. I should like to know why either of these medicines is directed. I want to know the agent which produces the affection and the exact condition produced, and being precise in particulars, I can be precise in the treatment of the affection. If a man cannot tell me why he prescribes either of these remedies, I presume that he does not understand the pathological condition on which the symptoms for which he prescribes depend. He may prescribe tonics for wind or for dyspepsia; he may prescribe according to systems which refer only to symptoms. The cause of this is his confused or inaccurate notion of the pathology, and the consequence is that he frequently does his patient great injury.

Physic, in this country, is as fatal as the plague in Asia: its operation is often less speedy, but its baneful and fatal effects are no less certain. Many cases, if traced backward, would be found to have consisted in their first stages merely of disorder, which was converted into disease by remedies employed internally, without a reference to the conditions on which the symptoms depended; to the state of the patient; and to the effects to be expected from the remedies employed. Nothing is more fatal than the idea that chronic diseases depend on mere weakness.

The circumstances which lead to acute, sub-acute, and chronic diseases then, are closely connected together; we have a world within us and a world without us. Our life seems to be a state of continual warfare between impressions made from without, and impressions made from within. Agents of several and different kinds are constantly operating upon us in various ways, and producing effects on those who are predisposed either hereditarily or acquiredly, which lead to disorder and disease—to disorder, if there be merely error in the movements of the solids, or in the distribution of the fluids; to disease, if there be organic change of structure.

In noticing particular chronic affections, I shall proceed as in acute and sub-acute diseases. Beginning with the brain and the nervous system, I shall consider the effects and influence of diseases of these parts upon other organs. I shall pass on then to affections of the throat and air-passages, lungs, pleura, heart, &c. In going over each part, I shall consider its particular and general bearing in the production of disorder and disease; and I hope thus to arrive at as much simplicity in the pathology of chronic, as in the pathology of acute and sub-acute, diseases. At any rate it will be far more precise than those absurd terms and practices which are used, taught, and sanctioned, in most of the schools and colleges of this country. And while on the one hand I fear no consequences to myself, on the other hand I have no hostile feeling towards any man, nor shall I say any thing which can fairly be considered as offensive to any individual whatever. I am here for the purpose of explaining to you the modern state of medicine; and freely and independently I will state and uphold what I know to be true; though it be against those principles and practices which I believe to be fallacious, albeit supported by high authority.

LECTURE XLIII.

PHYSIOLOGY OF THE NERVOUS SYSTEM.

BEFORE entering upon the consideration of the chronic affections of the brain, it may be as well to premise a few brief remarks respecting the physiology of the nervous system.

In considering diseases it is convenient to contemplate the various systems as differently or similarly affected; but in the human body, both physiologically and pathologically considered, we should not adhere to the consideration of one system only, but should also take into account the connexion of that system with other systems. The human body is made up, as it were, of different pieces of machinery, animated by a peculiar principle; each part performs separate functions, all which contribute to one end.

The nervous system is made up of the dura mater, the tunica arachnoides, and the pia mater; the cerebrum, or large brain; the cerebellum, or little brain; the medulla oblongata, and the me-

dulla spinalis, with their continuous inverting membranes; the nervous plexuses and ganglia.

The cerebrum and cerebellum seem to be larger in man relatively to the size of the body, while the medulla oblongata seems to be larger in the lower animals than in man.

The medulla spinalis exists in man and in many other animals in conjunction with the cerebrum, the cerebellum, and the medulla oblongata; but the medulla spinalis has been found also in fœtuses, in which the cerebrum, cerebellum, and medulla oblongata have been wanting. Therefore it seems to be a part separate from them, which is proved further by animals of the lower orders having a spinal cord without a brain.

The nervous plexuses and ganglia seem in a degree independent of the brain, as in some of the lower animals they are wanting; though in the more perfectly organized beings, they are existing conjointly.

The brain itself is made up of two different substances, arranged in convolutions; one grey, called the cineritious or cortical substance; the other white, called the medullary substance. All parts of the nervous system are made up of similar parts. The white part seems to originate from the grey matter, which is always found at the origin of nerves and in the brain itself. The white substance is fibrous, as the substance of the nerves is fibrous. The brain seems to consist of a series of ganglia made up of the grey and white substances. This subject is very complicated, and it appears that we know but little about the functions of these parts.

The cerebrum, cerebellum, medulla oblongata, medulla spinalis, nerves, plexuses, and ganglia, all seem to perform different functions, and yet they all correspond to each other.

According to Flourens, a French physiologist, it will be found that in slicing the cerebrum the intellect is affected, while in slicing the cerebellum the motion will be affected; from which we may fairly draw the inference that the cerebrum is most connected with intellect, and the cerebellum with motion.

Impressibility is the capacity of conducting and receiving impressions.

The cerebrum and cerebellum are not impressible, for they may be sliced and pricked without contraction being produced; but they are the seat of sensibility. Perception and volition reside in the sensible, but not in the impressible parts.

The parts possessing impressibility are the nerves, the spinal

cord, medulla oblongata, and corpora quadragemina. If a section be made between the corpora quadragemina and the origin of the nerves, no impression is felt below it.

When the cerebrum is diseased, the intellectual and sensitive faculties are disturbed. When the cerebral lobes are removed, the intellectual faculties are impaired, and sight and hearing are destroyed. When the cerebral lobe is taken away on one side, the animal no longer sees on the opposite side, although the iris preserves its mobility. When both lobes are taken away, the animal loses both sight and hearing. This is not the case with the cerebellum.

If the thalami nervorum opticorum be cut, the iris is not paralyzed: if the superior corpora quadragemina be pricked, it contracts violently; if they be removed, it is dilated.

In the cerebrum all the sensations take a distinct form, and leave durable traces and recollections.

The destruction of certain parts produces peculiar effects: for example, if the thalami nervorum opticorum be disorganized, the upper extremities are paralyzed; and when the corpora striata are disorganized, the lower limbs are paralyzed. It appears also from Rostan's dissections, that the thalami nervorum opticorum are connected with the motion of the upper, and the corpora striata with that of the lower extremities.

A case has lately been published by two French authors, in which both the upper and lower extremities were affected, and both the optic thalami and the corpora striata were affected: this seems, as far as it goes, to prove Rostan's doctrine; but one of the great errors of philosophising is drawing general conclusions from a few particular cases. By observing the different effects of different lesions, or rather the different effects of similar lesions of different parts of the brain, we might arrive at a tolerably correct account of its physiology.

The structure of the cerebellum is laminated. It is the regulator of motion: the loss of mobility is in proportion to the loss of the cerebellum. When it is cut away in slices the removal of the first portions only produces a little weakness and a want of harmony of motion; the removal of the next slices produces a general agitation: the animal continues to see and hear, but its motions are inconsistent and hasty. The faculties of feeling, walking, &c., are thus lost by degrees; so that when the cerebellum is entirely removed, the faculty of exciting regular movements is entirely

lost, although the senses of sight and hearing, and the will to act, remain; the animal loses only the power of contracting the voluntary muscles. Thus if the cerebrum be taken away, it falls into a state of sleep; if the cerebellum be removed, it is in a state like intoxication.

The integrity of the cerebellum seems necessary for progressive motion. Every severe wound of the cerebellum totally prevents progression, and most commonly, on the contrary, developes the action of retrogression. A duck from which a considerable portion of the cerebellum had been removed, could only swim backwards, and made no progressive motion for eight days.

The kind of matter removed is of considerable importance. If the cineritious substance be removed, the motion is not affected; if the medullary, it is destroyed.

The medulla oblongata is connected with intellect, sensibility, and motion; pressure upon it renders an animal not only stupid, but torpid.

The brain and nervous system are evidently connected with four things:—

1. Intellect, or mind.
2. Sensation.
3. Irritability.
4. Secretion.

1. A blow received on the head frequently disturbs the intellect.

I have known a person's character completely changed by a blow upon the head: a portion of the brain being depressed, or inflammation being excited in the membranes of the brain, or in the brain itself. Extravasation on the surface of the brain, or in its substance, will disturb the intellect, as will also irregular circulation; the quantity of blood circulating in it being too great or too deficient. In all probability the brain is the organ through which the intellect is operating.

2. That the brain is connected with sensation is evident; for if a clot of blood be effused into the substance of the brain, sensation is destroyed, though the nerves still remain entire.

3. The brain and nerves are also connected with motion. If the posterior root of a nerve arising from the medulla spinalis be cut through, the sensation of the part which that nerve supplies is destroyed; but if the anterior root be cut through, the motion of the part is destroyed; and the properties of the anterior and

posterior portions of the cord correspond to those of the nervous roots, which shows a connexion not only with sensation, but with motion. That this connexion existed was observed by Galen and by Haller. Mr. Charles Bell and M. Magendie have adverted more clearly to the subject with respect to the spinal marrow.

The nerves seem to convey impressions to the brain, and something from the brain.

A nerve being cut through or tied, the parts which it supplies below the ligature or division are deprived of sensation. We see also, in reference to motion, that the nerves seem to convey something from the brain. A nerve being cut through or tied, there is no motion in the muscle which it supplies. The person wills to move the part, but cannot accomplish it. Irritability, therefore, or the power of contraction, is connected with the nervous system.

If a nerve be pricked, contraction of the muscles which it supplies takes place, and pain in the course of the nerve occurs.

If two ligatures be placed on a portion of a nerve, and the included portion be pricked, there is no contraction nor pain. Irritability, then, is not a simple principle, but an ultimate result.

The nerves consist of numerous fibres which, at their origin or termination, are connected with cineritious matter. They possess impressibility but not sensibility.

Each particular nerve performs a particular function, of which you have an example in the nerves of the face. There are two nerves ramifying on the face; the portio dura, and branches of the fifth pair. The branches of the portio dura are connected with respiration, and the branches of the fifth pair with mastication. We draw in the breath by the aid of the portio dura; and if that nerve be cut through, this power is lost, so far as it is influenced by this nerve, yet the power of mastication will remain. Again, if the branches of the fifth pair were divided, the power of mastication would be lost.

Dr. Parry has noticed this in his Elements of Pathology; but Mr. Charles Bell, whose observations you will find in the Philosophical Transactions, has shown it more distinctly than any other physiologist.

The same nerves may perform different functions. According to Legallois, if the eighth pair of nerves be divided at their origin, respiration is arrested; but if they be divided in the neck, digestion is stopped.

4. More familiar examples of the connexion between the

brain, and nervous system, and the secretions, you have in sapid bodies in the mouth, which immediately increase the secretion of saliva, and in an onion applied near the eyes, by which the flow of tears is considerably augmented.

There seem, then, to be two kinds of sensibility in the human body; one, in which it exists with sensation; and the other in which it is without sensation. Sensation is not the same thing as sensibility, but sensation is the result of sensibility or impressibility; which is the capacity of receiving and conducting sensations.

All the parts of the body which receive nerves from the medulla oblongata and medulla spinalis, have not only sensibility, but sensation.

All the parts supplied with nerves which originate from the thoracic and abdominal plexuses, and ganglia, are not in their healthy state possessed of sensation. Thus we are unconscious of the contractions of the heart, and we are unconscious also of the peristaltic motion of the intestines. Impressions of these actions are not conveyed to the brain.

Why sensation should in the one case exist and not in the other, we cannot explain; and all that we can say about it is, that it is a law impressed on matter by the Deity.

With regard to plexuses and ganglia: a plexus is a net-work of nerves connected together, and a ganglion is the swelling of a nerve.

Probably plexuses perform the office of concentrating power, producing a union of force in some degree. Ganglia probably perform the office of little brains; they belong to the nerves which are connected with the sensibility. In all probability a careful examination of, and accurate experiments on, the lower animals, would throw some further light upon the physiology of the nervous system, for at present it must be acknowledged that we know but little about it.

It would seem that the nerves convey some subtle sort of fluid—and many reasons contribute to this opinion.

Motion and rest affect the nervous system remarkably. When the body is fatigued by motion the mind also is fatigued, sensation is diminished, irritability is diminished, and the secretions are diminished: and they may be again renewed by rest; which seems as if the stock of something were exhausted by motion, which is again replenished by rest, in which state it is not carried off so fast as it is produced.

The nervous system is closely connected with the vascular system. You may affect the nervous sensibility of a part by the application of cold, or by the application of heat; and in each case you have a corresponding change of circulation.

The probability is that the capillary system maintains a relation between its calibre and the red particles of the blood. When the animal heat is greatly diminished or augmented, this relation seems to be lost. We cannot account for the influence of the nervous system, except by reference to galvanism or electricity. There seems to be a certain kind and quantity of blood necessary to support the functions of the nervous system. If there be a deficiency of circulation in the brain, the functions of the nervous system are affected. If the kind of blood be changed, the functions of the nervous system are also changed. This is especially the case with black blood. Thus when a sticky varnish is adhering to the tongue and bronchia, preventing the decarbonization of the blood as it passes through the lungs, all the functions are affected. This seems to show that whatever the nervous fluid may be, it is probably an elaboration from arterial blood coming in contact with nervous matter. This does not seem to be a property or a principle, but the result of some complicated process. The words "property" and "principle" are frequently used in physiological works. On this subject I agree in opinion with Dr. Paley, whose observations on the subject I may be excused for introducing here, and whose work on Natural Theology I recommend you to read, as it contains some very valuable matter and many interesting physiological remarks.

"The philosopher beholds with astonishment the production of things around him. Unconscious particles of matter take their stations and severally range themselves in an order, so as to become collectively plants or animals, that is, organized bodies, with parts bearing strict and evident relation to one another and to the utility of the whole: and it should seem that these particles could not move in any other way than as they do; for they testify not the smallest sign of choice or liberty or discretion. There may be particular intelligent beings guiding these motions in each case: or they may be the result of trains of mechanical dispositions, fixed beforehand by an intelligent appointment and kept in action by a power at the centre. But in either case there must be an intelligence. The minds of most men are fond of what they call a 'principle,' and of the appearance of simplicity in accounting for phenomena. Yet this

principle, this simplicity, resides merely in the name; which name, after all, comprises, perhaps, under it, a diversified, multifarious, or progressive operation, distinguishable into parts. The power in organized bodies, of producing bodies like themselves, is one of these principles. Give a philosopher this and he can get on. But he does not reflect what this mode of production, this principle (if such he choose to call it), requires; how much it presupposes; what an apparatus of instruments, some of which are strictly mechanical, is necessary to its success; what a train it includes of operations and changes, one succeeding to another, one relating to another, one ministering to another; all advancing by intermediate, and frequently by sensible, steps to their ultimate result! Yet, because the whole of this complicated action is wrapped up in a single term generation, we are to set it down as an elementary principle, and to suppose that when we have resolved the things which we see into this principle, we have sufficiently accounted for their origin, without the necessity of a designing, intelligent, Creator. The truth is, generation is not a principle but a process. We might as well call the casting of metals a principle; we might, so far as appears to me, as well call spinning and weaving principles; and then referring the texture of cloths, the fabric of muslins and calicoes, the patterns of diapers and damasks, to these, as principles, pretend to dispense with intention, thought, and contrivance, on the part of the artist; or to dispense, indeed, with the necessity of any artist at all, either in the manufacturing of the article, or in the fabrication of the machinery by which the manufacture is carried on."

LECTURE XLIV.

PREDISPOSING AND EXCITING OCCASIONS OF CHRONIC DISORDER AND DISEASE OF THE NERVOUS SYSTEM.

I SHALL now pass on to the consideration of the predisposing and exciting occasions of chronic affections of the nervous system; and I am led again to speak of them because they are very important in a preventive point of view.

PREDISPOSITION TO CHRONIC AFFECTIONS OF THE NERVOUS SYSTEM.

One of the most powerful predisposing occasions of affections of the nervous system is--

1. Hereditary peculiarity; and perhaps no part is so often predisposed hereditarily as the nervous system.

In some individuals it is apparent in the head or neck; in others, probably, it is evinced in minutiæ of structure not yet discovered, and which are to be sought for in the cultivation of human comparative anatomy, which is far too much neglected in the present day. Some individuals are strikingly marked by nature; for instance, by a short neck, a large head, and a full cheek, which evidently show a tendency to affections of the nervous system. Some have a peculiar turgidity of the vessels of the face, and especially of the forehead; this is particularly shown on taking a stimulant; it is sometimes seen after the fortieth year.

It frequently happens that in the same families, some of the members have small heads, pale faces, and spare forms. These are subject to disorder of the stomach, liver, and bowels; and these affections of the abdominal viscera are connected with the head, and these persons are liable to sick head-ache, &c.

Hence the size or shape of the head alone is not to be depended upon.

Individuals who have wry-mouths when they laugh, are predisposed to affections of the brain. Dr. Paley observes that "it is the most difficult thing that can be, to get a wig made even; yet how seldom is the face awry!"

When individuals wink one eyelid more than the other, it often betokens predisposition to head affections.

Those who have a catch in the face, especially when excited: a slight catch in the cheek, with a tremulous motion about the eyes when looking intently upon an object, are also predisposed to affections of the head; and so are almost all persons who stammer.

Almost all persons who squint; almost all persons who have that peculiarity of temper, manner, and habit which it is impossible to explain distinctly by words, but which cannot escape observation, are prone to affections of the head.

Persons who are very torpid, or very excitable, as those of a nervous temperament, have a similar predisposition. There are some persons who are calm and even indifferent under ordinary circumstances, who display an amazing energy both of body and mind when excited to action. This was the case with Lord Nelson, King

William the Third, &c. Some apparently torpid persons become tremulously agitated on slight occasions.

Almost all persons are predisposed to affections of the head who have remarkably speculative manners. Such a man, for example, if he were a physician, would not be satisfied with careful observation and sober experience, but he would always have some gimcrack or crotchet or other in his head; he would scheme, and attempt, perhaps, to cure all diseases by one remedy. If he were a merchant, he would not be content with sober perseverance to plod on in the sure road to wealth; but he would speculate, and probably ruin himself. There are some men who will speculate from day to day, and who never seem to be made wiser by experience, nor to be altered by education; they never become reasonable, practical men.

All individuals, as far as I have observed, who are subject to extremely violent fits of passion, are generally predisposed to affections of the brain.

Children who are either more dull, or who are more bright in intellect than others, are predisposed to affections of the head. It is important to remember this; for if such children have not their diet and their clothing properly regulated, and if they be allowed to sit up late at night, or if they have not a sufficient quantity of sleep, they are almost sure to have some disease of the head. We see four or five children in one family dying, one after another, of what is called hydrocephalus internus, from neglecting the prevention of the obvious predisposing and exciting occasions.

When this tendency is developed it assumes different characters; and this probably depends upon the affection being placed in different parts. It is also modified by age. Thus in the young, chorea and epilepsy prevail; in the middle-aged, head-aches, chronic inflammation, mania, &c.; and in the decline of life, apoplexy and palsy are more common. Some predisposition to affections of the nervous system are acquired.

2. This predisposition is also acquired. Previous attacks of disease of the head predispose to a recurrence of them.

If an individual have an attack of inflammation of the brain, he is liable to head-ache from errors in diet or drink or from mental excitement. Probably this is connected with some change or peculiarity in the capillary vessels. Probably hereditary predisposition often consists merely in some peculiarity of the capillary vessels, which seems to be evidenced in cases of what is called strumous ophthalmia.

Blows on the head often predispose very powerfully to affections of the brain. I advise you never to neglect a slight blow on the head, for again and again I have seen fatal effects occurring from them. John Hunter remarks, that slight blows on the head often produce injury to the membranes of the brain or to the brain itself. A slight blow having been received upon the head, as soon as the person has recovered from the shock, abstract a little blood, open the bowels, and adopt a spare diet.

A full diet very often predisposes to affections of the head, and bad diet sometimes has the same effect; but if any one thing predispose to these affections more than another (with the exception, perhaps, of mental excitement) it is the use of ardent spirits or wine or strong ale. Alkohol increases the heart's action and affects the brain specifically: hence affections of the head are much more prevalent among those who drink largely, than among those who are abstemious; and a large majority of the persons liable to apoplexy, or palsy, are more or less addicted to drinking spirits.

Certain medicines give a tendency to head affections, such as narcotics and tonics; especially those which are given under the form of, or which contain, tinctures.

The stomach, when disordered or diseased, predisposes powerfully to affections of the head. It is connected very often with those earthy depositions in the blood-vessels within the head, which produce apoplectic attacks in the later periods of life.

REMOTE OCCASIONS OF CHRONIC AFFECTIONS OF THE NERVOUS SYSTEM.

1. Repletion, or plethora, is a common occasion, and, as I have already observed, it may be either local or general. If there be general repletion, and the brain be predisposed either hereditarily, or acquiredly, it will probably become the seat of some disorder or disease. Sometimes disease arises from deficient circulation in the brain; sometimes from mental anxiety; but still more frequently from wine, or ardent spirits. You see children's heads affected either from plethora, or from deficient circulation. You see, for instance, a child pale and emaciated, threatened with an affection of the head. There is some connexion between the stomach, liver, bowels, and head, by which the brain is gorged with blood, while in other parts of the body there is a deficiency. This frequently arises from the use of tea, particularly from children drinking tea at an early period of life. It very often arises among children from want of sleep and from keeping late hours. These affections of the

head in children often go on for many weeks very insidiously, and at length wind up either by an attack of inflammation, or by an attack of congestion of the brain.

After the fortieth year affections of the head are very common both in men and in women: they are very apt to arise from—

2. High mental excitement, as in gamblers.

I knew a man who was a gambler, by which his mind was excited and his brain gorged with blood, after which a collapse occurred during which he had instinctive desire for stimulants. In the same way politicians become affected, and lawyers. But they seldom occur in mathematicians, who are generally men of tranquil mind. Literary men are liable to an affection of the head if they be excited, for the stimulus produces a local plethora about the brain; during deep thinking there is an accumulation of heat and blood about the head: the face is flushed, and the eyes are brighter than natural.

3. But I repeat, that no occasion is so common as the use of ardent spirits, wine, and strong fermented liquors; and I would almost say that nine cases out of ten might be traced to the use of one or other of them. If the mind be disturbed, and the individual take to drinking, the consequence is that chronic inflammation of the brain arises.

4. Excess of venery is often connected with affections of the head; the excitement is so great that fatal effects may arise from the high stimulus gorging the brain with blood. In some instances a blood-vessel has burst during the orgasm. Attila, the celebrated king of the Huns, is said to have died in the act from the rupture of a blood-vessel.

5. The solitary vice of onanism produces affections of the head.

I know a boy seventeen or eighteen years old, who went at the age of ten to a school where this vice was very common, and he became the subject of it; and from being a fine active and clever boy, he became a perfect idiot. His eyes became prominent; his pupils dilated; he had pains in his head, and down the course of the spine; loss of memory; a fatuous expression of the countenance; a tottering gait, &c. I think I should know a person in the street who is addicted to this vice in excess, by merely walking behind him, from his peculiar gait.

6. Mercury is a very common occasion, producing affections of the brain and nervous system; partly on the principles of excitement, and partly as operating on the blood.

Very few water-gilders can follow their business after the fortieth

year. They are constantly exposed to the fumes of quicksilver, or to quicksilver acted upon by nitric acid; they become first nervous, then tremulous, and then paralytic. How frequently this occurs; and yet nobody has troubled himself to protect these persons from such effects, as might easily be done.

Scarpa remarks, that individuals who have had secondary symptoms are very liable to affections of the arteries. This arose from the abuse of mercury, from the courses of it which we now know to be unnecessary.

Large and repeated doses of mercury given in chronic diseases when the skin is cool, often predispose to, and even excite, serious affections of the head. When the heat on the surface of the body is high and the skin is dry, you may give mercury boldly, if the case indicate the necessity of its use; but when the circulation is tranquil and the skin cool, it has entirely different effects, and requires great care in its administration.

7. Powerful exercise often induces affections of the head.

I knew a poor man who was constantly running from one part of the town to another, and neglected his meals. He was always in exercise, and his head being predisposed, was very seriously affected. And thus many affections of the brain, heart, or lungs, may often be found to have arisen from the action of the heart being increased, and the heat collecting about the head.

8. Sometimes depressing agents will produce affections of the head; for instance, cold.

Old individuals and children have little power of retaining the animal heat, and have affections of the head from their great liability to be chilled. Old persons when chilled often fall down suddenly in a state of apoplexy.

9. Sedentary persons are liable to affections of the head, because the heart's action is disturbed, especially if they live in a bad atmosphere, and hang down the head: the blood is interrupted in its return from the head, and a chronic congestion is the consequence. This is common with disordered skin in pale and emaciated subjects.

10. The stomach, liver, and bowels, operate upon the head.

There seems to be, as I have before observed, some direct consent between the stomach, liver, bowels, and head; so that in one person the stomach shall be the seat of disorder; in another, the liver; and in a third, the bowels; yet each of these individuals shall complain of the head. This is not easily to be accounted for. In children subject to epilepsy any meat which disturbs the stomach brings on an attack.

In some cases the pulse is entirely tranquil; therefore we cannot account for it by a reference to irregularity of the circulation. I call it, therefore, particular sympathy. We might speculate about it in various ways, but we should not be likely to arrive at the truth.

In many cases, however, of these affections of the stomach, liver, and bowels, it is externally evident that there is an unequal distribution of the animal heat. Heat is a component part of the galvanic fluid, and if the nervous fluid be the same thing, heat may be connected with it. Many persons are sensible of an unequal quantity of heat in particular parts, as at the end of the nose, about the eyes, &c. This is followed by injection of the capillary vessels.

Affections of the bowels may also operate in another way; by an overloaded colon.

Two intelligent friends of mine have made dissections, in which they have found the abdominal aorta contracted, from an overloaded colon, and the thoracic portion distended.

Those persons who are subject to an overloaded colon, frequently complain of coldness of the feet, of pain in the head, of pain in the chest, and of palpitation of the heart. I think an overloaded colon is often connected with organic affections of the heart, and especially with affections about the head.

All the occasions, except the overloaded colon, which I have at present mentioned are either depressants, stimulants, or irritants; but sometimes—

11. Interruptants bring on affections of the head.

Any thing too tight about the neck will produce this effect. Baron Larrey mentions that the men in a certain regiment frequently fell down apoplectic from wearing too tight a cravat, for the purpose of making the face look full. I have seen a handkerchief worn too tight about the neck produce similar effects. Tumours about the neck, enlargements of the thyroid gland, &c. have a similar effect.

Frequently in females the respiration, and consequently the heart's action and the head, are affected by wearing too tight stays; so that organic affections of the head, lungs, or heart, are produced. Persons labouring under chronic bronchitis, or any affection which impedes the circulation through the lungs, are exceedingly liable to affections of the head, from the return of the blood from the brain being impeded. Sometimes the left ventricle propels the blood towards the head in larger quantity than natural.

12. Blows sometimes very insidiously produce affections of the brain by compressing a portion of bone upon it.

Sometimes affections of the head arise from inflammation of the membranes of the brain below the part where the blow was received, and sometimes from inflammation of the brain itself.

A literary gentleman, when a young man, had a fall from his horse. He was the subject of what is called dyspepsia, and having consulted physicians in London, in Scotland, and on the continent, he had received no relief. His mind was disordered; he became hypochondriac, and then insane. At this time he fell under the care of the physician who attended him after the fall from his horse, and he thought the insanity arose from that accident. The patient died of apoplexy between forty and fifty years of age. On examination after death the dura mater, the pia mater, and the tunica arachnoides, were inflamed, and the inflammation commenced opposite the place where the external injury was received.

Frequently the cause of what is called dyspepsia is seated in the head. Digestion, as I shall afterwards show you, is a very complicated process, all or any part of which may be deranged.

Another very insidious affection is chronic inflammation seated in the internal ear. After badly managed cases of scarlet fever, or after severe cases under the best management, or after small-pox in strumous subjects, from having slight inflammation of the throat, which extends along the Eustachian tube, the internal ear is affected. The inflammation of the throat subsides, and the pain of the ear subsides except occasionally. At length pus is discharged from the ear: this goes on insidiously till there is pain in the head, torpor, and the person dies. On *post-mortem* examination you will find that ulceration has gone on in the internal ear, affecting the petrous portion of the temporal bone, the membranes of the brain, and the brain itself. In these cases a strict regulation of the diet will be of great importance. If the ulceration penetrate the petrous portion of the temporal bone, as far as I have observed, the case is invariably fatal.

Most affections of the brain may be referred to three pathological conditions, namely—

1. Simple turgescence; either venous, or arterial, or both.

2. Chronic inflammation; of the substance of the brain itself, or of the membranes of the brain. The first leads to a softening of the brain, so that it becomes pulpy like custard pudding, winding up with an attack resembling acute inflammation of the brain; or

to apoplexy; or to palsy; very often, like chronic inflammation of the membranes, producing and ending in effusion between the membranes or into the ventricles of the brain.

3. Primary organic diseases; and these are tumours, vesicles, or ossifications.

LECTURE XLV.

WARNINGS, SYMPTOMS, AND TREATMENT, OF APOPLEXY.

I SHALL next consider certain chronic affections of the head, especially what is commonly called apoplexy; beginning with a few general remarks on the tendency to that and similar affections, which is often very distinctly marked.

PREMONITORY SYMPTOMS OF APOPLEXY.

Apoplexy may be regarded sometimes as an acute or sub-acute, sometimes as a chronic, disease; but most frequently you find it chronic in its commencement and acute in its close: for you will find on tracing the history backwards that, in a large majority of cases, apoplexy is preceded either by turgescence or by chronic inflammation of the vessels of the head.

Apoplexy is more common in adults, especially after the age of forty, than in children; still, however, according to my observation, it is by no means uncommon in children; for in reality many cases of convulsions in childhood are instances of apoplexy.

With regard to adults, three subjects are liable to apoplexy.

In the first place adults who are pale and spare; not in a state of general, but of local, plethora: having an over-fulness of blood about the head, and a deficiency of blood in the other parts of the body.

The two other subjects labour under general plethora. In the one the fibre is lax; in the other the fibre is firm.

Apoplexy in general is preceded by distinct warnings; and these circumstances are like the gathering clouds threatening the thunder storm, which at length suddenly and unexpectedly comes on.

These premonitory indications are attended either by tur-

gescence or by chronic inflammation. I pointed out to you formerly that there are different states of excitement. Sometimes what I call general simple excitement occurs; a state in which the circulation is more rapid than natural, and the heat higher than natural in every part of the body, though in no part are there evidences of inflammation. There is a chronic state of the same kind.

In some persons there is what the Greeks called '$\pi\lambda\eta\theta\acute{\omega}\rho\alpha$,' or what we call repletion; and in this state, if the brain be predisposed, the mischief will fall there: if the lungs be predisposed, the mischief will fall there, in the form of hæmoptöe: in others it will fall on the liver or on the lining membrane of the bowels, if those parts be predisposed.

Another class of persons have distinct signs of over-fulness of the head alone; there is an irregularity of circulation, a sort of *error loci*. Turgescence, then, may be said to be either general, or local. This state of chronic plethora, whether it be local or general, passes by insensible degrees into inflammation, though it is different from inflammation, not being attended by those effects of inflammation which I formerly pointed out as characteristic of that state. It is a different state, yet so verging towards inflammation as often to pass into it. This plethora is exceedingly common, and is most frequently maintained by errors of diet and drink, and often by errors of drink alone, especially by the use of ardent spirits in those persons who are predisposed. Ardent spirits, I have already stated, operate specifically upon the brain, and this any person may observe in himself. You often see drunkards who are spare and have bad appetites, constantly complaining of the head till they are carried off by apoplexy.

I have already pointed out the necessity of carrying to the bedside of a patient your anatomical and physiological knowledge. Three things are to be attended to; remembering to refer the symptoms to the condition or conditions upon which they depend:—

1. Certain changes on the body externally.
2. Uneasy sensations.
3. Impeded functions.

To these three heads all the symptoms may be referred.

1. With regard to the external changes which indicate an approach or threatening of apoplexy, the most remarkable is a change of countenance; and if you make the attempt you will find that it is difficult to analyze this change. Sometimes it consists in an eye

brighter and more glassy than natural; sometimes in an eye duller than natural; sometimes in a countenance more dejected, sometimes in a countenance more animated, than natural; sometimes it consists in a pupil more contracted than natural, sometimes in a pupil more dilated than natural, or diverted from the centre; sometimes it consists in a dropping of the upper eyelids; sometimes of a slight depression of the upper lid and a slight dropping of the lower lid, generally of one eye alone; sometimes of a squint; more generally it consists in a bloated expression in the face and a staring prominent eye. I meet many such individuals as I walk in the street, especially such as eat and drink largely. If they be of firm fibre they may go on for many years, but if they are of lax fibre the attack will generally come on sooner. Sometimes one spot on the face is paler than the rest, and this is generally attended by a feeling of stiffness or numbness in the part. Sometimes there is a quivering motion of the muscles of the face.

2. The uneasy sensations are also very various. Sometimes the patient complains of fulness within the head; sometimes of tightness; sometimes of throbbing; sometimes of a creeping sensation within the head; very often of aching in the head; often of pain, which in some cases is remittent; in other cases is continued, but when continued is liable to exacerbation; in some cases is mild; in others intermediate; in others extreme. Sometimes the face undergoes a change at the same time: women are very liable to it at that period of life which they term "the change."

I was consulted by a lady, whom I desired to be very careful with regard to her diet and to the state of her bowels, and if she had any pain in the head, not to neglect it,—not to suffer it to go on for a single day. She had pain in her head, which she allowed to go on day after day, disregarding my advice. In two or three weeks she came to town, and I saw her. She was a lady of considerable mental power. When in health, she looked, spoke, and moved, rapidly, and all her actions indicated great activity of mind and body: but now the contrast was most remarkable. She had a downcast look; one eyelid dropped down lower than the other; there was a preternatural expression of melancholy in her countenance; her mode of speech was drawling and slow; and her motions were slow. She was bled, purged, and starved, and all the symptoms rapidly subsided. In a few days, or weeks, at most, an attack of apoplexy would probably have come on.

A very common and most alarming precursor of apoplexy is

giddiness. Giddiness sometimes occurs in incipient fever, and gives way to absolute rest, purging, and a spare diet. Symptoms of affections of the head often occur in incipient fever, and if the patient persist in going about in that state, he will, in many cases, rapidly die of apoplexy: he will have, perhaps, congestion of the brain, and die within twenty-four hours.

I saw a gentleman labouring under incipient fever: he was a friend of one of my pupils, who requested me to see him. He continued to go about in this state for several days: he suddenly fell in a fit of apoplexy, and died within twenty-four hours.

Sometimes there are wandering pains in the extremities, sometimes there is a confused feeling of the head, sometimes a sense of numbness or weight in the head, preceding apoplexy. Sometimes it is preceded by stiffness in the face or neck; sometimes by general uneasiness, as extreme irritability; sometimes by tic douloureux.

3. In inquiring into the impeded functions, you should contrast the healthy functions with the morbid symptoms. Preceding an attack of apoplexy, the patient often goes about with an expression of profound melancholy, complaining of obscure pains in the head. There is generally oppression and a diminution of activity. Sometimes the person has an activity of mind foreign to his natural character. Sometimes both these states occur in the same individual; first a depression of the intellect, then an excited state of it. Sometimes apoplexy is preceded by a congestive state, sometimes by an excitive state: you have a cold skin and a slow pulse in the beginning, and then a skin warmer than natural, with a rapid circulation and an excited state of the nervous system.

I knew a gentleman in whom these states were very apparent. At first he was pale, dejected in spirits, hanging down his head; he had wandering pains in different parts of the body, and seldom spoke to any body: after this he became bustling and active. He was naturally a proud, cold, reserved man; now he talked rapidly, and spoke to every body. He first had an attack of apoplexy, which was removed, and then he became the subject of madness. For some time he had complained of his head and of obscure pain in the region of the liver, and his stomach was remarkably disturbed.

In many primary affections of the head, the stomach is so much disturbed in the first instance as to appear to be the primary disease; but by tracing the case backward you will find out whether the brain is the source of the affection.

All the cases of impotency which I have seen have been attended by marked symptoms of affection of the brain or of the spinal cord. An opposite state also is connected with these diseases: sometimes there is a lasciviousness of mind and a physical power of gratifying it. This is more frequent in men than in women: I have seen it especially in old men. This state threatens persons with apoplexy.

Among the changes in the mind, the most remarkable refers to the memory: it is the function which generally first suffers, if such an expression may be applied to the mind. Very often there is extreme nervousness 'Nervous' and 'bilious' are terms very frequently made use of, without distinct meanings being attached to them.

I saw a lady who had long been distinctly threatened with apoplexy. A medical man advised stimulants, and treated her case under the idea that it was nervous weakness. She became exceedingly nervous, so as to be alarmed at the opening of a door. A state of excitement had for some time existed, and then came threatenings of apoplexy: confusion in the head; dimness of sight; and at length bright-coloured objects seemed to pass before her eyes like a kaleidoscope; her pulse also was oppressed. The attack was warded off by bleeding.

Be not then misled by names, but endeavour to investigate the symptoms, and to refer them to the conditions on which they depend.

Another change sometimes takes place—a change with regard to sleep. Sometimes there is an excess of sleep, not only at night but in the day. The person sleeps longer than natural; or he sleeps sounder than natural; or snorts, moans, dreams, and tosses himself about in the bed; or falls asleep in the day at times when he was accustomed to be awake. Sometimes the patient is preternaturally watchful, and passes night after night without any, or with but little, sleep; and that sleep, if any, is disturbed.

Other changes occur in the external senses, as in the sight; for instance, intolerance of light, double vision, bright sparks, &c. What is called weakness of sight is often the forerunner of apoplexy: it passes on sometimes till it ultimately terminates in what is called amaurosis; and I believe that many cases of amaurosis and of what is called weakness of the sight depend upon congestion in the brain which by proper treatment, may frequently be removed. Sometimes a change occurs in the sense of hearing: sometimes it is deafness; sometimes the hearing is very dull, or

very acute; sometimes the patient hears a whizzing or a clicking noise.

I saw a lady the other day who had consulted an aurist on account of deafness. The vessels about her head were ready to burst, and she was distinctly threatened with apoplexy. Now you should never look at a single organ of the body and neglect others. Nothing is so absurd as the present division of the practice of medicine; for no man should practise, or can successfully practise, a part of this profession, unless he attend to the whole. Nevertheless, a man who studies all parts of the subject may with great benefit pay peculiar attention to one part, as the performance of operations, which depend for their success upon a delicacy of hand, is best acquired by frequent practice.

Sometimes the sensibility to touch is increased or diminished.

In some cases the taste is remarkably changed: it is perverted, or unusually acute or obtuse.

I now occasionally see a lady who has chronic inflammation of the brain, and her taste is remarkably changed. She said to me a short time since, "What is the reason, doctor, that I cannot taste the difference between tripe and a beef-steak?"

Other changes also take place; wandering pains, for instance, occur in some external part. When a patient complains of wandering pains, you will in many cases find the origin of them in the brain or the spinal cord; and under these circumstances you should be very careful, both in the way of prevention and prognosis. For a long time these pains go on without any external swelling about the joints. Sometimes inflammation does take place, so that the disease puts on the rheumatic or gouty character. Some of these cases strictly deserve the name, which they have obtained, of rheumatic palsy.

Cramps sometimes occur in the arms and legs night after night, and the cause will often be found in the head.

Sometimes the patient feels as if his tongue were larger than natural, preventing free articulation, and causing a thick mumbling speech; sometimes he feels a fulness about the root of the tongue and the fauces. Sometimes there is a slight affection, tingling, numbness, weakness, and then paralysis, of some small muscle in a remote part of the body; as a slight dropping of one eyelid, or a slight twitching of the mouth, seen only when the patient smiles; sometimes a slight spasm, starting, or twitching, of some other muscle.

I knew a man of strong intellect who, for sixteen or eighteen

years, had a slight twitch about the face when he was excited. At length one night when he was in bed he had an attack of palsy.

Whenever you see a slight twitch about the muscles of the face, you may be assured that there is a predisposition to apoplexy, or to palsy which is a modification of the same disease. These attacks of palsy are generally very gradual. Sometimes the bowels are unusually torpid; sometimes unusually lax. Sometimes the sphincters, especially of the bladder, are either contracted or relaxed.

SYMPTOMS OF CHRONIC TURGESCENCE OF THE BRAIN.

Systematic writers define apoplexy to be "an abolition or suspension of motion and sensation, the action of the heart and arteries remaining."

Supposing that this mere enumeration of symptoms without reference to conditions could be called a definition, it is deficient, as not correctly expressing even the external symptoms. Sometimes there is only a diminution, sometimes an abolition, of sensation. Sometimes a patient is suddenly seized with vomiting, confusion in the head, and generally with the sensation of giddiness and universal weakness. These symptoms sometimes disappear after a time; the patient, afterwards, for instance, complaining of an obscure uneasiness in the head, and having an alarmed expression of the countenance. When you see a patient in this state be on your guard; for unless you abstract blood, the attack may return and destroy the patient. Sometimes the symptoms continue, or become progressively more violent; for instance, you find the patient is insensible, in a state of heaviness: you cannot, without rousing him, get a distinct answer; the respiration is oppressed, and the skin cool, or perhaps about the natural temperature. Sometimes the patient lies perfectly still and powerless, and very often has a labouring pulse. In this state he may die; or he may recover. He dies if a blood-vessel have given way; he recovers if the vessels be entire, and if he be properly treated.

Two opposite states of the circulation usher in the attack of apoplexy.

1. Sometimes congestive symptoms precede the attack—a few days, or only a few hours.

2. Sometimes excitive symptoms precede the attack—a few days, or only a few hours.

A lady who consulted me was chilled on going out one day in the winter. She was pale, her skin was cool, and she complained of obscure pain in the head. After being in this state for two or

three days she had an attack of apoplexy. When I was sent for to her she was dying; and after death, in the centre of the head was found a clot of blood. The attack was for two or three days preceded by distinct symptoms of congestive fever.

I saw an East India director who, by taking a long walk on a hot day, produced excitement, which continued for a few hours, after which he had an attack of apoplexy. He was saved by copious blood-letting.

There is a close connexion between apoplexy and the doctrine of fever, considering it either as a chronic or as an acute affection. Excitive apoplexy is an acute inflammation; and blood drawn in this state is highly inflammatory. Apoplexy has also a close connexion with the state of the heart's action. In congestive apoplexy the heart's action is diminished; in excitive apoplexy it is greatly increased. And yet under the sweeping term of apoplexy, as used by systematic writers, one mode only of treatment is recommended; whereas it is evident that different treatment ought to be adopted according to circumstances.

In almost all cases of apoplexy which occur instantly there is rupture of a vessel. A man, for example, drops down and dies in a short time, and on examination a rupture of some vessel is found. I have, however, seen two such cases in which there was no rupture. In some cases there is merely general turgescence of the vessels of the head, and effusion into the ventricles or between the membranes. Sometimes it happens that when the patient recovers there is a small clot, or an appearance very like what occurs in concussion. The vessels appear to be torn from their beds, so that the brain on examination presents a dotted appearance in different parts. This is sometimes found in cases of apoplexy. If the patient recover these become irritants, and generally occasion inflammation and softening of the brain.

SYMPTOMS OF CHRONIC INFLAMMATION OF THE BRAIN.

Sometimes chronic inflammation of the brain precedes apoplexy as a cause; sometimes attends it as a concomitant; and, in the way I have just described, it sometimes follows apoplexy as an effect. Chronic phrenitis bears the same relation to palsy as to apoplexy: preceding, attending, or succeeding it. When palsy exists after apoplexy there is mostly some effusion of blood. Chronic inflammation of the brain is closely allied to turgescence without inflammation.

The investigation of chronic phrenitis is difficult;—

1. Because the seat of the inflammation may be various; for example, in the membranes, or in the substance, of the brain; in only one, or in all the membranes of the cerebrum, cerebellum, or both; or in different parts of either of these membranes covering any portion of the cerebrum or cerebellum: and these parts, moreover, have a mutual influence on each other.

2. Because chronic inflammation is obscure in its origin and insidious in its progress. The acute and sub-acute forms of phrenitis are indicated by pain, fever, and impeded functions; and in these cases the whole organization is affected. In the chronic form there is no fever; the pain when it exists is slight, and the impeded functions not distinctly marked; and most frequently the disease is confined to a particular portion. We are not well acquainted with the functions of the individual parts of the brain; hence this is one source of the difficulty.

3. Because the histories of cases are mostly defective. The symptoms have not been noted with sufficient minuteness during its progress or decline, nor can they be until we have ascertained the healthy functions of the different parts.

One of the most certain signs of chronic inflammation of the brain or its membranes is pain within the head. Sometimes, however, pain occurs in the head for a long time without inflammation.

A lady, who was frequently liable to head affections, for a long time had pain within her head so distressing as to render her life almost a burden to her. In this state she went to Rome, and took great interest in the arts. She was much impressed with the ruins of Rome, and this wrought such a change in the nervous, and probably in the vascular, system, that the pain instantly ceased. If there had been chronic inflammation, the symptoms would not have thus all at once ceased. I believe it was a state of chronic turgescence.

In chronic inflammation when the pain is absent, you may excite it by shaking the head. Persons having chronic inflammation of the head can hardly ever bear the trembling of a carriage. They feel very uneasy if the carriage be driven rapidly over a rough pavement, though, perhaps, they are not rendered uncomfortable by being driven over a smooth road.

Under chronic inflammation the person feels the head uneasy when he hangs it down; and I have frequently seen a dropping of one eyelid more than the other, or of both.

I know a lady who has chronic inflammation of the brain, and I

have no doubt a softening of the substance of the brain; and she has entire blindness of her right eye.

Sometimes there is intolerance of light and noise.

A lady was supposed to have chronic inflammation of the eyes. I was sent for to see her, and found her sitting in a dark corner of the room, and she had on a bonnet of a peculiar shape to exclude the light. I thought there was some affection of the head. The conjunctiva was injected, as it often is in acute or sub-acute phrenitis. She was distinctly the subject of chronic inflammation of the brain.

A sensation of weight and of girding about the head, and a feeling of giddiness, often occur. Sometimes pulsation is distinctly felt in the head. Sometimes cramps occur in the body, at a distance from the head. Sometimes there is a remarkable dulness in the head; sometimes there is a remarkable drowsiness; and sometimes there is watchfulness.

The French think that the brain being inflamed, disorders and diseases occur in particular parts of the body, according to the particular part of the brain that is affected. Thus, whenever the membranes are inflamed, especially the arachnoid, there is a tendency to delirium. The dissections which I have made do not confirm this sweeping conclusion. I trust the facts of the French, but I receive their conclusions with great caution. They have just burst from their old system of pathology, and seem to me to draw conclusions too general from a few facts.

Sometimes a person sleeps after a time at which he has been accustomed to awake, or the contrary; and this is a very suspicious sign.

The liver and stomach are very often affected in chronic inflammation of the brain. Very often the stomach is so disordered as to appear to be the part primarily affected. What is called sick head-ache is almost invariably associated with some affection of the head.

Sometimes there is some disorder of the stomach, disorder of the liver, and disorder of the lining membrane of the bowels. The person fancies he sees black spots before the eyes, has a foul tongue, and has a vomiting of bile. This is called a bilious attack. The vomiting of bile relieves the liver, and the nausea lowers the heart's action. I have seen a marked case of this, in which a friend of mine recently died, and which evidently occurred from turgescence in the head. In all cases of what are termed bilious attacks make a point of investigating the state of the

head; but it is also important to attend to the stomach, liver, and bowels.

In chronic inflammation of the brain sometimes these symptoms go on till the patient complains of weakness or numbness in different parts of the body; and a slight paralysis occurs, in the eye, for instance, or in the end of the little finger. After being a long time in this state, probably the affection winds up with an attack of fever.

I saw a lady whose disease bore the character of what is called indigestion. She had fever which put on the character of inflammation of the brain; when I saw her she was dying. On examination a chronic abscess was found in the anterior portion of the right hemisphere of the cerebrum, and in the upper portion of the cerebellum. She had enlargement of the liver, which was of a gingerbread consistence. She had long complained of pain in the forehead and the back of the head.

A lady died of fever who had long complained of pain in the back of her head; and on examination after death a portion of the cerebellum was found softened, very much like custard-pudding.

A man who was brought into the Fever Hospital had an attack of fever. His respiration was heavy and his pulse oppressed, and he gradually sunk and died. He had chronic inflammation of the brain for a long time, which was followed by an attack of fever. It was considered to be typhus fever by the medical men who sent him to the Fever Hospital.

Many acute and sub-acute affections are of this kind; therefore always take into account the past as well as the present history of cases.

Sometimes these cases become apoplectic. Sometimes the person has lancinating pain through the brain, and pain in different parts, till at length he suddenly falls down and dies; and on examination you find chronic inflammation of the brain.

I saw a case where there was rupture of a blood vessel on one of the corpora striata, and the ventricles were deluged with blood.

Individuals thus attacked sometimes recover for a time.

A lady at first frequently had head-ache, then blindness of the right eye, and then partial paralytic attacks. She has been distinctly threatened with apoplexy, which has hitherto been warded off by bleeding and a spare diet; but she will at length probably die of apoplexy, and if the head be examined I believe that chronic softening of the brain will be found.

In cases of chronic softening you find, as you approach the

part, the brain is more and more vascular. The brain is broken down; and very often in its centre you find a minute clot of blood, which in all probability has been the cause, though sometimes the effect, of the disease. Occasionally you will find tumors in the brain after similar symptoms; and sometimes chronic inflammation of the membranes. Sometimes there is ossification of the membranes; and very often in the advanced periods ossification of the arteries of the head, especially in the internal carotids.

In individuals who are the subjects of ossification, the respiration being affected, the flow of blood through the lungs is impeded, and it is thrown back on the right ventricle: thus the blood is impeded in its return from the superior cava, and so the brain is affected.

Apoplexy, then, is not necessarily a simple disease, though sometimes it is; but often it is complicated.

The preceding symptoms being remembered, the attack may be sometimes prevented.

The symptoms of apoplexy depend upon different conditions.

SYMPTOMS OF CONGESTIVE APOPLEXY.

In some cases it is only a modification of congestive fever. This is particularly the case in children and in very old persons.

I. THE EXTREME FORM.

An old man, for instance, in walking out is chilled, falls down suddenly, and instantly dies. A child in being taken out in cold weather is chilled, and has an attack of convulsions, in which it dies. In these cases, you will find turgescence with effusion or extreme congestion. You may call this apoplexy; but you will generally also find the bronchial linings congested, and sometimes the lungs are congested. Here you have a cold skin, a blanched eye, a weak pulse, feeble respiration, and a profound prostration of strength. This state arises from depressing agents, such as cold. Sometimes in these cases a vessel gives way, and then they are, I believe, invariably fatal.

II. THE INTERMEDIATE FORM.

Sometimes the congestion is intermediate, and the vessels are only distended. The patient lies in a state of stupor like sleep; the skin is about of the natural temperature; the pulse is struggling and appears oppressed, as if trying to throw off some superin-

cumbent weight; and the respiration is heavy and oppressed. In these cases, then, you generally find the brain and the pia mater congested; but occasionally there is rupture of a vessel, and sometimes effusion.

SYMPTOMS OF EXCITIVE APOPLEXY.

Sometimes the disease sets in indirectly through the influence of depressing agents, but sometimes from stimulants, in the excitive form. Then you have a full and expanded pulse, a hot skin, a turgid and bright eye, &c. Sometimes it occurs after a full meal being taken. The symptoms are directly opposite in the one case to those of the other; for in the one the heart's action is increased to an extraordinary degree, while in the other the heart's action is very much diminished.

The excitive form of apoplexy occurs sometimes in children.

My little boy was thus attacked, and had a hot skin, a quick pulse, a bright eye, and then an attack of convulsions; and I believe he would have died but for blood-letting.

Adults, however, are more frequently attacked than children, because they commit greater irregularities of diet and drinks, and because they are more exposed to the influence of depressing and exciting agents. They are more the subjects, for instance, of local plethora, and especially of general plethora.

There is a chronic state which sometimes precedes the attack; it is very often the winding-up of chronic inflammation or chronic turgescence. It arises sometimes from tumors or ossifications of the head. Ossification is a rare occurrence till after the fortieth year. Independently of all this, you will find that persons who have chronic affections of the lungs are liable to apoplectic attacks, and you will find that persons who have chronic affections of the heart are liable to apoplectic attacks. Apoplexy frequently occurs thus: the current of circulation being more rapid than natural, and the blood being impeded in its passage through the lungs or heart by disease of those parts. A sudden removal of blood from the surface to the centre of the body is a very common cause of affections of the head, which become inflammatory when reaction or excitement takes place.

TREATMENT OF CHRONIC TURGESCENCE OF THE BRAIN.

When you find universal plethora, if there be chronic turgescence with the symptoms I have mentioned, remove the general plethora immediately by blood-letting and purging; and prevent

the return of it, not by bleeding and purging, but by a spare diet. A great mistake is frequently committed, which is that of abstracting animal food and allowing a large quantity of vegetables. The quantity of food is far more important than it is usually considered to be. The patient may take a moderate quantity of animal food daily, but he must be content merely to exist if he wish to live. The general management is of very great importance in cases of general plethora.

TREATMENT OF CHRONIC INFLAMMATION OF THE BRAIN.

You may remove chronic inflammation, if it be of short duration, by bleeding, purging, and a spare diet; and the general management should be carefully attended to. The patient must live on a small quantity of food and drink; he must take moderate exercise; he must avoid every thing which may stimulate the heart; and he should also lay his head high at night.

Many attacks of apoplexy are occurring in bed, and this is connected with the position. In the recumbent posture the blood ascends to the head with ease, but descends with difficulty. When the head is high the blood rises against the direction of its gravity, and is favoured in its return by the descent of the veins. A frame of wood, six or eight inches higher at the top than at the bottom, should be screwed on the bedstead, and a mattress laid upon it.

Attend also to the bowels and to the stomach. If you feel it your duty to tell your patient about his disease, always give him hope; nor will this hope be unfounded, for by care an attack of apoplexy may be prevented.

TREATMENT OF CONGESTIVE APOPLEXY.

I. THE EXTREME FORM.

If there be an extreme congestive state of apoplexy, I certainly would not bleed. The case should be treated as one of congestive fever, and your first object should be to bring a flow of blood to the surface; and if you pour in a large quantity of caloric by the hot-air bath you may very often save the patient. Having produced a warm skin and an expanded pulse, if the symptons be not relieved you may abstract blood; but in the first instance bloodletting is a most dangerous thing.

II. THE INTERMEDIATE FORM.

In the intermediate form of congestive apoplexy you may gene-

rally save the patient by blood-letting. Bleed till the symptoms are relieved, regardless of the quantity. Regulate the general management, and adopt a spare diet.

TREATMENT OF EXCITIVE APOPLEXY.

Under the excitive form of apoplexy you may have recourse to similar bleeding with propriety. It is an exceedingly good plan to open a vein in each arm at once; every moment of time is then valuable; your object is to draw as much blood as possible in a short time.

In apoplexy it is important to remember that the overloaded colon has considerable influence on the abdominal aorta, and this influences the quantity of blood in the heart and in the head: always, therefore, unload the colon by means of injections. If the deglutition be perfect I should not hesitate to give croton oil.

When the deglutition is difficult, and the sphincter ani is relaxed, the patient will almost always die. If the deglutition be not difficult and the sphincter ani not relaxed, you need not despair.

You must, then, in the treatment of each case be guided by the symptoms.

If you save a patient from an attack of apoplexy once, it becomes your duty to be honest with him, and having investigated the state of his head, you should point out to him the proper parts of general management, and, showing him that his life depends upon his adhering to these, you should hold out to him a hope of preservation.

A lady had a sensation of fulness and pain in her head, with wandering pains in different parts of her body, especially the right side, with numbness of the right side, and many other indications of a threatening of apoplexy or palsy. I adopted a plan of treatment which relieved her, and gave strict directions that she should adhere to a spare diet. I saw her again, and found her living upon full diet and drinking wine. I told her that she was threatened with apoplexy or palsy, and that unless she adopted a spare diet she would certainly be the subject, and probably the victim, of the one or the other; and since that time she has been very careful as to her diet.

If you can only regulate the quantity of circulating blood, and the velocity of it, it is surprising how effectual preventive means are. I have seen many persons who had been distinctly threatened with apoplexy live to extreme old age by being careful about the diet, drink, and clothing.

LECTURE XLVI.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF PALSY.—TURGESCENCE AND INFLAMMATION OF THE SPINAL CORD, AND CURVATURES OF THE SPINE.

In this lecture I shall make some remarks on palsy. There are three modifications of palsy pointed out by our systematic writers: 1. Paresis; 2. Hemiplegia; 3. Paraplegia.

1. If a foot or a little finger were paralytic, it would form paresis.

2. A paralytic attack of one-half of the body longitudinally is termed hemiplegia.

3. If the body were transversely affected, either the lower or upper half, it would constitute paraplegia.

4. Independently of these varieties, it sometimes happens that the whole body is paralytic. You see this in very formidable attacks of apoplexy: the patient has no muscular power at all from great compression of blood on the brain.

PREMONITORY SYMPTOMS OF PALSY.

The signs I pointed out as indicative of chronic turgescence or of chronic inflammation within the head, occur before attacks of palsy, as before attacks of apoplexy; for, regarding them as seated in the head, they are merely modifications of the same disease. Those observations apply particularly to hemiplegia and paraplegia.

The same conditions of the vascular system which attend the threatenings of apoplexy attend also the threatenings of palsy. You will often see disorder of the stomach, liver, and bowels, and occasionally you will find affections of the lungs, preceding the attack. Persons labouring under chronic bronchitis, or any chronic difficulty of breathing proceeding from the lungs or from the heart, are very liable to paralytic attacks. A chill will sometimes

lead directly to an attack; in cold weather it is connected with the skin.

The means of prevention are the same as I pointed out in speaking of the prevention of apoplexy.

NATURE OF PALSY.

I. PARESIS.

Paresis is generally a formidable affection, not abstractedly considered, but because it is accompanied by some serious affection of the brain itself. A slight paralytic affection of the tongue often precedes either a formidable attack of apoplexy, or of hemiplegia, or of paraplegia; but especially of hemiplegia. A slight paralytic affection of the eye frequently precedes a formidable attack of paralysis. All slight paralytic affections are formidable when they are connected with affections of the brain, which will be detected by making a careful investigation and contrasting the symptoms with the healthy functions of the brain. Sometimes the paresis is numbness, as in the middle or end of one finger. Sometimes it is merely weakness, so that the patient, for instance, cannot grasp any thing with the hand so firmly as before. When you cannot trace this to a local cause, as to a tumor pressing on a nerve, you may look to the brain or spinal cord for the cause. One local weakness which is very frequent is, what is called weakness of sight. This often announces an attack of apoplexy; often an attack of hemiplegia; often an attack of paraplegia;—attacks which depend entirely upon congestion of the head, and which are to be removed or prevented by removing the congestion. It is remarkable that, from the experiments of Flourens, different portions of the brain are connected with different functions. From removing one part of the corpora quadragemina blindness occurred in the opposite eye. He found also that when the optic nerve was divided the iris was paralysed. In some cases of blindness the iris remains obedient to light.

Occasionally attacks of palsy are strictly local: after a severe labour, for instance, the bladder may be paralysed. It is generally recovered from as the woman recovers.

Mr. Shaw has shown that the muscles of the face supplied by the portia dura, which passes through the temporal bone, are paralysed by affections of the ear. If you remove the inflammation of the ear you sometimes remove the partial paralytic affection of the face. These affections of the ear sometimes consist of

inflammation extending through the bone, and involving the brain, and the patient dies comatose.

In referring you to Mr. Shaw's work, it is my duty to say that he has committed one great and common error, and that is, his facts are very few, and from these he draws a general conclusion.

In many cases, when the muscles of expression were paralysed slightly, I have found indications of affections within the head. Mr. Shaw says that this does not often arise from affections in the head; but I can confidently say that he has drawn by far too general an inference. Far more frequently when palsy exists in the muscles of expression, the cause is within, and not out of, the brain.

Sometimes a tumor pressing a nerve will produce palsy of the fore-arm; therefore you should ascertain whether there is a local cause, and not finding one, you should investigate the state of the brain and spinal cord.

Many cases of palsy are connected with chronic turgescence or chronic inflammation of the brain: they do not come on suddenly, but gradually; a finger, or a muscle remote from the head, or one eyelid, becomes gradually paralytic. Those persons who go about the streets with contracted hands generally have chronic softening of the brain, and these cases are hopeless when they have continued a long time. Sometimes there is pain and twitching in the paralytic muscles.

II. HEMIPLEGIA.

Attacks of hemiplegia apparently occur suddenly; but, if you trace the case backward, you will generally find that some warning preceded it.

When apoplexy comes on, and the patient recovers, you often find one side paralytic.

I know a gentleman who one day rode hard in order to arrive in time at a ball. After the ride he dressed and went into the ball-room. Going down a dance, he fell in an apoplectic fit, from which he recovered in a few days; but one side was paralytic, and has continued so ever since.

Where such affections occur thus suddenly, they are combined, not always, but generally, with rupture in the head.

Sometimes paralysis occurs without apoplexy.

I knew a dissolute young man, who fell down one day, and found he could not get up. He had been an actor, and was accustomed to be very figurative in his expressions. Even on this

occasion, when I went to him he could not help saying—"Here I am, doctor, with all my senses unclouded, but one half of me is withered; and if these were the days of witchcraft, I should believe I was bewitched."

These cases generally affect the body longitudinally—the right arm and the right leg, or the left arm and the left leg; and, as Morgagni first observed, the side which is paralytic is opposite to that side of the brain which is diseased. The patient generally drags one arm and leg behind him; the mouth is more or less awry, especially when he smiles; and he generally mutters or speaks indistinctly, especially if he be excited from mental emotion or from wine.

I have repeatedly dined with the gentleman who fell in a fit of apoplexy while dancing (page 695): he is accustomed to take his wine daily, and after two or three glasses his speech becomes indistinct.

Subjects of hemiplegia are generally either calm in their minds, or they are remarkably depressed. Sometimes you find the powers of the mind depressed; and this sometimes increases the affection, so that the patient suddenly dies. A man who was a philosopher before the attack, becomes a contrary character; and a person who was extremely courageous becomes very timid, crying on the slightest occasions. Sometimes, however, the mind is not at all affected.

TREATMENT OF PALSY.

I. TREATMENT OF PARESIS.

Paresis, or partial palsy, must be removed, if the cause be local, by removing that condition, if possible. If the cause be in the brain, your object will be to remove it; and it will generally be, in the first instance, turgescence, or chronic inflammation. French authors would make us believe that softening of the brain always occurs in partial paralysis. I have, however, seen it completely removed by bleeding, purging, and a spare diet; so that it is not always complicated with softening of the brain.

The removal of mere chronic turgescence of the head is very easy, and may be produced by a diet strictly regulated, especially as to quantity.

II. TREATMENT OF HEMIPLEGIA.

Hemiplegia occurs in three classes of individuals.

1. It occurs in one class who are pale and spare, in whom there

is a deficiency of blood, with a deficiency of the red particles of the blood. Here there is commonly only a local plethora, complicated, most frequently, with disorder of the stomach, liver, and bowels. Sometimes you will find great benefit from abstracting from four to six ounces of blood; or from a blister to the nape of the neck, and topical blood-letting. A little mild alterative medicine should be given to stimulate the liver occasionally, the bowels should be daily opened by moderate purgatives, and a spare nutritious diet should be allowed. You will thus remove or lessen the turgescence, and ward off an apoplectic attack, or some other fatal disease, at least for a great length of time.

A lady in Oxford-street has distinct threatenings of apoplexy and palsy, connected with chronic inflammation of the brain, and no doubt with softening of the brain; yet, by purging and a spare diet, she is always relieved. Pain in the head, drowsiness, wandering pains, and numbness in the extremities, every now and then occur in her case.

2. Hemiplegia occurs also in full, lax habits. A person in this state is full of blood, but almost invariably faints before eight or ten ounces of blood have been abstracted. Moderate quantities of blood may be taken away. These persons generally eat largely, and take little exercise. The main point is to regulate the diet and the drinks: avoid too large a quantity of food, and avoid offending the stomach with indigestible substances. If the diet and drinks be attended to, the patient will often recover, or the complaint be greatly alleviated. The drinks are very important. If I had taken an account of all the cases I have seen, I have no doubt that nine out of ten might be traced to the use of ardent spirits or of large quantities of wine. If patients would only submit to strict regulations, I believe they would often recover from hemiplegia.

The gentleman to whose case I have before referred (page 695), who fell while dancing, was able, from using a spare diet, to walk with a stick. He afterwards, however, returned to his old way of living, and now he cannot walk across his room.

It is very difficult to get patients to submit to strict regulations as to diet, especially if, while in health, they have been accustomed to eat and drink well.

I saw a gentleman who was the subject of hemiplegia, attended by excessive fulness within the head. It became my duty to tell him that I saw only one chance of his living long, which was, to omit wine and ardent spirits, and to adopt a spare diet. He said

he had been always accustomed to live well, and that he would continue to do so, and that he would live "a short life and a merry one." I met his sister three months after this, and she informed me that he was dead.

A waiter at an inn, who was the subject of hemiplegia, now walks well, from having adopted a spare diet: the slight trip in his gait would not be observed by those who did not know it.

In these cases there is a very peculiar action—a slight trip of the heel, or the person in walking performs a circular motion of the foot.

An old gentleman came to me three or four years ago: he was indistinct in his memory, so that he could not remember any thing I said to him, and I was obliged to write down directions about his diet and drinks. I ordered occasional cupping, as he was of a full habit. From strict attention, he recovered the functions of his mind, and threw off the hemiplegia entirely. He afterwards died of pneumonia.

These are strong facts, and deserve your notice.

A seton in the neck, in cases of hemiplegia or paraplegia, when the head is affected, often seems very beneficial. But if you relieve the over-fulness in the first instance, the main thing to attend to is a moderate quantity of food, and a moderate quantity of drink, which should be mild, as plain water, or toast and water. The head should be raised at night, and the clothing should be warm, in order to avoid a chill. If the patient, during this treatment, have uneasiness in his head, abstract a little blood occasionally.

Perhaps the cerebellum, on the whole, is affected as often as the cerebrum. If the cerebellum be not the source of motion, it seems to be the regulator in the main, according to Flourens; for when he began to slice the medulla oblongata, trembling occurred. The medulla oblongata is nothing but the upper part of the spinal cord. According to Gall, the brain is nothing but the continuation of the spinal cord under the appearance of a mass of grey and white substances connected together with medullary fibres. The pons Varolii, the crura cerebri, the thalami nervorum opticorum, the corpora striata, the cerebellum, the corpora quadragemina, and the cerebrum itself, seem to be a continuation of the same union of grey and white substances by transverse medullary fibres which may be traced in the medulla oblongata. This may explain why affections of the corpora striata are connected with affections of the lower extremities.

3. The other class are of a full habit and firm fibre, and bear bleeding very well.

III. PARAPLEGIA.

The seat of paraplegia is sometimes within the brain; but it may be external to it when the affection is in the lower extremities. The observations of Flourens, of Rostan, and of Gall, have thrown much light upon the subject, and show that paraplegia has its source seated sometimes within the head, and sometimes in the spinal cord. If it be seated within the head, you have the indications of disorder within the head which I mentioned as warnings of apoplexy. In some cases you have a simultaneous affection of the brain and spinal cord. This is especially the case in instances of excessive venery, or of onanism. The patient in the case of onanism walks first to one side and then to the other, like a man rather intoxicated, with a slightly tottering gait. The same occasion sometimes produces complete blindness, and it generally at last winds up with effusion into the ventricles of the brain, and between the membranes of the brain, and frequently into the theca vertebralis. Attend, then, in a preventive point of view to the symptoms of chronic turgescence within the head and down the spinal cord.

SYMPTOMS OF CHRONIC TURGESCENCE OF THE SPINAL CORD.

Sometimes you have pain in the direction of the spine; for example, in the neck or loins. This pain is increased, generally, by bending the head forwards or backwards, or by bending the body forwards or backwards, or by twisting the spine. If the cervical vertebræ be affected, you have pain in the muscles of the neck; with tingling, numbness, or pain in the upper extremities. You have the same sensations in the lower extremities if the lumbar vertebræ be affected, and wandering pains in the joints of the limbs resembling rheumatism. Injuries of the spinal cord may go on to inflammation and softening of the spinal cord, as in the head: I have seen several such cases.

IV. TREATMENT OF PARAPLEGIA.

Paraplegia when seated within the brain must be treated upon common principles.

It is generally connected with over-fulness of the vessels of the head. You may bleed according to what is called the constitution of the patient; that is, considering whether he be pale and spare, or lax and full, or firm and full. If he be of firm fibre you may

generally bleed very largely. When the patient is of a lax fibre, it is better to draw away a small quantity of blood, and repeat this, than to bleed too largely at once. The cure mainly depends on a strictly regulated diet. The only general rule which I can lay down is, to avoid all sorts of food which will offend the stomach by being indigestible, and to avoid a large quantity of food. The patient should take as small a quantity of food as possible compatibly with his comfort, and it should be very simple. A large quantity of food generates a large quantity of blood, and indigestible food acts on the heart.

TREATMENT OF CHRONIC TURGESCENCE AND CHRONIC INFLAMMATION OF THE SPINAL CORD.

When there is a case of chronic inflammation or turgescence of the spinal cord, apply a blister in the course of the spinal marrow. This, and bleeding, purging, and a strictly regulated diet, are the best remedies.

Some cases occur from sudden injuries received on the spine. A man, for example, in ascending a ladder, tumbles down, and has a partial or complete loss of power. The patient has at first what surgeons call concussion; a weak respiration, great prostration of strength, a weak pulse, and a cool skin. Wait till excitement comes on before you abstract blood.

In fatal cases you see dots of blood, from the vessels being torn from their bed, as I have before described.

Concussion includes different states of the brain. Sometimes there is no injury; sometimes there is rupture; but more commonly than these, there is this dotted appearance to which I have referred.

The congestive state passes away; and then simple excitement occurs, or more frequently inflammation, especially in the brain.

Sometimes the same occurs in the spinal cord. A rupture of a vessel takes place there, and blood is effused under the theca vertebralis. I think in such cases, or where extravasation of serum is to be inferred from the violence of the symptoms and from their continuance, that an operation might be performed, to consist in making an outlet for the fluid at the lower part of the spine. There is a place at the lower part of the sacrum where an opening might be made; care being afterwards taking to exclude air. This point is worthy of consideration, and has not been sufficiently attended to. Generally, what you have to encounter is inflammation. You have pain, loss of power, &c., as I have before mentioned.

These cases generally do well, if there be not fracture with depression, from bleeding, purging, and a strictly regulated diet.

When there is a partial loss of power only, the case is mostly hopeless.

A captain of an East Indiaman fell in a twisted position. When he got up he found that he had not the power of standing. His brother examined him, and sent for a surgeon, whom I was desired to meet. On examining the lumbar vertebræ, I was confident that one of them was loose but not displaced. Pressure being made on it, the respiration was affected, but this effect ceased when the pressure was removed; and hence arose all the affection. On attempting to raise himself in his bed on one occasion, his hand slipped under him, and he put it suddenly to the part. His eyes were turned up and fixed; he was in a state of collapse; the respiration was weak; the heart's action was suspended; the upper extremities became cold; and he continued thus nearly three quarters of an hour, struggling between life and death. I have no doubt there was fracture of one of the lumbar vertebræ. He was kept at rest for several weeks; he was repeatedly bled, took a spare diet, and went through a course of aperient medicines. A celebrated surgeon was consulted to decide whether he might go to the East Indies. He went; and this was the captain to whom I alluded as having saved his crew from cholera morbus by strict regulations, when the crews of ships near his were being thinned every day by that affection.

In all these cases absolute rest is of very great importance.

Besides what I have already mentioned, there are other affections of the spine which require to be considered.

There is one affection which attends disease of the spine which does not strictly bear a paralytic character. Before, however, adverting to this, I will give you a caution respecting diseases of the spine.

PATHOLOGY OF LATERAL CURVATURE OF THE SPINE.

A lateral curve of the spine is very common, and it is almost always in the right side: to the right side in the upper part of the spine, and to the left side in the lumbar region. It most frequently occurs in delicate females, and generally in the upper classes where exercise is neglected.

TREATMENT OF LATERAL CURVATURE OF THE SPINE.

If you see it in an early stage you may generally prevent its

increase by attending to the diet, and to exercise in the open air.

Lay the patient down every day for a few hours; attend to the state of the bowels; and use exercise of the arms and of the muscles of the trunk. This will often prevent it from advancing, and even remove it. It generally advances very much as the person advances in life, and then there is often a liability to affections of the lungs or of the heart from pressure on those organs, and from the curvature of the aorta.

PATHOLOGY OF CURVATURE WITH DISEASE OF THE SPINE.

Another affection occurs in which the bones are diseased. Sometimes it begins in the ligaments of the spine; sometimes in the intervertebral substance; and sometimes in the bodies of the vertebræ. In all these cases the affection is almost always associated with some disorder of the stomach, liver, and bowels, which generally precedes and attends it. The patient very often, in the first instance, complains of uneasiness about the pit of the stomach, and very often of severe uneasiness of the chest, especially of difficulty of breathing or of pain, and sometimes of a slight cough.

You should examine the spinal column, rapping each vertebra separately with the knuckle, and you will soon detect any tenderness that exists. As it goes on, the upper extremities become affected, if the disease be in the cervical vertebræ; and the lower extremities, if the dorsal and lumbar vertebræ be diseased.

The dorsal and lumbar vertebræ are by far the most frequently affected. A child begins to trip as it walks; then the toes are pointed downwards, and the legs stretched straight out. This is different from either hemiplegia or paraplegia. The patient next begins to pass the fæces and urine involuntarily.

The bodies of the vertebræ are absorbed, and the spinous processes are generally separated from each other.

The pathology, then, of curvatures of the spine is twofold: one state connected with disease of the bones, the other not.

TREATMENT OF CURVATURE WITH DISEASE OF THE SPINE.

In the treatment of the affection which I have last described you have two objects:—

1. To remove the local inflammation; and—

2. To restore to a healthy state the stomach, liver, and bowels.

In the beginning you may generally stop the inflammation by a

strictly regulated diet, by absolute confinement, by attending to the bowels, and by abstracting blood locally from the part where there is tenderness on pressure. Absolute rest in the recumbent posture is essentially necessary.

When you see the case late, your object is to promote anchylosis. Without rest, the patient has but little chance; but absolute rest being adhered to, a regulated diet being adopted, the bowels being regulated, and strict attention being paid to the clothing, the patient will generally recover without issues or setons.

With regard to issues and setons there is great difference of opinion, some saying they do good in these cases, and others maintaining that they do no good at all. As there is some doubt, it would, perhaps, be right, especially for a young practitioner, to use them. I cannot myself speak as to their utility.

3. Another disease, called lumbar abscess, sometimes occurs in connexion with diseases of the vertebræ. It is very much mitigated by the use of the bed invented by Mr. Earle for that purpose.

LECTURE XLVII.

MADNESS MEDICALLY CONSIDERED.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, PATHOLOGY, TREATMENT, DURATION, AND DIAGNOSIS, OF MADNESS.

In this lecture I shall make some remarks upon madness.

The word mad, I believe, is derived from the Gothic word *mod*, which signifies rage; and the word *mania*, which the Greeks apply to madness, has the same signification. Melancholy means black bile. Hence, in the ancient writers, the term mania is applied to that form of madness in which there is excessive excitement of the system, with violent emotions of the mind; and the term melancholia to that form in which the body and mind are depressed. Hence, also, the terms high madness and low madness.

Cullen calls mania, universal madness; and melancholia, partial madness. But madness and melancholy, in the common and proper acceptation of the words, are far more correct; for mania may be partial madness, and melancholia universal madness.

The terms high madness and low madness are remarkably characteristic of madness with rage and madness with depression.

Insanity is derived from the Latin words, *in*, prefixed to a word signifying not, and *sanus*, sound—unsound; hence the term cracked.

Derangement is derived from the French *dérangé*, signifying out of order; it is a common expression for madness.

The word lunatic is applied when the patient has lucid intervals. The ancients supposed that many diseases, as epilepsy, and especially madness, were under the influence of the moon; and this opinion still prevails with some.

Idiocy is applied to those who are from their birth imbecile; but it indicates a state which may also arise from blows, or from disease of the brain.

Another term which was applied to madness by the old writers is now confined to the wanderings attendant upon fever. It is delirium, which is derived from the Latin words *de lirâ*, out of the track.

PREDISPOSITION TO MADNESS.

1. Hereditary.

In some families madness prevails very remarkably from generation to generation, especially in families of a swarthy complexion. It more frequently occurs between the thirtieth and fortieth year than at any other age, although it sometimes occurs at a much earlier, and sometimes at a much later, period.

All individuals who are marked by nature in a peculiar manner have a tendency to madness; they generally have some extraordinary expression of face, or something remarkable in their mind or manner. All individuals who are so odd as to attract notice have a tendency to it, such as those persons who are remarkably quick, or very absent; so also have those who have a strong eccentricity, which nothing can correct or control. I have seen several such examples. It sometimes occurs in the form of fanaticism, enthusiasm, scepticism, &c.; generally, in some very remarkable form. It mostly appears in the form of what is called wrong-headedness, or a want of practical tact.

2. Acquired.

I believe that various affections, as inflammation of the brain, predispose to madness. Also blows on the head are predisposing occasions. One attack of madness certainly leaves a liability to future attacks. The habits, and the diets, and the drinks, of persons, predispose to madness; all things, in fact, which disturb

the stomach and disturb the nervous system. Certain pursuits predispose to madness, as those by which the imagination is much called into exercise. Painters and poets, who surround themselves with an imaginary world of their own, are liable to madness; and so are persons whose brain is employed in intense application to the affairs of real life. So a tendency is acquired even from the circumstances and society which surround a person; thus keepers of mad-houses have a liability to madness, and have even become mad. If madness prevail in a family, the circumstance frequently preys upon the minds of other members of the same family, and they become mad.

REMOTE OCCASIONS OF MADNESS.

These, whether they be mental or physical, operate either by exciting or by depressing the system preternaturally.

Sometimes both mental and physical circumstances operate at the same time.

Famine, for example, operates physically and mentally; you have bodily weakness combined with mental anxiety, which often produce madness; hence, if you trace the history of countries where famine has existed, you will find that madness simultaneously prevailed to a great extent.

A very great shock—any national shock, such, for example, as revolution—produces madness. It is notorious that madness was more common in France during the French revolution than it has been since, or ever was before.

Reformations in religion excite madness. Many persons became mad about the period of the great reformation which Luther introduced.

Fanaticism, especially when it leads its subjects to take gloomy and terrific views of themselves and of the dispensations of the Deity, excites madness. Fanaticism too is often the consequence of madness. I have known individuals who have been dissolute, and who have contracted a slight degree of madness from a disordered state of the stomach, liver, and bowels, become fanatic, and go about among their friends, preaching to them doctrines of the most gloomy kind; and they are never pleased but when they are taking melancholy prospects of the horrors of futurity. I do not mean to say that the doctrines of religion as taught in the New Testament will at all predispose to, or excite, madness; but, I repeat, that fanaticism is, I think, sometimes a cause, and some-

times an effect, of madness. It operates, on common principles, on the nervous system, exciting or depressing the mind.

In this way commercial speculations, by which hopes are first highly excited and then suddenly disappointed, will produce madness. It is notorious that at the time of the South-Sea scheme, numbers of individuals concerned in it became mad.

Gambling excites madness, by producing sudden alternations of the most exalted elevation and the most profound depression of spirits.

Men of philosophical pursuits are very liable to madness, to which their pursuits first predispose them, and which they next excite. While I was studying in Edinburgh, I saw in an asylum an individual who, in the early period of his life, had been a schoolmaster, and famed for his mathematical knowledge. A circumstance occurred which disquieted his mind, and he became mad. When I saw him he gave me a paper, which he said contained a solution of all the problems with respect to longitude which had ever been laid down. It contained a great number of figures without any reference to any particular object.

Mathematicians, however, whose minds are generally tranquil are little liable to madness.

Excess of venery and the solitary vice of onanism excite madness. They both affect the nervous system remarkably; they both stimulate the heart excessively; they both tend to gorge the brain and spinal cord excessively; and they both tend to render the individual mad.

Mercury upon the same principle, in some individuals, produces madness. I have seen several individuals who, the moment the mouth becomes affected by mercury, become delirious.

I have twice attended a gentleman, the brother of a pupil here, under these circumstances.

This delirium sometimes passes into genuine madness.

Madness very often occurs from taking spirits, wine, or porter, in excess. I believe that no physical occasion is so productive of madness as the abuse of these drinks; they stimulate the heart; the alkohol is absorbed, mixes with the blood, and operates specifically on the brain; it is, in short, one of the most powerful exciting occasions of affections of the head I know of.

Opium sometimes produces madness.

I saw an individual, in an asylum which I attended a few weeks for a friend, who became mad after a large dose of opium (I believe a hundred drops of tincture of opium), which was given him

to check a diarrhœa; and his madness was peculiar, on account of the astonishing way in which he magnified every thing with which he was concerned.

Too full a diet produces madness, as I have seen.

I know a gentleman who lived upon vegetables, of which he took very large quantities, and thrice he became mad from this cause. A very absurd plan is that of abstracting animal food from a patient, and allowing him an immoderate quantity of vegetables. The fact is, that in all affections of the head, the quantity is fully as important as the quality of the food. Large quantities of vegetable food are very often the cause of general repletion, which falls on the head if the head be the predisposed part.

Madness, especially that form of it which is termed melancholia, arises from too spare a diet, with disorder of the stomach, liver, bowels, and of the vascular system.

Sometimes madness may be distinctly traced to local causes.

I mentioned the case of a clergyman whom I knew, though I never attended him, and who received a blow on his head when a young man. The disease went on for several years under the form of what is called dyspepsia; then he became hypochondriacal; then insane; and died apoplectic. On examination of the head, chronic inflammation of the membranes and disease of the brain were found, commencing opposite the spot where the injury had been received.

A clergyman fell from a gig, and was stunned at the time, but soon recovered. After some months he began to stagger as he walked in the streets like an intoxicated person, and it was supposed that he had contracted the habit of drinking to excess. He became confused in his mind, so that he could not read the service correctly, and on one occasion he preached two sermons. He had an attack of erysipelas, which required copious bloodletting, and other evacuating remedies: these removed the inflammatory affection which had been going on in the head. Afterwards he was partially paralytic, but he recovered his intellectual faculties.

An old lady laboured under madness; and though I made a tolerably minute examination of her case, yet I forgot to examine the scalp. She was suddenly and unexpectedly removed from my care, and placed in an asylum, where she died shortly afterward. Her head was examined, and a fracture of the occipital bone was found, which was connected with inflammation and effusion; and on tracing back the history of the case, it was clear that this injury stood in the relation of a cause to the madness.

In all cases of madness, then, never neglect the examination of the scalp, to satisfy yourself whether or not there is any depression of the bone.

Madness may be, and ought to be, viewed under three heads:—1. Medically; 2. Metaphysically; and 3. Morally.

I. MADNESS MEDICALLY CONSIDERED.

SYMPTOMS OF ACUTE AND SUB-ACUTE CONGESTIVE MADNESS.

And it ought, in the first place, to be regarded as an acute or sub-acute congestive form of disease. Many cases distinctly come on thus. The patient has all the symptoms of congestive fever, and we cannot be surprised that, under so great a shock, if the brain be predisposed, it should become diseased. I have never seen a case of madness which was not preceded by bodily disorder.

You generally have proofs of disorder of the stomach; frequently of disorder of the colon; and of disorder, sometimes of inflammation, of the liver. You have proofs of disorder or disease of the head, with some change of the expression of the countenance. You have a feeble or an oppressed pulse, and a cool, pallid skin.

A gentleman had three attacks of madness, before each of which he had distinct marks of congestion in the brain; and, on one occasion, he was in danger of dying in this state. The congestion was each time followed by a distinct attack of fever, during which he was delirious, and the madness continued after the fever was removed.

Many cases of madness commence in attacks of fever, and the disorder of the mind continues when the fever has been removed.

The congestion may continue, and terminate in an attack of apoplexy; but very often excitement follows, and an excitive form of fever is established.

In this form of madness the patient sometimes suddenly becomes furious. This was the case with the poet Cowper.

SYMPTOMS OF ACUTE AND SUB-ACUTE EXCITIVE MADNESS.

Madness commences, also, as an acute or sub-acute excitive form of disease; and then you have a heat of skin higher, and a pulse quicker, than natural; uneasiness about the head; disturbed sleep; or watchfulness; with wanderings of the mind; and the delirium takes place early. The fever declines, and the tongue becomes clean, but the disorder of the mind continues. The

patient has a suspicious or a side look, which are remarkably characteristic of madness: he is violent at one time, and submissive and dejected at another.

On some occasions, the patient dies in this state at an early period.

I saw a young individual, who had an attack of madness, which occurred as a case of fever with delirium. The patient died within three weeks, of affection of the brain, of the spinal cord, of the bronchial passages, and of the abdominal viscera.

Madness occurs, then, under two states of the system.

In one case, you have an over-accumulation of blood internally, and a deficiency externally, with a torpid state of the whole system.

In the other case there is excitement, with a high degree of mobility, which includes a great degree of irritability and of sensibility.

Both these forms are often preceded by threatenings. Almost all affections of the head, though they appear to be sudden, will be found, on examination, to be very slow, especially madness. If the case, whether it occur in a congestive or an excitive form, be traced backward, you will find evidence of the patient having, in the one case, been in a most depressed state of mind, and in the other, of his having been in the most active state of mind; and in both cases it will appear that the stomach, liver, and bowels, head, and skin, were affected. This it is important to remember, in a preventive point of view.

Examples of this kind have occurred in public characters. We have lost a Whitbread, a Romilly, and a Castlereagh; and the history of these distinguished men shows that their corporeal functions were disordered before the madness came on. Some persons have requested to be bled, on account of the great depression which they have felt previous to an attack of madness.

I knew an individual who repeatedly requested his medical man to bleed him under these circumstances. His request was refused; and the consequence was, that he made an attempt—and that an effectual one—upon his life.

Here I may request you to remember, when you are called to an individual who has attempted to cut his throat, that the cause of death is frequently an effusion of blood into the trachea or bronchial passages. I have seen two cases of this kind, where the patients were distinctly suffocated, and did not die of the external wound. It is important that you should not forget this, because

the person's life may be saved by placing the head in that position which is most favourable to the prevention of suffocation by the effusion of blood.

I believe that suicide is often committed momentarily. I have met with many individuals who have had, they say, a predisposition, they know not why, to destroy themselves. This is especially the case when there is united disorder of the stomach, liver, bowels, and head, which leads to madness.

A lady told me that in passing by a pond she felt an almost irresistible tendency to throw herself in, she did not know why. She was prevented by the presence of a little boy who was at play near the pond.

Whenever the slightest tendency to madness occurs the person should always be watched.

Madness comes on also under a chronic character, and there are two forms of chronic disease attending madness; the one congestive and the other excitive.

SYMPTOMS OF CHRONIC CONGESTIVE MADNESS.

In the congestive form you find the head disordered; you find also the skin, stomach, liver, and bowels, disordered. Sometimes you have proofs of slight inflammation of the mucous membrane of the intestines, and of torpor of the liver. In these cases the patient is for a long time filled with gloomy apprehensions, the mind becomes excessively depressed, and then madness is developed.

Sometimes this state suddenly changes, and the patient becomes exceedingly alert.

I know a lady who, from being a cold, gloomy, retired character, became all at once gay, and even dissipated.

This is often seen in asylums: the proud become courteous; the silent become talkative, &c.

I saw a striking instance of it in a captain in the army. The first visit I paid him I found him walking up and down the room with his arms folded and a melancholy countenance, nor would he speak to any one. The next time I saw him he was greatly excited, and was violently walking across the room and talking to every person he saw.

I have seen many cases of this alternation of character.

I knew a gentleman who had received frequent injuries on his head by falls from horses. At first he became dejected, had great depression of spirits, and wandering pains. He went on thus till

he had an attack of apoplexy, which was removed. He then became animated, bustled about, and talked to every body he saw; in short, his character was completely changed.

Sometimes no such change occurs. Patients contrive to suppress every indication of the sensibility of their minds, especially those who keep their feelings within their own breasts at other times. Shakspeare has finely pourtrayed this character—

> " She never told her love,
> " But let concealment, like a worm i' the bud,
> " Feed on her damask cheek: she pined in thought;
> " And, with a green and yellow melancholy,
> " She sat like patience on a monument,
> " Smiling at grief."

A lady had sustained a disappointment, the effects of which she concealed even from her parents. This, with the certainty of the disease being in the family,—for her brother was then in an asylum—preyed upon her mind, and produced melancholia; yet she never gave a hint of her own sufferings till one day an expression escaped her which showed me the cause of her disease. She had a slight twist of the mouth and a dropping of one eyelid, with considerable irritation of the abdominal and pelvic viscera. This lady had a peculiar illusion; she thought that she was so large as to be quite a sight in the streets, and she never wished to go out of the house. On every other subject but this she was perfectly rational.

Such cases as this are by no means uncommon.

The functions of the uterus are often irregular before and during madness in females; they are pale and emaciated, with a haggard expression of the countenance.

Another form follows this state, or arises independently of it; and it is one which you very frequently see in asylums.

If you walk into an asylum you will see one class of patients pale and emaciated, hanging down their heads, and not speaking to any one. And you will see another class of patients, having a bright sparkling eye, perpetually wandering and bustling about, and incessantly talking.

SYMPTOMS OF CHRONIC EXCITIVE MADNESS.

In the chronic excitive form the patient is restless in mind and body, and with a variable disposition; he has a fur on his tongue, and a pulse quicker than natural, and is generally watchful at

night; he has in fact all the symptoms of common excitement, and this frequently continues for a long time without being followed by collapse.

1. These patients are excessively fickle; they contract friendships readily and suddenly, and break them off as abruptly as they were formed, and hate persons without any apparent cause.

2. Others are dissipated or eccentric. Numbers of individuals show madness by a strong propensity to make purchase after purchase of things wholly inconsistent with their fortune, by which they ruin their families. This eccentricity which led to such actions was considered by the Romans as madness, and Curatores were appointed who were answerable for the personal safety of the individual and for his fortune. Many persons who are at large in this country require similar protection, and I am surprised that some such law has not been adopted. Many persons who are now wandering about the streets ought to be under the charge of Curatores; they would be much happier thus, and probably save their families and friends much sorrow and misfortune.

3. These individuals are remarkably suspicious and remarkably cunning.

I am attending a gentleman who is now convalescent, and will probably soon be quite well. He is remarkably quick in his answers, and fertile in his inventions. I found him sitting one very cold day in his wife's flannel petticoat, and remarked to him that he was very airily dressed. "Oh!" he said, "a petticoat is far more convenient than breeches for a man who is under the operation of physic."

4. Sometimes these patients flatter and fawn upon individuals about them; and then it is necessary, especially if the individual be a medical man, to be exceedingly careful, as they do it from deceit; they will smile on a person and plunge a knife into his heart. Those individuals who are exceedingly complacent and subservient should be secured as well for the sake of their own safety as for that of others, as they often under that semblance are carrying on or contriving some most diabolical plot.

DURATION OF MADNESS.

Whether it occurs in an acute or chronic form, if it be not fatal in two or three weeks, it goes on generally for three or four months at least. Do what you will, you will generally fail to remove it in less than this time. It has been very painful to me to see persons, who probably would have recovered in this time, sent to an asylum

as soon as they became mad. If you be called upon to attend a mad patient, you should, for the sake of your own reputation, explain the improbability of the patient's recovery in less than this time. I am sure that three patients out of four who are mad will do well if they be kept out of an asylum, and properly treated. There are several reasons, which I shall hereafter notice, why asylums are unfavourable to the recovery of mad patients. If you have a case of madness under your care you should have a sufficient time to allow your remedies to operate: sometimes six months are required, but generally I would say from four to six months.

Sometimes patients recover in the second year. A very absurd rule still obtains in Bethlem Hospital, which is that of rejecting patients as incurable if they do not recover in twelve months. By reference to the tables of Esquirol it appears that many individuals have recovered in the second year.

PATHOLOGY OF MADNESS.

With regard to the anatomical pathology of madness, I may remark that I have never seen the body of a patient who died mad examined where there was not some disease of the brain. As during life there are symptoms of disease of the brain, and the brain is always found diseased upon examination after death, I infer that madness is the effect of bodily disease.

You find the pia mater more gorged than natural, and the tunica arachnoides opaque; you find blood in the brain, or effusion either into the ventricles or between the membranes. Sometimes you find bloody spots in the brain; sometimes, as John Hunter and Magendie have observed, you find part of the brain harder than natural; sometimes a portion of the brain is softer than natural; and sometimes there are tumours in the brain. Occasionally the membranes are rather hard, such as osseous points depending from the dura mater. You often find disorganization about the liver, but sometimes you find no disease there. Sometimes the colon is found twisted from its usual situation: this probably is the effect of a torpid state of the colon, which, with a torpid condition of the liver, often attends madness.

DIAGNOSIS OF MADNESS.

There are only two affections which can be mistaken for madness: one is delirium; and the other is the brain fever of drunkenness, or delirium tremens.

I. FROM DELIRIUM.

In delirium fever is present—in madness it is absent. This ought to be satisfactory as a general distinction.

But madness is often ushered in by fever, commencing as an attack of phrenitis; and then how are you to distinguish it? No man can then possibly draw the line of distinction. After the fever is removed the patient acquires a suspicious look and language, which are very characteristic of madness.

II. FROM THE BRAIN FEVER OF DRUNKENNESS.

The brain fever of drunkenness, in a legal point of view, may be considered as madness. The patient acts under the impression of illusions as if they were realities.

In a medical point of view you may distinguish madness from delirium tremens by the combination of symptoms. In brain fever the skin is soft, clammy, and damp; the pulse is soft, the eyes blanched, and the countenance pallid; the hands and tongue are generally tremulous. The occasion may be taken into consideration; it always arises from the immoderate use of ardent spirits. The duration may be also considered; this is generally very short—terminating in one, two, or at most three weeks.

You should be very cautious in forming and giving an opinion with regard to madness.

1. You should be careful with regard to the patient; because if you pronounce him insane he loses his liberty, which is one of the dearest things on earth, and is often put under very painful restraint. It very often involves too the loss of reputation, of happiness, and ultimately of life. Attempts have many times been made to affix the stigma of madness on persons in order to deprive them of their liberty or property.

2. Another reason why you should be very careful is, that the interest of the patient's friends and of society are involved in the issue of your opinion. If the person be insane, and you allow him to remain at large, it may end in the destruction of his own life, or the life of another fellow creature.

It is especially necessary that you should be guarded for these reasons, and also—

3. On account of your own reputation. The public deal very illiberally with medical men with regard to errors of opinion. The frailty of human nature is inconsistent with any thing like perfection. We see lawyers committing with impunity the grossest errors of opinion, and sacrificing the fortunes of their clients; we

see judges also liable to similar errors which involve the prosperity and the life of individuals, with no greater effect; but a medical man for any error of opinion which he commits is punished by being consigned to public odium. The speeches of some lawyers, and the charges of judges, against medical men are very astonishing; some of them, with respect to errors of opinion, have been most unwarrantable. If a medical man perform any act of inhumanity, or commit any gross neglect, he ought to be punished; but no man ever lived without committing errors of opinion, and for these he ought not to be accountable before any earthly tribunal.

Once more, then,—be exceedingly guarded in the investigation of any case of madness. At the same time, in performing this high duty, you should on the one hand be alive to all the decorum and delicacies of life; and on the other hand be inflexibly honest, bending neither to party nor person.

Recollect that some individuals are mad in one point only; medical men have frequently neglected this fact.

When you are called upon for an opinion as to whether a person is or is not insane, your investigation should be careful; your opinion should be given in a qualified way. For instance, you may say that the individual is not insane as far as your examination has extended; but that he may be insane upon some point which you have not discovered.

An instance is recorded in Erskine's speeches of an individual, a lawyer, who was once insane, but recovered, and transacted the business of a lawyer's office. He had illusions with regard to a brother, and left his profession. These illusions were proved to be unfounded, and his will was set aside; yet, though he was insane upon one point, he was able to conduct the complicated business of a lawyer.

In courts of law an opinion as to what madness abstractedly is, forms a point upon which you should be exceedingly guarded.

If you advert to the opinions of lawyers upon the subject—if you refer to the definitions which have been given by authors—it will be found that they are all defective, as no abstract definition has been given which is applicable to every case. You should consider, therefore, what are the intellectual faculties in the head in perfect health; you should apply this rule to the subject supposed to be insane; and you should find out the point in which he deviates from it. This is quite sufficient, and is better than attention to any definitions, which never can be correct in every case.

LECTURE XLVIII.

MADNESS METAPHYSICALLY AND MORALLY CONSIDERED.

In the last lecture I proposed to treat of madness—medically, metaphysically, and morally; and I finished the consideration of the first of those divisions. The two remaining divisions will form the subject of the present lecture.

II. MADNESS METAPHYSICALLY CONSIDERED.

Considering madness in a metaphysical point of view, which includes an opinion as to the nature of madness,—the aberration from the healthy standard which takes place may be arranged under four classes; and these deviations are to be ascertained by considering what are the intellectual functions during health, and comparing them with what exist during disease.

I. ERRORS OF PERCEPTION.

The integrity of the nervous system, and the presence of an object, are necessary for right perception. Impressions are made on the nervous system by external objects, and these are followed by sensation and perception, or the discovery of the presence and qualities of bodies. This constitutes what metaphysicians call perception.

Among individuals in health there is an universal agreement as to the external properties or qualities of bodies. When an individual is insane, and the error lies in perception, he will maintain his own opinion against the united evidence of the whole world; he will swear, for instance, and that conscientiously, that black is white, and that round is square, and so on.

II. ERRORS OF CONCEPTION.

What metaphysicians call conception is the notion we form of an absent object, or of a former sensation: it is, in fact, a transcript of what we have felt or perceived.

Between these notions and realities there is a connexion in the healthy state, but deviations frequently exist in madness.

Attention is observation applied to external things.

Reflection is the direction of the mind to those thoughts which pass within us. A mad person sees or hears sights or sounds which do not exist: he mistakes conceptions for perceptions, and imaginary for real things. This seems to result from some change taking place in the brain itself. The occurrence of apparitions may, perhaps, be thus accounted for. A very interesting work has been published by Dr. Ferriar, on apparitions, which he attempts to explain by inflammation or disease within the head.

There are some individuals who assert that they have distinctly seen apparitions.

I know a lady who told an extraordinary story of an apparition which she saw; and she was mad, from a blow which she received on the head.

Sometimes these imaginary things are mixed up with real occurrences.

Dr. Beattie, the poet, was much attached to his son, whom he lost at that period when his mind was fully opened, and when he was beginning to put forth flowers which promised to be succeeded by valuable fruits: he became insane. He always had a knife and fork laid at table: he sometimes expressed his surprise that his son was not present, and he even apologised to his friends for his son's absence.

There is no correspondence to these objects in nature.

Sometimes the patient is intent upon some suspicion, or upon some plot, which operates upon him with all the force of reality. But whether the objects relate to real or imaginary things, the patient reasons very correctly: he assumes things as true, and reasons from those false premises with precision.

A species of what may almost be called madness prevails in the world in religion, philosophy, medicine, &c., which arises from errors of education. We have many instances of this kind in the medical profession. Two-thirds of the speculations in Cullen's First Lines are assumptions, upon which many medical men still act as truths. His premises were false, but his conclusions, and those of his followers, are often true. Having been taught these things, they uphold them as if they were realities: and they do this, because they have not the fortitude to exercise their own thoughts. Yet this cannot strictly be called madness, because it affects whole communities; men professing these opinions can act in a body, whilst the insane only act individually.

III. ERRORS OF ASSOCIATION, MEMORY, AND WILL.

In health, the train of thought is associated with time and space and other circumstances, and we have a control over the associations by the will, which control is lost in sleep; and hence dreams are closely allied to the wanderings of madness. You find that an individual who is mad has confusion in the association of ideas as to time, place, &c.: the controlling power is lost, and the thoughts are presented as they arise. In the lowest degree this only amounts to confusion, as occurs in some cases of reverie, and is dissipated by the presence of any distinct object. Wrongheadedness is closely allied to this: and however virtuous the education of persons subject to it may have been, they will turn out vicious.

IV. ERRORS OF ABSTRACTION AND JUDGMENT.

By abstraction we separate the qualities of things; and by judgment we combine and exhibit them. The remarkable difference with respect to judgment distinguishes one man from another intellectually. It is the power of mind which is latest developed, and is capable of cultivation to the most extreme period of life.

These are the highest faculties of the mind; and they are, or ought to be, constantly exercised in the medical profession. Called to a patient, we sit down and abstract all the circumstances of the case, which we arrange, combine, and exhibit to ourselves; and thus we form, or think we form, a distinct opinion as to the nature of the disease. There are many cases of madness where the patient has no such powers. In one case under this class, the power of abstraction and judgment is retained in every thing but as to a particular thing: sometimes there is a deficiency of this power in several things, and sometimes in all. Many individuals can fit the means to the end with the greatest sagacity and subtlety, and yet are mad on a particular point. Haslam relates a case of a keeper who struck a patient; this the patient felt to be the greatest possible insult, and his manner towards the keeper was entirely changed: he became subservient to him, and gained his confidence, so that at length the keeper employed him as an assistant. He found a weapon and concealed it, and while he was in confidential conversation with the keeper, he stabbed him to the heart, so that he fell dead at his feet.

Having received an insult, such persons will, like American savages, seek revenge through life under any circumstances: they never lose sight of it.

Sometimes in an individual all these four errors are mixed together.

III. MADNESS MORALLY CONSIDERED.

You see, then, the great difficulty of giving an opinion as to whether a man is a responsible agent or not.

A man should be accounted responsible for other actions if he be insane upon one point. Our laws are very humane on this subject: if a man be mad on one point only, he is esteemed mad on all; and punishment is inflicted only on lunatics, who are considered accountable for the actions they commit in their lucid intervals. The laws of all countries are founded upon the opinion that man is not only an intellectual being, but a free agent, and, therefore, a responsible agent. We are, notwithstanding the speculations of some philosophers, free.

By intellect we discover good from evil. This we call conscience. In civilized society there is an agreement in all countries as to what is evil or good. This intellect and moral feeling are changed in madness: the conscience is perverted. Mad persons have not the power of discriminating between good and evil, between right and wrong; and in all those cases they are not responsible agents. There are many cases in society which bear upon this point in the legislation of the world which has never received one-tenth part of the attention that is due to it. Crimes have been committed, and punishment has been inflicted by law upon the aggressor, but no pains have been taken to prevent the commission of crime. If the history of the greater part of the individuals who suffer at Newgate were examined, they could scarcely be called responsible agents. Most of them in early life would be found to have been placed under temptations of varied kinds, and in the company of parents who set them bad examples. Here they have learned to swear, to steal, to lie, to break the sabbath, and to commit any and every deed but those which are right. It ought to be an object with the government of a country to form the character of the lower orders upon good principles; and then they would have a right to visit a criminal with punishment. The safety of society sometimes requires that the guilty should be punished; but in many cases the punishment appears to me to be far too severe, if we take into account the early habits of the sufferer, of which the government have taken no pains to prevent the consequences.

Man acts from two motives: passion and reflection. If he

always calculated the cost he would seldom do wrong. The formation of character is of the highest importance: it is the business of education to bring the passions under the control of the reason. A person may have been born of vicious parents, may have passed his life in dissolute and debasing society, and may have been brought to do, not that which is right, but that which is wrong, so as to completely destroy his responsibility. Here the law is in error: it punishes, but does not prevent, crime, or correct bad principles.

THE TREATMENT OF MADNESS

is, 1. Medical; and 2. Moral.

THE MEDICAL TREATMENT OF MADNESS

may be considered, as I have endeavoured to show, under four points of view; and there are most hopes of recovery when the symptoms of bodily disorder are the most distinct. The only rule I can lay down for the treatment of madness is to investigate the bodily symptoms; ascertain what they are, and refer them, if possible, to distinct pathological conditions, and then endeavour to remove those conditions. You will often find them consisting of disorders of the stomach, bowels, liver, and head. I was surprised at my own success in the treatment of madness in the country, by merely taking this view of the subject, without any reference to the mind. I set aside all speculations, and treated it as a bodily disease. If you adhere to this plan you will cure at least three cases out of four, if you be consulted within the first four months.

TREATMENT OF ACUTE AND SUB-ACUTE MADNESS.

With regard to the treatment which is proper for these cases, you must be guided by the state of the patient.

If the skin be sallow, the tongue foul, and the secretions of the liver deficient; a tepid bath, an alterative dose of calomel or of mercury with chalk or of blue pill, occasionally, with a brisk purgative, and a regulated diet, will generally remove the symptoms.

If there be excitement, bleeding will often cure it.

Even when the system is torpid, especially when the pulse is sluggish, bleeding, if the patient be of a full habit, is necessary, and that to a great extent. If you remove the bodily illness, you may sometimes remove the madness simultaneously, when the

attack is recent. But when you have removed the fever, you will generally find the disease going on with a cool skin, an eye brighter than natural, and the patient will be more sleepless than natural, with some disorder of the abdominal secretions; and then you must pursue the same sort of treatment in a less active degree, as in cases of ophthalmia. Bleeding, purging, and a low diet, will generally produce a cure in the period I have mentioned.

TREATMENT OF CHRONIC MADNESS.

In chronic congestive madness, a tepid bath daily, an occasional alterative, a daily aperient, and daily exercise in the open air, will be necessary. If, notwithstanding these means, the secretions of the liver be torpid, gently affecting the mouth with mercury has great effect.

In the excitive form a somewhat similar plan must be pursued, in conjunction with blood-letting and a spare diet.

If the patients be torpid, they require but little food; but if there be excessive mobility, a large quantity of food is required, and the quality should be such as to support the strength without increasing the heart's action.

After the excitement has been removed, exercise in the open air is necessary. It is of the greatest consequence that the patient should be in the open air; for if he be irritable sleep cannot be produced without it.

I knew a gentleman who had derangement ushered in by congestion, and to subdue which copious blood-letting was required. It then put on an inflammatory character, which required copious evacuations.

I knew another gentleman who had inflammation in the first instance; and when this was subdued, sub-acute excitive fever remained, which was cured by bleeding.

I knew a man who laboured under most terrible illusions, and who thought that he held confidential conversation with the devil every night: this occurred as a case of chronic excitement, and was removed by the plan of treatment which I have mentioned.

I knew a lady who had successively indications of all these four forms, which were removed by evacuations.

In cases of excitement you must begin with pretty free evacuations, and afterwards regulate the bowels, &c.

ASYLUMS

are very unfavourable places for incipient and convalescent cases of madness.

1. One great objection to asylums is the confinement. Almost all the patients there labour under what is called dyspepsia, which commences in disorder of the stomach, bowels, and liver, simultaneously. This tends greatly to prolong the attack of madness. Place a healthy individual under the same circumstances—coop him up in an asylum, and he would be the subject of dyspepsia (as it is called), and even, in some instances, of madness.

The plan I would advise you to adopt with persons of fortune, indeed with all persons who can afford it, is the cottage plan. Put the patient apart from his family, and visit him there as often as is necessary, taking care to have a confidential nurse or keeper to carry your orders into execution. Generally it is best to have a male attendant; and you should pursue this plan four months at least. In cases of confirmed madness it becomes a question of circumstances. If the patient be rich there is no necessity for confinement; but if he be poor, it is impossible to meet the circumstances of the case; and then the restraint of an asylum may be had recourse to with very great advantage.

2. Another objection to asylums is the great interest which physicians have in detaining persons in them.

When a physician descends to become a keeper of a mad-house, it is a very suspicious circumstance. Of course there are many honourable men who are far above any such disgracefully interested motives as those to which I allude, and whose discipline might be of service: yet still this is an objection. The frailty of human nature is such, that no individual but one of known integrity should be intrusted with the care of a mad patient. The power of control over mad-houses is vested in the Lord Chancellor and the College of Physicians; and the certificate of one medical man is sufficient to cause an individual to be sent to an asylum; and perhaps he may never see his friends again. The subject of mad-houses has lately been considerably attended to, but I am afraid there are some which are still very badly managed.

3. Again, in an asylum the surrounding moral circumstances are very objectionable, and the medical arrangement is very bad. Constant exercise in the open air is very beneficial when the excitement has been removed; and yet, with a few exceptions, as where there are extensive pleasure-grounds around the premises and where the welfare of the patient is the first object of consideration, the strictest confinement is adopted.

With regard to—

THE MORAL TREATMENT OF MADNESS,

you must take into consideration the safety of the patient, of his attendants and friends, and of society: he should be prevented from injuring himself and others; but nothing is more absurd than the old plan of moral management. The Friends have a very rational plan of treating madness. They endeavour to study the character of the patient. If an individual be insane upon one subject, they treat him as insane upon that subject, and as a rational being upon all others; if he be insane upon all subjects, they treat him as insane upon all subjects; and they confine him only as much as is consistent with safety. You should adopt such measures as will give simultaneous employment to body and mind, and act with firmness yet with mildness and kindness toward the patient. The mind should be amused, but not worked. If he ever have his way, he will try to obtain it again, till he becomes ungovernable: such persons are always fertile in diabolical inventions.

The patient should never be left a moment without the presence of another individual, for he may destroy himself, or he may destroy some other individual. Above all things remember this rule.

I was called to attend a gentleman labouring under insanity, and I found him raving mad. He was rambling about an apothecary, about Mr. Peel's Bill, and a variety of other subjects in a short time. I desired that razors and pistols might be removed, and that the fire-irons and every kind of offensive weapon might be locked up out of his reach. I desired that his man-servant should not be allowed to be a moment absent from him. I called again in the afternoon of the same day, and found that my injunctions had been entirely neglected, with the exception of the removal of the razors and pistols. Now here I committed a great error in not seeing the things removed before I left the patient. His man-servant had been sent out upon an errand. I went through an apartment into the one in which he was. He was a strong, athletic man, and he seized a poker, and came towards me to dash my brains out. I lifted my arm up as high as I could to receive the blow. It was a highly-polished poker, and came down with such tremendous force on my arm, that the poker broke in two. The patient was extremely agitated, and went into another room, where his wife was. I watched him, and he seized a poker from the fire-place, and taking no notice of his wife, he came towards me again. I then thought that, as it was a matter of

strength between us, and as he had the advantage in that point after the blow I had received, my best plan was to cry "murder," which I did twice most lustily. As no time was to be lost, however, I sprang on him, and seizing hold of his throat, I pressed his trachea, so that I completely paralyzed him: he sunk down and panted for breath. If I had missed my grasp, he would certainly have killed me.

Whatever directions you give in these cases, you should either carry them into effect, or see it immediately done: the man may destroy himself, or he may destroy you, or he may destroy your reputation. If this man had killed his wife, my reputation would no doubt have been materially, and very justly, injured.

Be sure that an individual is perfectly recovered before you suffer him to go at large.

A friend of mine knew an individual who was discharged from an asylum, and who desired a friend to meet him to dine with him at a certain inn. After dinner, while they were drinking their wine, the maniac drew a pistol and shot his friend.

A similar thing occurred near London a few years ago. A friend of an individual who had been insane came to see him; the maniac was supposed to have recovered, but as soon as he saw his friend, he shot him.

Take care, then, not to discharge an individual till his recovery is complete; and you can only assure yourself of this by the most attentive observation, and the most minute examination.

It will be observed that I have been speaking of madness as the effect of bodily disease, and I have stated that the treatment of madness is most successful when it is viewed rather as a disorder of the body than as an affection of the mind; but my own opinions of the mind are not those of a materialist, nor does this view of the subject which I have taken involve the doctrine of materialism. I merely mean to say that the brain is the organ through which the mind operates, and that any alteration in that organ may change the operation of the mind, as any change in the structure of the liver may change its functions. If the substance of the brain be diseased, the functions of the body may be intensely impeded; for the brain is connected with functions, as secretions. The doctrine of materialism, and I may say also the doctrine of immaterialism, being investigated, it must end in the acknowledgment of our ignorance. The nature of the mind never can be ascertained by man, any more than man "by searching can find out God." When a man says that mind is material,

he assumes that he knows the properties of matter; and it is certain that no man possesses any such information. Again, the common sense of the world is against this conclusion. We see the properties of matter, and we see the operations of the mind, and as they are evidently different, we conclude that the essence of each is different: but we are not certain of this.

There is one class of materialists who assume that the mind is material, and that it is annihilated with the body. This also is an assumption. Some disease attacks this frail body; it dies, and is committed to the grave. A part of it mingles with the dust, and another part evaporating in the form of gas, is united with the surrounding atmosphere. This is all we know on the subject; and if any man assume that the mind is annihilated, he assumes what he has no right to do. Reflect what limited capacities animal senses are. Paley remarks, that many animals seem to have but one sense, or perhaps two at the most, touch and taste. Ought such an animal to conclude against the existence of odours, sounds, and colours? To another species is given the sense of smelling. This is an advance in the knowledge of the powers and properties of nature: but if this favoured animal should infer from its superiority over the class just described, that it perceived every thing which was perceptible in nature, it is known to us, though perhaps not suspected by the animal itself, that it proceeded upon a false and presumptuous estimate of its faculties. To another is added the sense of hearing, which lets in a class of sensations entirely unconceived by the animal before spoken of; not only distinct, but remote from any which it had ever experienced, and greatly superior to them. Yet this last animal has no more ground for believing that its senses comprehend all things, and all properties of things, which exist, than might have been claimed by the tribes of animals beneath it; for we know that it is still possible to possess another sense, that of sight, which shall disclose to the percipient a new world. This fifth sense makes the animal what the human animal is: but to infer that possibility stops here; that either this fifth sense is the last sense, or that the five comprehend all existence, is just as unwarrantable a conclusion as that which might have been made by any of the different species which possessed fewer, or even by that, if such there be, which possessed only one. The conclusion of the one-sense animal, and the conclusion of the five-sense animal, stand upon the same authority. There may be more and other senses than those which we have. There may be senses suited to the perception of the powers, properties, and substance

of spirits. These may belong to the higher orders of rational agents; for there is not the smallest reason for supposing that we are the highest, or that the scale of creation stops with us. Probably, and I believe that, there are a superior order of beings who know something at least of the nature of the mind. I believe that the mind exists after death; but I have no fact exclusive of *revelation* to authorize me to declare that it does.

Among other great men, Locke seems to have considered the mind as some subtile matter which existed after death. This supposition is not natural, because subtile matter is not perceptible to our senses. Another view of the subject has been taken by Haller and others, who believed in the resurrection of the body, and that the mind was material; and that after thousands and thousands of years it would seem but a point of time at the day of resurrection, after so long a sleep. It is compared to the bursting of a chick from the egg.

No man can be a happy individual who takes the cold and gloomy view which looks on death as annihilation; and yet I believe there are many in the world who entertain this opinion as well as the others which I have mentioned. The doctrine of immaterialism is more congenial to our nature, and the mind fainly would soar to immortality; but still, even this doctrine is only an assumption. It is said that the mind is immaterial, that it has not the properties of matter; but we are not acquainted with the properties of matter. We say that the mind is immaterial, and that therefore it is immortal; but this is an assumption. If it be necessarily immortal, it is independent of the Deity, which it is impious to suppose. Whether the mind be material or immaterial, it appears to me that for its future existence it must depend upon the will of the Deity; and the Deity could as easily make any thing which is material, immortal, as He could any thing which is immaterial. And this seems to have been included in the injunction which our Saviour gave his apostles when he sent them to do miracles and to preach: "Fear Him which is able to destroy both body and soul."

There are many arguments in favour of the immortality of the mind; and I think that it is not necessarily combined with the doctrines of materialism or immaterialism; it stands alone and unconnected. The two most reasonable arguments are, 1. Our moral constitution; 2. The justice of the Deity. If all the philosophers who ever spoke on the subject were to attempt to persuade a man that death is annihilation, I believe that they would

ultimately fail. The hope of immortality would still rage in his breast stronger than their boasted arguments. The hope of immortality seems to be an original part of our nature, and I believe that it is implanted in us by the Deity.

If we look about us, we see abundant proofs of the benevolence and beneficence of the Deity. The air we breathe might have been made painful to us; but it is pleasant. Sight might have been made disagreeable to us; but it is quite the contrary.

With regard to the moral world, there appears to be a contrast. There we see good and evil mixed together; though every thing is pleasurable in the physical world. We see nations afflicted with war, or galled with oppression; we see man gratifying his own evil desires at the expense of the lives, of the comforts, of his fellow-creatures; we see some surrounded by all the luxuries which this world can afford; and others visited by famine, by pestilence, and shame. We can only explain this by a reference to a future state; it is only by such a consideration that these seeming discordances can be reconciled; and whether we take into account our moral constitution or the justice of the Deity, both speak loudly in favour of a future existence. How many persons who are labouring under the greatest distresses in this world are upheld by this consolation. And would any one wish to deprive them of this hope? No medical man can have practised in his profession without seeing that such a hope is, during life's existence, conducive to virtue, and, above all, that it is highly consolatory, and that when all other consolations fail—on a death-bed.

LECTURE XLIX.

PREDISPOSING AND REMOTE OCCASIONS, PATHOLOGY, SYMPTOMS, AND TREATMENT, OF HYPOCHONDRIASIS AND CHOREA.

THE next affection which I shall notice is Hypochondriasis.

PREDISPOSING AND REMOTE OCCASIONS OF HYPOCHONDRIASIS.

Persons of a melancholic temperament are most liable to it. This temperament is generally known by a sallow skin; by dark, broad, and large eyebrows; by dark eyelashes; generally by dark or grey eyes; by a solemn expression of countenance; by black hair; and by a deep-toned sepulchral voice. It sometimes occurs in

persons differently characterized; with auburn hair, light complexion, &c. It is sometimes marked by slow, but very often by transcendental intellectual powers: occurring in individuals of profound genius, who are often indifferent to events about them, and who take no notice of trifles—like the ocean, their power is not felt in the calm, it can only be displayed by the influence of a tempest. It is more commonly found in males than in females, and perhaps it is on this account that hypochondriasis is more apt to occur in males than in females.

There is no doubt, however, that the tendency to hypochondriasis may be, and often is, acquired. Sedentary habits powerfully predispose to it, and especially mental anxiety: the combination of these two circumstances will first predispose to it, and then excite it. It most frequently occurs about the middle or advanced periods of life, at the periods when anxiety makes the longest and deepest impressions. How few who are passing through life can realize the dreams of youth; and how many who have calculated upon a succession of bright events have to contend with the most bitter disappointments. It is almost invariably preceded, and always attended, by what is called indigestion; but there is mostly some concurrent state of mind. Many cases of dyspepsia have a mental origin. Voltaire says nothing makes a wise man so much like a fool as indigestion; and when it occurs in persons of a melancholic temperament, this observation is remarkably true. The state of mind in hypochondriasis is peculiar: there is an exclusiveness of mind, an earnest undivided attention to self. And accordingly hypochondriasis may be regarded as a mental as well as a bodily disease. There are indications invariably of disorder of the stomach, liver, and bowels, generally accompanied by obscure uneasiness about the head; and the attention of the patient is fixed on his own affairs, perhaps, in the first instance, and next on his own complaint. There is, I repeat, a very peculiar selfishness in hypochondriac persons; and this state of mind goes on till the most amiable person becomes a most selfish being, so that he will sacrifice his fortune, friends, in short, every thing, to his own benefit, and can think and talk of nothing else but his own concerns. The mind in these cases becomes a sort of sentinel to the body, and every feeling that arises is narrowly attended to, and generally exceedingly exaggerated. I have seen many young females hypochondriacal, especially those whose habits have been sedentary, and upon whose mind anxiety has been preying. Among medical pupils I have met with many instances. I saw several at Edinburgh, of which the following was one:—

I remember seeing a young man of splendid intellect who was studying medicine at Edinburgh, and he imagined that he had every disease of which he had heard or read or on which he attended a lecture. He was on this account compelled to leave the medical profession. He then turned his attention to the bar, and some years ago obtained an appointment in India, where he recently died.

I have said that there is an exclusive state of mind in hypochondriasis; it does not amount to actual insanity, but it is a state of mind which borders upon it, and which may be associated with it. It is, in fact, insanity on one point.

I alluded formerly to the case of a lady who imagined herself to be so large as to be quite a sight in the streets, and yet this lady is remarkably thin.

I dined with a medical man who was very odd, and he told me that he had a curious case of hypochondriasis in a patient who thought she had the sea in her belly; and that he made a large issue in her abdomen, and thus drew off the sea. I did not suspect at the time that this medical man was insane, but in a few days he was a furious maniac.

I knew a gentleman who desired a medical man to send him some medicine to take, "for he had seven devils." The doctor said he did not like to take any man's word upon such a subject, and wished to investigate the case personally. He called on the patient, and having examined him, said, "Seven devils! you have eight, and the eighth is worse than all the others put together." It was agreed between them that the doctor should adopt some means of driving out these devils; and the first was accordingly driven out by a slight electric shock, and the others in succession by shocks increased in power, till only the eighth devil remained; and then the doctor to get rid of this troublesome guest took care that the shock should be strong enough to knock the patient down, and he was entirely cured.

Hypochondriacal persons display great fickleness of temper: they are generally not satisfied with one medical man, but go from one physician to another. A patient came to me one morning with a pocketful of prescriptions by different medical men, and wished me to read them all. This would have taken me three or four hours, and I told him that I chose to think and act for myself about my patients, and that as to his prescriptions, I would not read one of them; and thus I got rid of him much sooner than I otherwise should have done. Now it frequently becomes a point of duty with a medical man to be honest with hypochondriac patients, especially

if they be young. You seldom find that there is any organic disease in young persons who are hypochondriac; and if a medical man once indulge their illusive impressions, he will confirm the hypochondriasis in these patients. A medical man should by all means check this state of the mind when it occurs in the earlier periods of life. You often meet with these cases in women. There are many fashionable dissipated women in London, who are the subjects of hypochondriasis. They sit up late at night; they drink wine; they eat a complicated diet; they occasionally tipple a little dram, or take opium; and perhaps they go on thus for a winter, or a series of winters. Then they must have their cordial draught at night, and their rhubarb draught in the morning. This is precisely the way in which prescriptions are written for dissipated and fashionable females. A medical man should be honest in these matters: he should not give in to the whims and caprices of his patients; and if they do not like it, let them be displeased if they will. I am sure that, since I have been in London, I might have attended many patients who would have given me a guinea a day all the year round, if I would have given in to their caprices. Hypochondriasis is frequently found among old maids who have been disappointed in love, and sometimes produces a kind of insanity about which Pope speaks.

PATHOLOGY OF HYPOCHONDRIASIS.

There are, then, two principles of pathology to be attended to. Hypochondriasis is an actual bodily disorder or disease.

1. In all young persons it is only disorder, and there is scarcely ever any organic change. For example, the stomach, liver, and bowels, are generally at the same time disordered; you have slight irritation or chronic inflammation of the stomach: you have the liver torpid or irregular; and you have the colon torpid or irregular. This is what I mean generally by disorder of the stomach, liver, and bowels. Along with these you generally have slight irritation or irregularity of the circulation in the brain, which perhaps is the cause of that exclusiveness of mind which attends hypochondriasis.

If any thing arise which produces a sudden and great change, these cases are sometimes immediately cured. The symptoms are not, like those of structural disease, permanent and progressive.

2. In some cases there is organic disease. On minute examination in persons of advanced age who are hypochondriac, you will find some chronic disease of the stomach, liver, bowels, heart, and

large adjacent vessels, or brain; and here insanity generally winds up the case.

When there is only bodily disorder, the patient generally makes great complaints and long faces, and you can scarcely perhaps refrain from laughing at seeing him so full and healthy. But when there is organic disease, the patient is generally remarkably withered and wasted; he has become emaciated from a certain point, and this has gradually increased.

I remember seeing two cases of chronic inflammation of the brain from blows: both the patients were hypochondriac, and died.

In all cases of what is called dyspepsia, if there be any illusion, or any affection of the mind, always look to the head.

You will seldom be alarmed at hypochondriasis when it occurs in young subjects. I have, since I have lectured here, had the honour of curing some of the pupils of extraordinarily dangerous organic diseases by very slight means. I have cured an aneurism of the aorta by a slight purgative; ossification of the heart by a little blue pill; and chronic disease of the brain by a little Epsom salts. You sometimes meet with such cases in private practice, and they are all cured by the removal of the bodily disorder or disease.

THE TREATMENT OF HYPOCHONDRIASIS

turns, then, on the bodily disorder and the state of the person's mind.

When there is only disorder in its strict sense, the case is readily curable, if the patient's attention can be directed to external objects. Impressions of a tendency contrary to the prevailing feeling may be produced by medical or other expedients; and you may give a gentle dose of blue pill twice or thrice a week, and a laxative daily, and regulate the diet. Let him, for instance, take plain bread with a cup of tea in the morning, and plain roast or boiled meat at dinner, and a little mashed potatoe or plain pudding. Let him also take regular exercise in the open air: this should always be attended to; for very few persons are hypochondriacal who take much exercise in the open air. I must not omit to mention the great benefit which may be derived from travelling in the open air from place to place: it is surprising how effectually this plan succeeds.

A lady whom I attended under the following circumstances has quite recovered. She had hypochondriasis in London, on

account of which she consulted many physicians. There appeared to be disease in the head, and I tried a variety of measures without affording her any relief. She went on in a state of constant mental uneasiness, and I advised her husband to let her give up taking medicine and travel from place to place. They did so all last summer, and she has perfectly lost all her complaints.

Under this treatment the patient will generally do well, if his mind be kept at rest. The warm bath also is very useful. Sometimes there is irritation, amounting to slight inflammation of the stomach, of the small and large intestines, and of the liver; and then local blood-letting, according to the degree of the inflammation, and the constitution of the patient, is necessary in the first instance. Remove all adverse circumstances from the patient's mind. Mental depression greatly protracts hypochondriasis, because it keeps up the disorder of the stomach, liver, bowels, and brain, upon which hypochondriasis depends.

A general officer deemed himself neglected by his late Majesty, George III., and this operated so powerfully on his mind as to make him hypochondriac. It was contrived that he should be introduced to the King on a public occasion, and his Majesty took a great deal of notice of him; and from that time he recovered. This case was related to me by a friend of mine, who attended him.

When there is chronic inflammation at the bottom of hypochondriasis, investigate its seat and extent, and treat it upon common principles. If you find it in the head, stomach, liver, or bowels, remove it, if possible. You must not, however, believe all the patient says of his feelings; but investigate narrowly all the obvious symptoms, and you will be able, with tolerable certainty, to ascertain whether his assertions are trne. Investigate, for example, the state of the five external senses, and the state of the intellectual faculties. Investigate the state of the muscular motion, the state of the sleep, and every thing that relates to the functions of the brain; and go on thus with all the other organs. Patients in these cases generally exaggerate their feelings very much.

When the case is complicated with organic disease, little can be done by medicine; but the mind should, if possible, be kept at rest by the removal of all circumstances which are likely to disturb the mind or increase the disorder of the functions of the body.

PREDISPOSING AND REMOTE OCCASIONS OF CHOREA.

The word Chorea was formerly used to express a fanatic dance,

very common at one time in Germany. Sydenham first used it to express the disease which by modern surgeons is commonly termed chorea.

It mostly attacks females; perhaps because in them the nervous system is upon the whole the most delicate.

It most commonly occurs between the ages of ten and fourteen; perhaps because at this period the nervous system is brought particularly into action in males as well as in females. I have known it occur earlier than the tenth, and later than the fourteenth, year.

It is, as far as I have observed, always preceded by some disorder of the stomach, liver, or bowels; and the affection which takes place in the brain and spinal cord, for both of them are affected, seems to be secondary.

You may almost always trace its rise to some improper diet. It is very common in children who eat many vegetables, and are subject to worms. It often occurs from eating pudding; and frequently from the irritation which arises at the period of the shedding of the first set of teeth.

It arises from any occasion which renders the nervous system irritable; sometimes, for instance, from the presence of a tape-worm.

I saw a lady in a pregnant state who laboured under chorea. She had a tape-worm, and I ventured to give her a dose of turpentine, which dislodged the tape-worm, and the chorea ceased.

SYMPTOMS OF CHOREA.

Chorea generally comes on by some irregularity in the muscular motions of the arms, legs, trunk, face, neck, mouth, &c., so that you would suppose a child to be playing tricks with itself. If it be in the legs, the child has a sort of drag; if it be in the neck or trunk, it is an awkward sort of shrug; if in the muscles of the face, it is a sort of catch. After a time, if you put a cup into its hand, the child will perform a number of ridiculous motions in order to get the cup to its mouth. One side is generally affected more than the other. When the affection is very slight, the patient can often get a cup to his mouth, but not when it is fully formed. The motions generally cease during sleep, and are aggravated by notice or sympathy. For some time the tongue is not affected, but it invariably is in the progress of the affection. The patient speaks with difficulty, and rolls his tongue, as if his tongue were too large for his mouth; or he stammers a word or two, and cannot get any further. The deglutition, in time, becomes somewhat impeded. The countenance undergoes a change; it fre-

quently is paler than natural, and has a wearied expression, as if the person wanted sleep, mixed with a degree of vacuity, and at length the countenance becomes fatuous. Generally, if it continue a long time, the intellects are affected, the child gradually losing its memory and other faculties.

These symptoms generally arise gradually, and increase gradually, till at length sometimes all the muscles become affected. The patient is unable to stand, and lies in bed, tossing first one arm, then the other, then one leg, and then the other, rolls its tongue, and performs various other antics in succession.

Sometimes these symptoms come on very suddenly; and in general, then, and when all the muscles of the body are affected, the case is very serious; but there are some exceptions to this.

I knew a lady who for three months had severe chorea; but she at length had all the symptoms of hydrophobia, and died in that state. This, with one exception, is the only case which ever fell under my care which was fatal.

A short time ago I saw a little girl who was in great danger of dying of chorea; she had obtained no sleep for several nights, and all the muscles of the body were in motion. In this case the stools were like tar; she had confusion of intellect, and a fatuous countenance.

When the patient obtains no sleep, and all the muscles are in motion, there is always great danger.

PATHOLOGY OF CHOREA.

The disorder I have said first commences in the *primæ viæ;* and the brain appears to be next affected, as seems to be shown by the countenance and by the state of the intellect. The spinal cord, I believe, is affected, because the upper and lower extremities are both affected; probably the cerebrum, the cerebellum, and the spinal cord, are all affected. I have never seen any dissection made of patients of this kind; but a friend of mine has told me that he saw one case in which there were proofs of increased vascularity of the spinal cord and its membranes.

With regard to the—

TREATMENT OF CHOREA,

the general management is of more importance than the medical treatment; and one of the most essential things in the onset is a regulated diet. A due attention to the secretions of the liver and to the alvine discharges, and a regulated diet, with an

occasional shower bath, will, I believe, almost invariably cure chorea. You will not, however, cure chorea speedily by these means; you must steadily pursue this plan for six weeks or two months generally, and sometimes it will require three months to subdue it. The best diet for children in chorea is bread and milk in the morning and evening, and a small quantity of animal food with bread in the day. This diet is the best if there be no inflammation in the stomach or small intestines, and then the diet should be very bland, as milk, with some farinaceous food, arrow-root, or thin gruel. Get rid of acidity by an occasional dose of magnesia, or of the carbonate of an alkali. Give calomel every night in conjunction with rhubarb or jalap; and sulphate of magnesia with infusion of senna, or compound decoction of aloes, or cold-drawn castor oil, in the morning. As an alterative give small doses of blue pill occasionally, not oftener than every second night. When the patient loathes food, but there is no pain on pressure and the head is not affected, a mild emetic may be administered. If there be inflammation of the stomach or small intestines, apply leeches as long as the tip of the tongue is red and there is obscure pain on pressure. Sydenham was in the habit of bleeding in chorea; and where there are indications of fulness of the head in children of a full habit, moderate general bleeding is sometimes beneficial, but generally local blood-letting is preferable. If large quantities of blood be drawn, especially in delicate habits, the disease will be invariably increased.

I attended a boy, who was a native of the West Indies, at Hackney, with chorea. His surgeon had bled him largely, and all the symptoms were aggravated. He sent for me, and when I saw the boy he appeared to be dying; he had a combination of chorea and epilepsy. When the epilepsy left him his skin was cold, his pulse feeble, and his respiration weak. The hot air bath was immediately employed; his pulse rose, and he fell into a profound sleep, and recovered; but he had frequent threatenings of the same state of collapse afterwards, which were warded off by large doses of opium—drachm doses of tincture of opium. I have formerly observed that opium often saves life, especially after bleeding largely when the patient is in a state of collapse, and especially where there is great sensibility. It saved the life of the little girl to whom I alluded (page 734): I joined calomel with the opium in her case, because the secretions of the liver were very bad, and it was exceedingly beneficial. I gave her this, at night, twice or three times, and a daily aperient in the morning.

During the progress of the disease, the shower bath, at first tepid and afterwards cold, and exercise in the open air, are very necessary. The mind must be attended to. The twitching, &c. should not be talked of in the patient's hearing; nor should too much notice be taken of him.

There are also other means of curing chorea.

Sulphate of zinc will often remove it, and many persons prefer this to the purgative plan. The purgative plan in my hands has always cured it, except in two cases; one of them I have before mentioned, and it failed in a case which I saw in a pupil at Edinburgh. Sulphate of zinc may be given three times a day, in five grain doses gradually increased, keeping the bowels open; but if you adhere to the plan I have laid down you will almost invariably remove chorea as speedily as by the sulphate of zinc.

Small doses of arsenic may be tried: you may begin with one drop (for a child six or eight years of age) three times a day, always taking care to administer it after a meal, and gradually increasing the dose till the disease abates.

I saw one case where a strictly regulated diet and every other plan had failed, and which was cured by music. A travelling musician passed by the house, and while he was playing the child's parents noticed that its motions were remarkably still; they took the hint, and procured sleep regularly every night by means of music, and the child ultimately recovered. I have seen such a beneficial effect, in quieting the motions and inducing sleep, from music, that if ever I saw a case where the patient was sinking I would not hesitate to recommend the use of music.

LECTURE L.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, PATHOLOGY, DIAGNOSIS, TREATMENT, AND PROGNOSIS, OF HYSTERIA AND TETANUS.

PREDISPOSING AND REMOTE OCCASIONS OF HYSTERIA.

THE ancients supposed hysteria to be closely connected with the uterus. What is called the *globus hystericus* they supposed to be the uterus, which, having left its usual situation, had ascended

into the neck. This was allowing the uterus rather more latitude than is usually admitted in the present day. Their practice was consistent with their theory, for they applied perfumes to the pubes, and assafœtida, &c. to the throat; the one to entice the uterus downward into its proper situation, and the others to force it from the throat. No doubt hysteria has a connexion with the uterus; it prevails most in females between the fifteenth and fortieth years. There is a remarkable sympathy between the uterus on the one hand, and the brain and nervous system on the other hand; and irritation of the uterus accordingly has extensive influence. I know some individuals who suffer exceedingly in the head from irritation of the uterus.

I know a lady who always squints when the menstrual discharge is about to appear.

I know a young lady who is deficient in sight about this period, and who would remain so but for a free discharge from the uterus.

Remember that disorder of the uterus is almost invariably the consequence of previous disorder of the stomach, liver, and bowels.

Persons of a nervous temperament, who are highly irritable, and have a delicate constitution, are prone to hysteria; these persons have a capricious mind.

The tendency to it may be acquired by various circumstances, as copious bleeding, anxiety of mind, confinement, &c.

But though in females it is closely connected with the uterus, yet hysteria sometimes occurs in males.

Dr. Trotter observes, that at the time of the disturbance among the sailors in the Nore many sailors had hysteria.

I have seen a case of strict hysteria in a sailor.

I have attended a gentleman who has sustained some severe domestic calamities, and who has had three as distinct attacks of hysteria as I ever saw in a female.

Mental anxiety is the exciting occasion in these cases.

A slight degree of disorder of the stomach, liver, and bowels, often predisposes to it, and a higher degree excites it.

I know an Italian lady who has twice had an attack of hysteria induced by strong mental emotions; once by hearing an Italian air. Nothing more strongly associates the present with the past than music; and I believe that most of the pleasurable and painful feelings produced by music arise from this association. This lady had another attack from seeing a gentleman who came from Italy.

Most frequently something occurs to disturb the mind just before the attack takes place.

SYMPTOMS OF HYSTERIA.

When the attack comes on there is generally rumbling of the bowels; this is followed by what is called the *globus hystericus:* a ball seeming to stick in the upper part of the throat. The patient then becomes convulsed; the eyes are turned up, with a twist about the mouth, or a writhing of the trunk and extremities. Generally a feeling of nausea and sickness is present. The patient laughs, and then cries; suddenly she faints, and then she starts up and screams; then she becomes sulky and silent, and after a time she becomes vivacious and talkative. The attack generally terminates by a copious flow of pale urine.

PATHOLOGY OF HYSTERIA.

Sometimes hysteria is complicated with other diseases.

I saw some time since a woman dying of chronic inflammation of the mucous membranes of the air-passages, stomach, and bowels, and she had hysteria.

The strong sailor, whom I mentioned as the subject of hysteria, had a distinct affection of the heart, of which he died.

Sometimes it is connected with fever.

I saw a lady who had incipient symptoms of typhus fever, which occurred with hysteria.

I never like to see an hysterical tendency in fever; it is generally connected with affections of the head or heart.

DIAGNOSIS OF HYSTERIA.

The rumbling of the bowels, the globus hystericus, the writhing of the trunk and limbs, convulsions of the face, followed by laughing, crying, fainting, screaming, sulkiness, vivaciousness, &c. in rapid succession, being remembered; you will have no difficulty in distinguishing it. In short, it is known by its great variableness; for it is a perfect Proteus of disease.

There is another disease to which I wish you to attend—a spasmodic cough; sometimes occurring and looking like laryngitis. There is generally a cool skin and a soft pulse, and the disease generally disappears quite unexpectedly. I have seen several such cases.

The patient in hysteria simulates other diseases frequently;

apparently not for the purpose of deceiving, but from an irresistible tendency to imitation. I have been deceived thus several times, and these cases require great caution. It arises from a capricious state of mind, under which the individual is hardly accountable for her own actions.

THE TREATMENT OF HYSTERIA

consists—

1. In correcting the disorder of the stomach, liver, or bowels. This is to be done by a regulated diet, by exercise in the open air, by occasional mild laxative medicines; and recollect, in all persons of a nervous temperament, to be very careful in the administration of mercury, which, if it affect the system very much, increases the nervous temperament, and on some persons operates as a poison. Let it be given only occasionally, and in the morning rather than at night, and followed by aperients. On the other hand, be cautious in the exhibition of tonic medicines; if they be given day after day, the patient will become hypochondriac; she will get into a system of drugging, which is very prejudicial. If there be a deficiency of the catamenia, aloetic purgatives may be given.

The treatment consists—

2. In removing the mobility; that is, the increased irritability and the increased sensibility of the body. The kindest thing you can do for the person in a fit of hysteria is to take no notice of her. I believe that if a woman lay on the deck of a ship in a fit of hysteria, she would not fall into the sea if left alone. Patients, as far as I have observed, never injure themselves if they be not noticed. The fit is always aggravated if the friends of the patient stand around. I have seen many examples of this kind.

A young lady in the country had been for some time the subject of hysteria, and no treatment had benefited her. I saw her, and determined to cure her rapidly; and I therefore told her that if another fit occurred I must burn her feet, as no other treatment had been of service. I told her father, who was present, to put the poker in the fire, and let me know if another fit came on. The fit did not return as soon as usual, and, in fact, she never had another.

I saw a lady in the City, of the same capricious mind, and who was the subject of hysteria. I desired that no notice should be taken of her; and that if she fell in going up stairs or elsewhere, there she should be suffered to lie till she was able to get up again: she was well in two or three days.

A servant in a gentleman's family had been playing similar

tricks (if I may call them so), and by a promise of burning her feet, she was completely cured.

A lady, a particular friend of mine, I have several times treated thus with success. When she was in the country she had a fit, and a surgeon being sent for, was alarmed, and bled her largely; I was afterwards consulted, and advised that no notice should be taken of her; and the result was, that she was immediately cured.

I could, if it were necessary, adduce many similar examples. Sympathy is the very food of hysteria; and I repeat that the kindest thing that can be done for a patient under hysteric fits, is to treat her with complete neglect. Nothing tends to increase what is called nervousness so much as notice. If you talk of the subject, or sympathize with the patient at other times or during the fit, you will do her great injury. You should explain the cause of it to the friends, or they may think you exceedingly barbarous.

The only way to cure it in some cases is to appeal to a woman's sense, representing to her the ridiculousness and indelicacy of her conduct, which will generally make her attentive. Flatter her understanding; tell her that she has the power to make an effort to overcome the fits; and you will generally be successful. Adopt Sir Pertinax Macsycophant's maxim, paying constant "attention to make every man well pleased with himself;" but you should do this honestly, and never please any one with himself unless he deserves it, and hysterical patients do deserve it. I have entirely freed many persons from hysteria by appealing to their good sense. The next object in the treatment of hysteria is—

3. To remove occasional over-fulness of the blood vessels.

When hysteria occurs in individuals of a full habit, occasionally there is some tendency to serious affections of the head.

I saw a lady with distinct hysteria for some time, and it was followed by a profound attack of apoplexy, which disappearing left complete hemiplegia, and this was got rid of by evacuations.

I saw a lady who had been the subject of rheumatic affections, and who took dose after dose of opium to relieve the pain. She became hysterical. She then had an overwhelming fulness of the head, and at last became profoundly lethargic; her eye was prominent and watery, and her pulse a mere quiver; she had difficulty of deglutition, and relaxation of the sphincter muscles, and died apoplectic.

When hysteria occurs in these persons, abstract blood, to ward off such affections. Antispasmodics in such cases are to be studiously avoided. And it is not right to abstract blood largely,

because it increases the mobility of the patient, and creates an enormous activity of the heart and arteries.

The last object in the treatment of hysteria is—

4. To avoid all the exciting occasions of it.

A medical man should advise hysterical women to shun all these, though some of them cannot be avoided: for instance, a woman cannot help having a bad husband; but she may avoid taking opium, sitting up late at night, and going out and neglecting her children. Opium is very often taken privately by females, especially in the upper ranks of life; and hysteria is often connected with this.

Whatever tends to depress the body, and whatever tends to produce fulness, predisposes to hysteria. These two extremes seem to induce the disease: I have seen this exemplified again and again in the same individual. One very important thing is exercise in the open air. Very few persons are prone to hysteria who go to bed early, and take exercise in the open air.

THE PROGNOSIS OF HYSTERIA

is generally exceedingly favourable. The prognosis, however, requires caution, if hysteria be complicated with other and serious diseases. In families in which affections of the head prevail, and where it occurs in persons of full habit, caution is required in the prognosis of hysteria, as it may pass into apoplexy.

There is one form of hysteria which is almost hopeless unless the husband and the medical man act very decidedly. It is hysteria which occurs in females who, from novel and romance reading, and from sitting up late at night, have acquired a morbid sensibility of mind, or rather a morbid sensibility of body with a mere pretended sensibility of mind. They do not like any one near them, unless he comes to make some sentimental and satisfactory speeches to them. If the husband and the medical man be firm, it may generally be cured in the onset. If the disease be established, it goes on at least to old age; and I scarcely know any individual who is more miserable than the husband of such a woman; for there is not only the doctor to pay, but there is the "devil to pay" into the bargain.

Hysteria sometimes passes into madness.

Two old ladies brought a young lady to my house who laboured under madness, and they told me that she had been disordered in her stomach for some time. At a boarding-school she read a series

of books containing accounts of some most horrible murders, and she became extremely dejected. Independently of this she became extremely agitated, and had a strong tendency to destroy herself or some other persons, and she even warned some of her friends to be on their guard. Before she was mad, hysteria occurred. The mental shock occasioned by the books she read produced an hysterical state of the system, and insanity supervened. I have attended other individuals in the same family with head affections; therefore I have no doubt that there is in them an hereditary predisposition to such maladies. The look of an insane person is very peculiar. This young lady's eyes were for a moment or two fixed on the ground; then I observed her turning them askew on me, and then on her relatives: and this side-glance of suspicion is most remarkably characteristic of madness.

I saw a lady who at my first visit was labouring under rheumatic fever; then she had inflammation of the bowels; then hysteria; and lastly, a distinct attack of madness, from which in three or four months she recovered.

REMOTE OCCASIONS OF TETANUS.

Tetanus is called idiopathic, or symptomatic; the one arising from external injury, the other without. This is believed by almost all the individuals who have written on the subject.

A friend of mine, who has had extensive experience in hot climates, never found a case of tetanus occur without local injury; and he was led to an opinion that this was the case by a careful examination of the whole surface of the body. This is a very remarkable circumstance. The local injuries which most frequently produce tetanus are those which are applied with friction. I have seen several cases where the patient was absolutely dying, and only one case where I had a fair opportunity of seeing the effects of remedies. I formerly resided at a sea-port in the north of England where this case occurred, from the friction of a rope. A rope, for instance, is stretched across the river; it breaks; and coils over a man's arm or leg.

Wounds of tendons are very apt to produce tetanus. Dislocations occasionally produce it; and a friend of mine had a case arising from dislocation of the thumb, even although the dislocation had been reduced. Superficial sores, as burns or scalds, I have three or four times seen followed by tetanus, and it has come on when the wound has been healing. It may arise from common

issues, or from including a nerve in a ligature after an operation. It may be produced by slight operations. If a man have a wound it should be carefully treated; the system should be kept in a state of health, and the mind easy, if you have any apprehension of tetanus; for if a person's mind be impressed with a dread of tetanus, it is more likely to occur. Any local irritation, which disturbs the nervous system generally, will lead to tetanus.

Mr. Stewart, who has seen a great many cases of tetanus, never knew a case arise where turpentine had been applied to the local injury; which is a very remarkable fact. But Mr. Stewart at the same time paid strict attention to the diet, which is of very great importance.

It occasionally happens that tetanus occurs when internal ulceration is occurring. A case of tetanus in a horse is on record, where internal ulceration was found. This, perhaps, may explain the pathology of idiopathic tetanus. The great predisposing or concurring condition of the system seems to be, an increase of the sensibility and irritability, produced by the state of the mind, bad diet, bad air, &c.

SYMPTOMS OF TETANUS.

When it does come on, the patient generally complains of uneasiness or stiffness about the neck or jaw, and tonic spasms occur. When merely the muscles of the jaw and neck are affected, the disease most frequently terminates favourably. When not only the jaw and the neck, but all the muscles of the body are affected, it is one of the most dangerous maladies I know off. The patient is liable then to sudden, and sometimes convulsive, attacks every ten minutes or quarter of an hour. The state in which you generally find such a patient is with his mouth drawn backward, and a ropy saliva flowing from it. This state is often mixed up with the *risus sardonicus*. You see the eyes partly closed; an anxious expression of countenance; the external angles of the eyes are drawn out; and when the fits relax the eyelids open. Before the fit the patient feels pain in the stomach; this seems to be connected with the great sympathetic nerve; there is spasm of the diaphragm, and pain at the lower part of the ensiform cartilage. During the attack, the pulse is very small and remarkably slow, and the respiration is very much affected. Sometimes the muscles are rent from the sternum, particularly the sterno-cleido-mastoideus. Sometimes the muscles of the throat are very much affected. The tongue is moist, the bowels constipated, the appetite little affected,

and the mind generally clear. In some instances there are distinct symptoms of hydrophobia, and the patient has the most perfect dread of liquids.

A medical man told a patient that his life depended upon his swallowing some medicine which was prepared for him; the patient made several attempts, which threw him into violent convulsions.

I have seen other cases where there have been symptoms of hydrophobia. I have seen hydrophobia in a case of chorea; and I have seen it in a case of hysteria; and I have seen it most distinctly after blood-letting, especially in some females.

When it proves fatal, most patients die before the ninth day, though after this they sometimes die very suddenly. And it should be remembered that, when patients are apparently recovering, mental or bodily irritation will reproduce the affection.

Before death the skin is pale and cool, and has a peculiar moist feel, as if it had been soaped; the face becomes pale and contracted, and then livid; you have a rattling and weak respiration; a dusky lip; and an oppressed, weak, and thready pulse; both the heart and the lungs being affected.

It frequently happens that what is called—

TRISMUS NASCENTIUM

occurs; it is exceedingly common in the hospitals of this country. It is exceedingly common among negro families in the West Indies. Whether it occurs in England or the West Indies, it seems to arise from similar circumstances: from bad diet, from neglect of the bowels, from neglect of the skin, and from breathing a bad air.

The concurring state which leads to it is produced by various circumstances. The use of spoon-victuals was frequent among the negroes, because they thought the application of the child to the breast for the first ten days after its birth was unnatural and unnecessary; hence swarms of negro children died from this cause. Now they give the child the breast in the first few days after its birth, as well as afterward, and the disease is less frequent. Even in adults when you apprehend tetanus, you will prevent it better than by any thing else by attending to the state of the wound, to the state of the bowels, and by adopting a regulated diet, and breathing a fresh atmosphere. A surgeon informs me that the disease has been less serious in the West Indies since these things have been attended to.

DIAGNOSIS OF TETANUS.

There is only one affection which can be confounded with tetanus, namely, a modification of hysteria; and this is easily distinguished.

A woman laughs, cries, and then she suddenly falls unconscious and universally convulsed; the head is bent back on the pillow; sometimes there is an arch between the nape of the neck and the heels. The hands are clenched and laid by the side, the arms twisted outwards; the whole body is rigid; and the jaws are locked. This is often called tetanus, and it has the characters of tetanus; but after a few minutes or hours it passes away, and returns again. In tetanus you constantly have the fits more or less; the rigidity is never entirely removed, though there are abatements. This hysteric disease is by no means a dangerous one; I have seen many cases of it, and all of them have recovered. True tetanus is always a most alarming disease.

PATHOLOGY OF TETANUS.

It is a complaint of the pathology of which we know but little. Dissections of cases which have been fatal are on record; but these are very different. A friend of mine has found effusion of blood in those parts internally and externally which are little protected and loose. The same thing has been observed in horses. In both the horse and the human subject engorgement has been observed about the liver, and especially about the lungs. When an animal has been hunted to death, you will generally find effusion in the loose parts, and a gorged state of the liver and lungs. The reason of this is the pressure made on the veins, by which the circulation of venous blood is impeded. A tetanic patient, in some respects, resembles a hunted animal—blood is accumulated about the heart and lungs; and this is closely connected with the death of the patient. One of the most remarkable circumstances in the symptoms has always been the oppressed state of the circulation, in which the case resembles the close of a case of bronchitis: and the most remarkable circumstance as far as I know, with respect to the pathology, is the very gorged state of the lungs and heart from the violent pressure of the muscles on the veins. It has been supposed that inflammation of the spinal cord is invariably present. Sometimes the spinal cord is, with the brain, gorged. No doubt different conditions produce similar symptoms in different individuals. In one case the odontoid pro-

cess was found pressing on the spinal cord. Inflammation of the spinal cord does not generally produce the disease: I have, however, seen two cases of inflammation of the spinal cord attended by tetanic symptoms. One of these patients died in the Fever Hospital; and the other recovered under the plan of treatment which I shall afterwards mention. Sometimes there is inflammation about the stomach and bowels.

TREATMENT OF TETANUS.

The only rule of treatment which I can lay down for you is, that you should consider the symptoms in reference to the conditions on which they depend. Observe whether there are any symptoms of affection about the brain; of affection of the spinal cord; of disorder of the stomach, liver, and bowels; and observe whether there is any local irritation which requires to be subdued. If any such indications exist, act upon the principles which I have laid down. The treatment of this disease, in consequence of the deficiency of our knowledge of its pathology, is extremely empirical. I have only seen one case where medicine had a fair trial. Mr. Stewart attended twenty-eight cases of tetanus, of which sixteen recovered; and as this proportion is larger than any which has been known before, I shall mention to you his plan of treatment. He used affusions of water of the temperature of 70° Fahr. over the whole body, every four hours: he had the patient laid on a blanket before the fire, and employed frictions of oil of turpentine down the whole course of the spine. It is remarkable that Celsus speaks very strongly of frictions in tetanus. Mr. Stewart then gave half a drachm of opium in twenty-four hours, in five grain doses every four hours; he kept the bowels open by cold-drawn castor oil, assisted occasionally by injections; and he put the patient on a nutritious but bland diet.

I know a gentleman, who says that in tetanus many patients die in consequence of the too great activity of treatment. I should trust very much to the bringing a flow of blood to the surface, and relieving the lungs.

With respect to bleeding, when the lungs are so gorged as to oppress the pulse it is improper, and will afford no benefit. When the pulse is full and expanded, or small and contracted, bleeding may be useful. A gentleman told me that he took an ounce of tincture of opium in tetanus every three hours. This I have seen tried to surprising quantities. Opium contains two principles upon which its effects seem to depend, morphine and

narcotine. The morphine has a remarkably soothing effect in inflammation with pain; probably in tetanus the best preparation would be the acetate of morphine, or the meconiate of morphine.

I have found remarkably beneficial effects from the vapour bath, when the system is in a state of great agitation and the skin is cool; and perhaps the vapour bath might be used with advantage in tetanus, where there is a deficiency of blood and of animal heat on the surface.

Baron Larrey relates that he cured some cases by removing splinters and bullets from the wounds.

Stimulants, such as æther, punch, &c., have been tried.

When the fits lessen in number in a certain time and in duration, it is a remarkably favourable circumstance.

But remember that sometimes the patient dies very suddenly, when you expect he is recovering. I saw a case where I was going to use a bath for the patient, but he suddenly sunk into a violent fit, and died almost immediately.

Be careful after injuries, when you have any reason to apprehend tetanus, to prevent it, by regulating the diet, by regulating the bowels, and by placing the patient in a fresh atmosphere; and dress the wound with turpentine, as recommended by Mr. Stewart. In some cases when it is threatened, by uneasiness about the jaw or neck, it may be prevented by the exhibition of calomel and opium.

LECTURE LI.

SYMPTOMS, PREDISPOSING AND REMOTE OCCASIONS, PATHOLOGY, TREATMENT, DIAGNOSIS, AND PROGNOSIS, OF EPILEPSY.—PATHOLOGY AND OCCASIONS OF CONVULSIONS.—PREVENTION OF HYDROPHOBIA.

IN general there are warnings before Epilepsy, or falling sickness, occurs.

I knew a gentleman who married, and then became remarkably dissipated, and used regularly to go to bed intoxicated every night. After some time, as he was sitting one day after dinner, he sud-

denly started from the table in great alarm, and asked his friends if they did not see any writing on the opposite wall. The gentleman resumed his seat, obviously agitated, and in a few hours he had the first attack he ever experienced of epilepsy, of which he afterwards became a confirmed subject, and of which he died. These visual illusions usually precede epilepsy.

Dr. Gregory, of Edinburgh, used to mention the case of an officer who, before a fit occurred, always saw an old woman in a blue coat, who approached him, and with a stick which she held in her hand knocked him down.

In other persons various other illusions occur.

Dr. Fothergill relates the case of a lady whom he attended who thought he was covered with spangles, although he was dressed in a plain garb, as the Friends usually are. These spectral illusions confirm the opinion of Dr. Ferriar, that epilepsy is the effect of disease in the head. On this principle the appearance of apparitions may be accounted for.

Sometimes before the attack there is a spasmodic affection of the larynx, resembling inflammation of the larynx, but distinguished by the absence of fever and of inflammation about the throat. It generally goes off after a short time, and then the epilepsy comes on.

I know a lady who squints a day or two before the attack, and is sometimes in danger of suffocation from this spasmodic affection of the larynx.

The same sometimes occurs in hysteria.

Sometimes there is confusion in the head, or loss of memory, previously to an attack. Some have visual deceptions; others hear strange noises, or ringing in the ears; some are dejected in their spirits; while others are elevated, as if, for example, they had been drinking champaign. Most persons feel some uneasiness about the stomach or bowels; some are remarkably irritable in their temper; others snore, or snort, or moan, in their sleep in an unusual way; and most have some change of expression in the face, the face being more pallid than natural; and in others there is a dark stripe under each eye. Sometimes there is a squint, or the pupil is unusually contracted or dilated. The expression of the countenance is mostly anxious or wearied.

Sometimes it is preceded by what authors have termed the *aura epileptica*. Some describe this as the sensation of a subtile fluid passing along the skin. Some describe it as formication, as if some insect were creeping from the extreme parts of the body

towards the head. Others describe it as a tremor; and it actually seems in some cases to be a trembling of the muscles of the remote parts of the body. Some have uneasiness of the stomach, approaching upward, towards the head. In whatever way it appears, if a tourniquet be applied above the part, it will frequently prevent the fit altogether; and this is a very remarkable circumstance. Sometimes when this has occurred tumours have been found in the course of the nerves.

These premonitory symptoms are in some instances absent, but they occur in the great majority of cases.

SYMPTOMS OF EPILEPSY.

Persons are generally suddenly attacked: they drop down suddenly, foam at the mouth, and are convulsed.

From the suddenness and the strangeness of the attack the ancients supposed it was produced by the anger of the gods; and one of the proofs of the superiority of the mind of Hippocrates, rendered superior by education, is, that he attempted to combat this deception. The ancient philosophers were great fatalists; some of them from the pride of human opinion, some from the prejudices of education. Most men are unwilling to confess their own ignorance, and therefore they often refer natural phenomena to supernatural causes. This affection prevailed in the time of Galen, and its subjects were called lunatic, a term which is now applied to those insane persons who have lucid intervals. This deception it has been attempted to revive by Prince Hohenlohe. Surely all we see of the phenomena of nature indisputably proves to us that the Deity operates through second causes; and I believe that the more the human mind is cultivated, the more this will appear by an appeal to facts.

The patient, I have said, falls to the ground; the mouth is distorted; and the tongue is often protruded and lacerated, so that foam and blood are seen issuing at the same time. The whole body is generally convulsed at the same time, especially one side; the hands are clenched; the eyes are turned up so as to conceal the pupils; and there is a momentary suspension of the circulation and respiration; after which the face is livid; the respiration laborious; the lip generally blue, from the respiration being influenced secondarily; and the pulse quick, small, and thready.

This state lasts generally only a few minutes, sometimes longer; and when it does, the patient has no intercourse with the external

world through the medium of his senses. He is generally lost to all surrounding objects, but not always.

Sometimes the fits frequently occur, so that a person has two or three fits in twenty-four hours, or even in twelve hours; but more frequently he has only one fit at a time.

When the convulsions have ceased, the patient lies in an apparent sleep; and when he wakes, his face is always paler, and with an alarmed expression of countenance he has confusion of mind, and knows nothing of what has passed since the commencement of the fit, but complains of uneasiness in the head, with languor and lassitude.

In some cases the patient has delirium after the convulsions; and sometimes *typhomania*, or an alternation of delirium and stupor. Sometimes the patient is silent and sulky after the fit, his character perhaps being changed.

The eye of a person who has had an attack of epilepsy is fuller than before. The eye, I believe, is always remarkably prominent; and this, with the remarkably pallid face, often enables you to discriminate these individuals.

I am now attending an individual for stricture of the rectum. He has a slight dropping of one eyelid, and prominence of the eyes. He was lately much celebrated as a comic performer, and he is subject occasionally to epilepsy.

This disease has a tendency to return, and generally increases as it goes on; the fits become more violent, or, generally, more frequent; till at length the mind, which often for some time is unaffected, begins to suffer: and sometimes it winds up in madness; sometimes in idiocy; and, more frequently still, in an attack of apoplexy.

Generally, epilepsy may be defined to be clonic convulsions followed by stupor, which after a certain time return.

Clonic convulsions consist of alternate relaxations and contractions of the muscles.

Constant spasms have been called tonic spasms; and sometimes the muscles continue rigid during an attack of epilepsy, and are suddenly relaxed; but generally contractions and relaxations alternate.

Sometimes the patient is suddenly seized with confusion of mind in the attack of epilepsy, of which he is sensible, and which lasts but a short time without any convulsions.

A mother was giving me an account of her daughter's illness, when she suddenly stopped; her face was turned to one side, and

her eye was fixed on vacancy; she was fixed like a statue; and her pulse, which I felt, was small and rapid: suddenly she resumed her former discourse as if nothing had happened.

This temporal annihilation, as it were, of mind, proved that she had a tendency to head affections.

I saw a lady who had typhus fever in a house standing quite alone in the country; and this case confirms my opinion as to the origin of typhus fever. This lady had been waiting on her sister, who was insane, in the same house: she was exhausted, and became the subject of typhus fever. Debility predisposed her to it, and no doubt the remote occasion is about the house or adjacent grounds. Typhus fever had before prevailed in that house. These two ladies were daughters also of the last lady I mentioned.

With regard to the—

PREDISPOSITION TO EPILEPSY:

in all families where affections of the head prevail from an hereditary predisposition it is very liable to occur. In one person disease of the head assumes the character of madness; in a second, the character of apoplexy; in a third, that of palsy; in a fourth, that of weakness of sight; in a fifth, the character of epilepsy; and so on.

Beyond all doubt, however, the tendency and the disease may arise from a variety of circumstances.

Mental anxiety often produces it. Very often errors of diet, and especially errors of drink, produce it. One of the most common occasions of epilepsy in adults, is error in the quantity or quality of food, and especially of the quality of drinks, as from an excessive use of ardent spirits, which has been the exciting occasion of many cases which I have seen.

There are two kinds of epileptic subjects, as far as the general habit is regarded. In one the general habit is remarkably full; in the other the general habit is remarkably spare. In one you have proofs of general plethora; in the other you have proofs of local plethora, or *error loci* in the circulation; and that local plethora occurs about the head.

REMOTE OCCASIONS OF EPILEPSY.

One of the most common occasions of epilepsy in children is disorder of the stomach, liver, and bowels. By this I mean a slight degree of irritation of the stomach; some torpor or irregular action of the liver; and some torpor or irregular action of the

bowels. This almost invariably arises from error of diet, either as regards the quantity or the quality of food.

In persons predisposed to epilepsy it is often produced by any thing that excites a strong mental emotion.

The Romans called it the *morbus comitialis*, because it commonly happened in the assemblies of the people. The ancient Romans, from comparing their houses with their public buildings, appear to have lived very much in the open air.

I knew an officer who almost always had an attack of epilepsy on a review day. He was adjutant of the corps, and had a great deal to do.

It is very important to remove or avoid all the circumstances which are apt to operate very strongly on the nervous system.

In the same way you may sometimes trace it to the stimulus of heat.

I have known several ladies who, after being in hot rooms, and at evening parties, have become epileptic; and I have known gentlemen epileptic from the same cause.

Since I have been in London I attended a gentleman who was epileptic, and who was a frequent visitor of evening parties. I cured him by advising a change of his habits, and adopting the treatment which I shall hereafter speak of. Fasting, cold, fatigue, &c. may excite epilepsy.

Mental anxiety operates very unfavourably in this way. I have seen several cases cured by abstracting mental anxiety.

Excess of venery is very often the occasion of epilepsy; and still more frequently excess of that solitary vice onanism, of which I have seen some most lamentable examples.

PATHOLOGY OF EPILEPSY.

The appearances on dissection of persons who have died of epilepsy are very various, which seems to show that the same symptoms may arise from different conditions.

The most common appearances are fulness of the blood-vessels in the pia mater; opacity of the tunica arachnoides; more bloody points than usual in cutting the brain; effusion between the membranes, at the base, and into the ventricles, of the brain. Sometimes when there is apoplexy, you find rupture of the vessels of the head; sometimes you find tumours in the brain; sometimes ossification of the membranes; sometimes softening of the brain: and frequently this is the result of chronic inflammation. Esquirol states, that in many cases he found turgescence of the spinal

cord and its membranes. Very frequently affections of the brain are accompanied by affections of the spinal cord. Sometimes there are no appearances in the head sufficient to account for death. This led a friend of mine, Mr. Alcock, in one case to examine the air-passages, and he found them full of crude food. During the fit the food had arisen from the stomach into the fauces, and the epiglottis not performing its office properly, the food slipped down the trachea, and suffocated the patient. I am told that many animals who are killed suddenly, as bullocks which are knocked on the head, are found to have the trachea filled with food. Probably many persons who die suddenly die from this cause. This point deserves and requires investigation in future cases.

We next come to the—

TREATMENT OF EPILEPSY.

1. The less you do during the fit, while the patient lies convulsed and foaming at the mouth, the better. Prevent his injuring himself, and avoid all interruption of the circulation, as by a tight neck-handkerchief. Avoid also extremes of heat and cold on the surface, and admit air freely. It is generally best to lay the patient in an easy position on a mattress, and if the weather be cold to cover him with a blanket. If he be in the habit of lacerating his tongue, put into his mouth a gag, that is, a stick surrounded by wool, and covered with leather; this will prevent such laceration. If the fit continue long, with a strong pulse, and if the respiration be not oppressed and the skin be warm, abstract a small quantity of blood, but not much. If the skin be cold and pale, and the pulse feeble, sinapisms to the feet and blisters to the nape of the neck and the sternum, with the production of warmth, and a purgative injection, are generally the best remedies.

2. After the fit is the best time for curing epilepsy.

Many specifics are recommended for this purpose, but I have no faith in any of them. I have seen more benefit derived from abstracting the exciting occasions than from any thing else. There are two things to attend to with regard to the diet—to avoid indigestible food, and to avoid too large a quantity of food. By indigestible food the heart's action is affected; and by too large a quantity of food a large quantity of blood is generated, and this repletion may maintain the disease; therefore simplicity in the kind, and moderation in the quantity, is the golden rule as to diet. I have seen several cases cured by adopting this rule, and avoiding all circumstances which act on the mind and on the circulation.

A regulated diet, occasional blood-letting if the patient be of a full habit, and purgative medicines, are the remedies upon which I have the most reliance.

I know a young lady who had disorder of the stomach, and epilepsy. The epilepsy was cured by the treatment I have mentioned; she one day ate heartily of goose, and the disease returned.

I have seen several cases where it has returned from errors of diet.

The most hopeful cases of epilepsy are those which occur in children: this may be called sympathetic epilepsy. The original disorder arises in the stomach, liver, or bowels; generally in all of them. If you simply attend to the condition on which the symptoms depend, you will generally cure the disease.

I entirely cured a young lady by mild alteratives occasionally, by laxatives, and by a regulated diet. I was consulted by a pupil of this school about a friend of his, who had two attacks of epilepsy within three weeks, and he had all the indications of disorder of the stomach, liver, and bowels. I advised him to adopt a regulated diet, and even to measure the quantity of food and drink which he took. It is now eight weeks since he has adopted this plan, and he has not had one attack; and it is quite astonishing how effectual this plan is if the mind be kept at rest.

If there be anxiety of mind, if possible avoid the circumstances which occasion or maintain it.

I saw a woman who was in a very anxious situation from the harshness of her superior. I had her placed in a more favourable situation; and although before she frequently was falling down in a fit of epilepsy, she has not since her removal had one attack.

I saw an individual who had been very unfortunate, and who supported himself by drawing, for which he had a talent. But such was his pride, that he could never bring himself down to the level of the society to which his occupation in some measure confined him; his mind was in a constant state of anxiety, and he thought himself degraded by the circumstances in which he was placed: he died at length of an attack which had the characters of epilepsy.

Many habits must be forsaken. Diffusible stimuli, for example, must be withdrawn generally, not suddenly but gradually; and you must enjoin a strict attention to the diet. This is very difficult: it is surprising how little importance patients generally attach to these things. Any thing that is simple and obvious they

despise generally; and the reason why these things are lightly held by the public is, that by far too little importance has been attached to them by members of the medical profession.

Among many beneficial changes which Napoleon Bonaparte introduced into France was a regulation by which no physician was allowed to write a prescription in Latin, but all prescriptions were to be written in French. The French physicians, I am told, complain of this very much.

The public are so fond of mystery, and attach so much importance to what is obscure, and so little to what is plain, that if you prescribe any medicine in epilepsy, you had better conceal its nature than give it openly.

Producing a powerful impression on the mind will cure epilepsy; and in this way the powder of human skulls will cure it, horror at the dose having the effect of stopping the epilepsy. I have seen the powdered skull of a monkey, used under the name of powdered human skull, succeed in curing epilepsy.

The Irish priests are much more successful in curing epilepsy than the regular practitioners; and they pretend to claim some direct intercourse with the Deity. They make a powerful impression on the mind of the patient, by the religious ceremonies with which they administer their remedies, and thus the disease is cured.

Sulphate of zinc, in some cases, will stop it.

Turpentine sometimes stops it, and is very likely to do so when the bowels are disordered.

Nitrate of silver sometimes stops it, but most frequently fails. Nitrate of silver, after a time, changes the colour of the patient's skin; and there are several persons walking about London, the colour of whose skin is thus changed to a pale slate colour. Upon the whole, I have not the confidence in nitrate of silver which the French (who have written on the subject) seem to possess. I have seen it tried a great many times, but though in some few cases it has appeared to be useful, in the majority it has failed.

Misletoe of the oak is another remedy which has been recommended.

You must be careful not to confound any anomalous cases of ague with epilepsy. Thus, sometimes ague will return with obscure indications of epilepsy, after two, three, or four months, and deceive the medical practitioner. The patient is cold in the first instance, then becomes soporous, and the case ends by perspiration. There is sometimes a tendency to twitching during sleep, but not frequently.

I have seen bark and calomel purgatives prevent the return of the disease when epilepsy has occurred at stated periods, as once a month or six weeks, if the diet and bowels be regulated while taking it. Occasional blood-letting is necessary if the patient be of a full habit. Abstraction of electric matter has been said to cure it, and the electric fluid has produced it, as I am told by a friend of mine.

DIAGNOSIS OF EPILEPSY.

The convulsions, the foaming, and the sopor, distinguish the disease—

I. FROM HYSTERIA.

Remember, in hysteria, the globus hystericus at its commencement, its termination by a copious flow of urine, and its extreme variability. The distinction—

II. FROM APOPLEXY,

generally is the absence of convulsions and foaming in apoplexy; all the muscles of the body being then generally relaxed, there is universal paralysis. If you be asked for a diagnosis, give it in this way.

But sometimes there are convulsions in apoplexy. I have seen several cases of apoplexy where the convulsions have been very strong; and then I do not know how they are to be distinguished; I only know by the issue of the case. If it be apoplexy with strong convulsions, it is almost invariably fatal; if it be epilepsy, the patient almost invariably recovers, and it sometimes goes on for a long time before it destroys life.

PROGNOSIS OF EPILEPSY.

One of the most important distinctions in the pathology of epilepsy is that the disease is either idiopathic or sympathetic.

Almost all cases are curable which arise from irritation of the stomach, liver, and bowels.

Many of the cases are incurable which originate from some affection of the brain or of the spinal cord. What this may be, our dissections do not distinguish.

After the twentieth year it is generally incurable; but I have seen many cases of idiopathic epilepsy in adults, where the disease has been mitigated by occasionally abstracting blood, adopting a regulated diet, and the use of purgatives. Tonic medicines are here prejudicial.

PATHOLOGY OF CONVULSIONS.

I shall now make a few remarks on convulsions in general.

Convulsion is an abstract term; and, therefore, you should be very cautious in adopting it. No doubt convulsions arise from different conditions; and I may enumerate seven circumstances which give rise to them.

1. Plethora, with general fulness of the vascular system and increase of the heart's action, distinctly occasions convulsions.

They are generally connected with exposure to heat, violent exercise, powerful emotions of the mind, or obstructions to the circulation; and in women with errors of diet and drinks. Puerperal convulsions is a case in point. In full robust children, with a florid complexion, hot head, full bounding pulse, it is by no means uncommon for the patient to be seized with a slight fever, which suddenly becomes intense, and is followed by convulsions. Sometimes hysterical convulsions arise from this cause in full habits.

All convulsions arising from this cause require bleeding and purging for their removal; and a regulation of the diet, especially as to quantity, and of the habits, for their prevention.

2. Sometimes convulsions arise from fulness of the veins, with diminution or oppression of the heart's action, and a deficiency of blood in the arterial system. This state is produced by some mental or bodily shock, such as depressing passions, low temperature, &c. by which a chill is produced. Old persons and young children are often affected by convulsions in this way.

The mode of relieving them is by producing a flow of blood to the surface, by the hot-air bath, or vapour bath, and by diffusible stimulants, such as brandy, internally.

3. They arise from a deficiency of blood.

Sometimes they occur from copious blood-letting. They almost invariably occur when you bleed to complete syncope. There is great danger in bleeding patients to complete syncope; and I believe that several children have been lost by it. In infants I generally stop when the face begins to look pale, and the pulse is a mere flutter.

In the same way patients die from hemorrhage, as from uterine hemorrhage, in which the patient generally dies convulsed. Many convulsions are allied to this class; as when a patient, having been weakened by a long disease, suddenly gets up, and the heart's action becomes almost immediately suspended. This happens, for instance, in some cases of typhus fever. The patient on getting up becomes giddy and blind, and death is sometimes

the consequence. Excessive purging sometimes produces the same effects.

This state is to be treated by laying the patient flat, keeping him quite quiet, and giving him stimulants, especially brandy.

4. No doubt convulsions arise from a tainted state of the blood, which probably is the case in hydrophobia.

Arsenic produces convulsions. If you compare blood drawn from a person who has taken arsenic with that of a person in health, by means of chemical tests, they will give different results. In the present confined state of our knowledge we do not know why this is.

Prussic acid evidently affects the blood; and I saw a case of poisoning by prussic acid attended by strong convulsions. Analysis will, I believe, confirm this view of the case.

The treatment must be varied according to the symptoms. If there be excitement, blood-letting, &c. may be required.

5. Local irritation in many habits will produce convulsions.

This local irritation is often seated in the external parts of the body, as in tetanus. Often it is internal, as I have mentioned in hysteria, chorea, and epilepsy; and sometimes it arises from an indigestible meal, or from the presence of a tape-worm in the intestines.

6. Certain odours, sights, and sounds, in many individuals will produce convulsions. Odours generally operate on the nervous system, and the heart's action becomes suspended: in this way the smell of cheese, musk, &c., operates on some persons. In other individuals certain sights will produce convulsions. A lady whom I attend had a child which saw a chicken's head cut off: the child was seized with convulsions and died, with symptoms of effusion into the ventricles. Many individuals, you know, faint from the sight of blood. In other individuals certain sounds produce convulsions. If I were to be an hour in a concert-room when the music was very complicated, I believe I should be attacked with convulsions. I once went to a concert with my wife, where there were a great variety of performers on different instruments. I soon became very irritable; I got up, and attempted to walk about; but I soon found that my uneasiness increased, and I was obliged to leave.

7. Association of ideas will sometimes produce convulsions. Some cases of this kind are mentioned by Boerhaave: he saw several persons in a school, among whom epilepsy was propagated by imitation. In Scotland whole congregations, one after another,

were seized with convulsions in church, and were obliged to be taken out: this no doubt arose from association of ideas. I have seen this frequently among women. A friend of mine went into a house where he found several women, who had each, one after another, fallen into hysteria. He cured them all by putting the poker into the fire that it might be ready before the next fit occurred.

Often a slight degree of convulsions is produced by association of ideas. Thus we see a mother nursing her child, and, though she is totally unconscious of it, imitating the child's motions, and making the most ridiculous faces and gestures imaginable. The impression being strong on her brain, these gesticulations and grimaces may increase till they pass on to convulsions, hysteria, or epilepsy, of which the two latter are the more frequently propagated by means of imitation.

PREVENTION OF HYDROPHOBIA.

Hydrophobia in Russia has been found, from time immemorial, to be connected with a certain pustular appearance under the tongue; and it has been the practice, as soon as the pustules appear, to destroy them by puncture and the actual cautery.

After a wound made by a rabid animal, excision of the part should be performed as perfectly and as completely as possible. If there be no instrument at hand for this purpose, a ligature should be applied between the wound and the heart, and suction applied. If the poison of syphilis be introduced into the system, it frequently happens that it remains dormant until something occurs to disturb the general health, and then its effects are developed. The same obtains also with respect to malaria, and the poison of a rabid animal. Hence great caution should be exercised in the maintenance of the health of the general system, in order to prevent the development of hydrophobia.

LECTURE LII.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF CHRONIC INFLAMMATION OF THE FAUCES AND AIR-PASSAGES, AND OF SYPHILIS.

I SHALL now make some observations on chronic inflammation of the fauces and air-passages; but first I may refer briefly to an affection called mumps, or—

CYNANCHE PAROTIDEA.

This is a disease which seems in some instances epidemic, spreading rapidly over a district. The parotid and submaxillary glands are generally inflamed, very large, and tender upon pressure, with a hot skin, and a quick pulse; sometimes there is scarcely any fever. Towards the close it has been observed in some cases that one of the testes is absorbed. This was noticed by the late Dr. Hamilton, of Lynn Regis, who was the subject of it. I have been told by a physician, who resided for a long time at Constantinople, that it is very often the precursor of the plague in Turkey.

SYMPTOMS OF CHRONIC INFLAMMATION OF THE FAUCES.

Chronic inflammation of the fauces is exceedingly common in weak individuals who have some disorder of the stomach, liver, and bowels. I have said that there is a class of sympathetic inflammations: I mean of inflammation connected with disorder of the stomach, liver, and bowels; and these sympathetic inflammations are exceedingly common in weak subjects. You generally find chronic inflammation of the fauces to be of this kind. It generally attacks weak subjects, whose tongue is slightly furred; whose stools show a deficiency or a depravity of bile; and whose skin is dry and husky, or more sallow than natural; whose urine deposits a pink or lateritious sediment; and whose bowels also are torpid or irregular. It is important to remember this; for if you treat this affection as merely a local inflammation you will generally fail to remove it; but if you remove the disorder of the stomach, liver, and bowels, the local inflammation will generally cease.

It is denoted by a redness in the fauces, about the tonsils especially and about the adjacent mucous membranes. The tonsils are considerably enlarged, and the uvula is sometimes very much lengthened. In the progress of the affection a superficial degree of ulceration sometimes occurs; and if mercury has been given so as to produce a decided effect upon the mouth, this ulceration often becomes deep, and assumes the character almost of a syphilitic sore. As the affection proceeds, whether there is ulceration or not, the patient has pains in the course of the ear, and sometimes becomes deaf; and this deafness, when it occurs, arises from inflammation extending along the Eustachian tube to the internal ear. This is a very common source of chronic deafness; and in strumous subjects this sometimes produces caries of the petrous portion of the temporal bone, succeeded by inflammation of the dura mater, and ultimately of the brain itself.

TREATMENT OF CHRONIC INFLAMMATION OF THE FAUCES.

This affection requires strict regulations to be given as to the diet. Generally there is a slight degree of irritation of the mucous membrane of the stomach, not amounting to inflammation. The stomach is chiefly to be influenced through the diet. With regard to the food, it should be strictly regulated as to quantity and quality. The only rule which I can lay down is, that if fever be absent, as it generally is in this affection, the food should be simple in kind and moderate in quantity; nutritious but not stimulating. As to the liver, you must stimulate it gently, about every second night by a small dose of blue pill, of hydrargyrum cum cretâ, of calomel, or of oxydum hydrargyri cinereum. Recollect that you must be very careful in administering mercury to weak, broken-up subjects. They bear mercury very ill; and if ptyalism be produced, you are sure to find the symptoms of the local inflammation aggravated; but if you give one, two, or three grains of either of the preparations I have mentioned, with extract of rhubarb, it will operate very favourably. It should be followed the next morning by a purgative draught, composed of infusion of rhubarb, or infusion of senna, or a little cold-drawn castor oil. These will regulate at the same time the state of the liver and the bowels. A very important point also is to attend to the skin. The patient should use a bath of the temperature of 96° Fahr. twice or thrice a week; he should sit in the bath a quarter of an hour, and then the skin should be well soaped; this should be washed off; and, lastly, the skin should be well dried. Friction of the skin may after-

wards be employed. The patient should breathe a fresh atmosphere. Nothing maintains chronic inflammation more than a close atmosphere. This treatment, if the mind be kept at rest, you will find more effectual in chronic inflammation of the fauces than any other means. All the local treatment necessary in these cases is the application of a few leeches to the throat in the first instance, and, if the inflammation continue, the application of a blister to the nape of the neck. A blister in chronic inflammation of the throat is often very beneficial, especially if leeches have been first applied. It should be remembered that this chronic inflammation is very apt to return whenever the stomach, liver, and bowels, are affected, and when the skin is affected, as by cold. The clothing should be comfortably warm, and the diet should be attended to: these are the best preventives. A gentleman attends these lectures who has been very subject to what is called cynanche tonsillaris, both in the acute and chronic forms: he tells me that he has found drinking cold water every morning and washing his neck with cold water very useful in preventing an attack. Females are, upon the whole, less liable than men, to attacks of cynanche tonsillaris. When men in the Fever Hospital were convalescent, and their necks were exposed, severe affections of the throat were common; but since I have ordered a common neckcloth to be made use of, no attack of the kind has arisen. Exposure of the neck in females accommodates it to surrounding circumstances, and circulation goes on very well. A gentleman once asked a highlander in the dress of his country, how his legs and thighs felt. The answer was, "How do your cheeks feel?" They were warm from the habit of accommodation to surrounding circumstances; and so it is with the necks of the ladies. This chronic inflammation of the fauces sometimes becomes suddenly acute or sub-acute; and in broken-up habits you must be careful not to abstract too much blood if only the tonsils be inflamed. If you bleed too largely, these patients, as I have several times seen, are apt afterwards to become tabid, and universally strumous. Apply leeches first, and then open the bowels freely; and afterwards give a mild emetic; employ an acid gargle; regulate the temperature; and adopt a bland diet.

Among the various other affections of the throat which are exceedingly common, I may here say a few words with regard to—

SYPHILIS.

Syphilis appears under three forms:—1. Under a primary

form. 2. Under a secondary form. 3. Under a ternary form. The only effectual way to avoid these, is to avoid the obviously exciting occasion; but there is no point on which man is so weak as this. I have known several individuals excessively dissipated among women, who have by adopting certain precautions avoided both chancre and gonorrhœa. They were extremely cleanly, and after indiscriminate intercourse they used soap and water twice or three times, and two or three clean towels. I know one individual who had been several times the subject of gonorrhœa and chancre, but who never had an attack after he adopted this plan, although he continued equally dissipated. I think it is almost a complete preventive.

SYMPTOMS OF PRIMARY SYPHILIS.

Primary syphilis appears under the form of chancre. Chancre is a small, circumscribed sore, extending from the point first affected in every direction in the surrounding parts, and which, when completely formed, appears as if a piece of the part affected had been scooped out: it has a hardened, abrupt, and elevated edge; a hard circumscribed base; and a foul bottom, to which matter adheres without any appearance of a granulating surface. It affects the prepuce or glans in males, and the labia or nymphæ in females, and the glands in both, for it is often followed by bubo.

SYMPTOMS OF SECONDARY SYPHILIS.

Secondary syphilis attacks the skin or the throat; in short, it attacks the soft parts.

The syphilitic inflammation of the throat is of two kinds.

1. In some individuals you will find there is a dull and erythematic inflammation about the fauces, with superficial ulceration. This form of syphilitic inflammation is remarkably distinguished by the dull red, coppery hue of the part, and if you contrast this with the appearance of common inflammation of the parts, you will see a remarkable difference. There is a dirty-whitish purulent secretion from the ulceration, and a secretion of tenacious mucus from the fauces; the patient has also a thick nasal sound when he speaks.

2. There is another form of ulceration of the throat which is syphilitic. First chancre occurs, and then one of the kinds of eruption on the skin which I shall presently mention, and then comes the affection of the throat. This also has the same copper colour, but the ulceration is not superficial; it is deep, as if a portion of the throat had been dug out by a rough instrument. The

ulceration has a hard, smooth, and defined edge generally, and sometimes a foul, rough bottom. The shape of this ulceration is peculiar; it is generally either oval or round, and the surrounding inflammation is of a dull copper colour. When this ulceration affects the soft palate, it generally penetrates to the bones of the palate.

You should trace the history of cases of this kind backward. If, for instance, you learn that, three months before, the patient had a chancre, you will find that before the affection of the throat he had an affection of the skin. Sometimes the sore throat occurs sooner, sometimes later, after the healing of the chancre or bubo. When it occurs the general health gives way; there is a more sickly hue about the face and eyes, with a dirty withered appearance of the skin; in some cases iritis occurs; in others, the conjunctiva covering the cornea becomes opaque, so as to give the cornea a turbid appearance.

Affections of the skin of a syphilitic kind are various, but three forms which I shall mention are most common:—1. A papular eruption; 2. A scaly eruption; 3. A tubercular eruption. One or other of these eruptions, and sometimes all of them, generally precede the affection of the throat. Sometimes the papular eruption occurs, and it seems chiefly seated in the papillæ of the skin; this disappearing, is succeeded perhaps by the scaly eruption, which in turn disappears, and is followed by the affection of the throat, and, perhaps, the tubercular eruption. Whether the eruption be of the papular, scaly, or tubercular kind, it always has the coppery colour.

SYMPTOMS OF TERNARY SYPHILIS.

Ternary syphilis affects the hard parts: generally the periosteum; sometimes I believe the bone itself. It is a common opinion now that syphilis does not affect the bones unless mercury has been given; but this I am sure is a mistake, as I have seen the bones affected where no mercury has been taken. I saw a young man who had secondary symptoms following primary syphilis. He had a diffused, copper-coloured, erythematic inflammation, with superficial ulceration of the throat. He was of a strumous habit, and would not bear mercury, nor did he take a particle of it. He received a blow on his temple, which was followed by a node, by inflammation of the periosteum, and a copious effusion around the part. And sometimes these effusions are very hard. I believe that most of the specimens shown in the museums of the older surgeons, as instances of syphilitic caries of bone, were caused by the

great quantity of mercury patients were accustomed to take; but, on the other hand, caries of the bone I am certain does occur independently of the use of mercury.

Remember that affections of the bone in syphilis are very often mistaken for rheumatism. During the last year I saw two cases (which I mentioned in a former lecture, p. 44,) of individuals who for a long time had been affected with what they denominated rheumatism. One of them complained of rheumatic pain of the head, connected with an affection of the bone and periosteum, though no mercury had been taken. The other complained of rheumatism in his right leg, and upon examining the skin I found a syphilitic node. On tracing back the history of the case, there was chancre, and then the skin and throat became affected, and then the ternary symptoms appeared. If you attend to the previous history of these cases, you will find it a valuable guide to an accurate diagnosis. The parts most liable to nodes are the head and the upper and lower extremities.

SYMPTOMS OF PSEUDO-SYPHILIS.

What is called pseudo-syphilis, with a very few exceptions, I am confident is nothing but syphilis occurring in an individual of a bad habit. If the strength be broken up, if the patient be strumous, and especially if the liver be affected, pseudo-syphilis will occur:—the patient has morbid secretions, and torpid or irregular bowels; he has sloughing ulcerations, a furred tongue, general emaciation, and the case degenerates into what has been called pseudo-syphilis. Perhaps we might except a few cases of common ulceration of the throat where mercury has been given, and where sloughing has occurred. Syphilitic ulceration sometimes spreads along the mucous membrane till the larynx is implicated.

SYMPTOMS OF CHRONIC INFLAMMATION OF THE LARYNX

are denoted by the same symptoms as acute or sub-acute inflammation of the larynx, with the exception of fever, which in chronic inflammation is but slight, and sometimes is entirely absent; the voice becomes a hoarse whisper; the patient complains of pain on pressure of the larynx, on that part which is prominent in males; he has a peculiar, frequent, and spasmodic cough, with a peculiar limited sound, reverberating in the larynx, altogether different from that which occurs in inflammation of the trachea or bronchia. The sputa generally contain pus; there is mostly a considerable secretion of mucus at first, in which, after a time, you will gene-

rally find more or less pus: it is in small quantity at first, and increases as the disease goes on. There is also a remarkable emaciation, so that the affection assumes the character of phthisis pulmonalis. I shall draw the diagnosis between them, when I speak of consumption. Sometimes there is ulceration in the larynx when the patient remains plump, and there is little alteration of the voice. A gentleman attending these lectures showed me a preparation, in which ulceration was found in the larynx of a patient of a full habit, and who died of it unexpectedly. This chronic inflammation of the larynx sometimes arises from common occasions; it is most apt to do so in strumous subjects; and with the exception of the coppery hue, the symptoms are the same. This chronic inflammation sometimes becomes acute or sub-acute; the patient has the symptoms I have before mentioned, with a hot skin and a quick pulse, and dies with great rapidity. As far as I have observed, these cases of acute or sub-acute inflammation supervening on chronic inflammation are invariably fatal.

MORBID ANATOMY OF CHRONIC INFLAMMATION OF THE LARYNX.

On examination after death of persons who have had chronic inflammation of the larynx, you find thickening and ulceration of the lining membrane of the larynx, covered with pus containing small patches of lymph.

SYMPTOMS OF SPASMODIC AFFECTIONS OF THE LARYNX.

1. There is a spasmodic affection of the larynx, to which I formerly alluded (page 269), and which sometimes occurs before a fit of hysteria or of epilepsy. There is no inflammation about the throat nor any fever; the epigastrium and bowels are distended, and there is borborygmus, with pain on pressure over the pyloric extremity of the stomach.

2. A similar spasmodic affection attacks infants. I think I have seen several cases of death from this affection in children. It is generally connected with flatulence of the stomach and disorder of the bowels when it occurs in infants.

3. Hysterical women often have a chronic cough, in which there is a strange, loud, clanging, reverberating sound in the larynx, somewhat resembling that of croup. Investigate the case, and you will find that there is no expectoration, that it goes and comes sometimes very suddenly, and that the patient's health has been good for a long time. This is a cough at which you need never be alarmed. An old adage says, "Least said is soonest mended;"

and this is the case with hysterical women: if you disregard them the disease will cease; but if you talk of their complaints or sympathize with them, it is sure to be protracted for weeks, and months, and even years. The best plan is to regulate the bowels and the diet, and to take no notice of them.

4. Loss of voice sometimes continues for three or four weeks. It is an affection of the larynx, either primary, from cold, or secondary, from disorder, of the nervous system; for instance, from strong mental emotion.

SYMPTOMS OF CHRONIC BRONCHITIS.

With regard to chronic bronchitis, it affects children and persons of middle age, but especially it affects old persons. In young subjects it is occasionally the sequel of acute or sub-acute bronchitis, hooping-cough, measles, small-pox, and even of typhus. It is denoted by the symptoms which occur in acute bronchitis, except fever; the breathing is more or less difficult, and is attended by a peculiar wheezing or purring, rattling, stuffing noise, or a noise resembling the rustling of the wind among dry leaves, diffused over the whole chest, but sometimes confined to one lung. The patient has a frequent cough, with a diffused, loose noise, in which the sound I have mentioned is very distinct, and it is accompanied by a copious expectoration, which is sometimes purulent, but generally consists of morbid mucus: it becomes more and more opaque in the worst cases, but more transparent as the affection is relieved; each patch runs into another till the whole forms one mass, which in consistence resembles a mixture of the white and yolk of an egg, though the colour is not the same; the lip is always dusky; the cheek, in persons who have a colour when in health, is dusky, but in those who are usually pale, it is of a leaden hue. You may generally hear the purring, wheezing noise when the patient is asleep better than at any other time. The mucus accumulates in the bronchial passages during sleep, and the expectoration is most copious in the morning, after which the patient remains more or less easy until a fresh accumulation occurs, when he coughs and again is relieved. Sometimes fever is present, but generally it is absent. If the patient gets cold, for instance, he has fever, and the chronic bronchitis becomes acute and sub-acute; and many cases of acute or sub-acute bronchitis are of this kind. It is of very great consequence in chronic bronchitis to prevent the supervention of acute or sub-acute bronchitis; for when this does occur, the case is more difficult of cure than a simple attack of acute or

sub-acute bronchitis. The best means of prevention are, to keep the surface warm by regulating the clothing and the temperature of the patient's room when the weather is cold. From neglecting these circumstances patients die very frequently, generally from attacks of acute or sub-acute supervening on a chronic bronchitis. If you refer to the newspapers during the cold season, it will be seen that numbers of old persons are dying suddenly: if these old persons would be content to keep within doors, in a regulated temperature, and use warm clothing, they would generally pass through the winter comfortably.

Chronic bronchitis of children generally resembles croup or catarrh, and in these cases a chill should be carefully avoided. In some cases the trachea becomes inflamed, and sometimes the larynx; this is especially the case in catarrhal epidemic. Many individuals go about with a stuffing noise when they breathe, with a dusky cheek, some degree of harshness in the voice, and a shrill noise when they cough: in many of these cases the stomach and small intestines are affected; the tongue is red at the tip, and a dirty-white yellowish fur is in the centre of it; there is irritation of the stomach, and the stomach with the small intestines and liver is implicated with it. This chronic bronchitis has been known under various names; it has been called catarrhus senilis, humoral asthma, &c. The patient goes about, and expectorates large quantities of phlegm; and hence it was called humoral asthma by our systematic writers, to distinguish it from what they term spasmodic asthma.

MORBID ANATOMY OF CHRONIC BRONCHITIS.

The mucous membrane of the bronchia is loaded with blood; the lungs are almost invariably distended, and their elasticity is lost, so that they retain a pit on pressure: sometimes portions are hepatized. In old persons there is sometimes dilatation of the aorta as it leaves the left ventricle, and sometimes aneurism of the arch of the aorta, or of the arteria innominata.

SYMPTOMS OF SPASMODIC ASTHMA.

Spasmodic asthma, as it has been vaguely called, is remarkable chiefly for the return of the fits attended by difficulty of breathing. It is more or less periodical usually, and occurs generally in the morning; the face is then paler and the skin is then cooler than natural; the patient feels a sense of stricture across his chest; considerable pain about the throat; a dry cough—a cough with

no expectoration; the ribs are then more elevated than natural; the chest is more expanded than usual, from the muscles being secondarily affected by the irritation of the air-passages; and women at this time are conscious of being stouter than usual. This state goes on generally for some hours, and then the skin usually becomes warm, and soon after this expectoration begins; the patient has a wheezing, like that which is heard in chronic bronchitis, till at length by expectorating he becomes as comfortable as before the fit occurred. Many individuals who have had humoral asthma, and some who have had no such affection, are suddenly seized with spasmodic asthma. When fever is present, it bears the character of bronchitis in the acute form, and it is, pathologically considered, the same thing. Sometimes the fit returns in one, two, or three months; sometimes oftener; sometimes once a-year, at certain times; sometimes in the summer; but more frequently in the spring, and autumn, and winter, when the weather is more variable. In some individuals it is brought on in certain situations; sometimes it is alleviated by certain situations. I know a young lady who had spasmodic asthma, which left her, and then she had a slight degree of humoral asthma. She had tried various situations in order to obtain relief, but had found none that exactly answered her expectations. One day, while she was walking up a pleasant lane, she found that in a given space her breathing became more comfortable; it fortunately happened that in that given space there was a farm-house, at which she took lodgings, and became more comfortable than before; this was not more than a mile and a half from her own house. Remarkable relief is obtained sometimes by breathing the thick London atmosphere; some find more relief by breathing a dry clear atmosphere. In certain persons the attack is brought on by particular smells, either disagreeable or pleasant. I know a lady in whom the smell of new hay produces an attack.

With regard to the—

PATHOLOGY OF SPASMODIC ASTHMA:

it is invariably attended by more or less inflammation about the bronchia; the skin is generally morbid: it is more pale or more dry than natural; very frequently the stomach, liver, and bowels, are out of order. You frequently find in the subjects of spasmodic asthma that there is organic disease of the liver. Almost constantly there is organic affection of the heart or large vessels: there is a degree of dilatation of the arch of the aorta, just as it arises from the left ventricle, with puckering of the lining, and opacity

of the valves of the left ventricle, from a degree of earthy deposition. Most affections of the lungs wind up at last with some affection of the heart. Whether in this case the affection of the heart is primary or secondary I cannot say: in all probability it is sometimes primary and sometimes secondary.

I shall now notice the treatment of the affections of the fauces and air-passages of which I have been speaking; and, first, of the—

TREATMENT OF PRIMARY SYPHILIS.

There was an opinion prevalent not long ago, that primary syphilis could not be cured without mercury. It can, however, be cured by ordinary means; and it is remarkable that any doubt should have existed on the subject; for in hot climates all forms of syphilis have been cured without mercury. Hennen, in his work on the Principles of Military Surgery, has collected facts which alone are sufficient to put the question at rest; and some very valuable facts have been published by Mr. Rose which bear upon the same point. A particular friend of mine, Mr. Alcock, has cured many cases of chancre without mercury. His mode of treating chancre is this:—he makes a saturated solution of sulphate of copper, which he applies to the chancre by means of a camel-hair pencil, and thus makes an eschar. If after the eschar has separated the sore has a common character, he treats it as a common sore; if it has still the characters of a chancre, he makes a second eschar, and so on till the sore assumes a common character; and then he dresses it with common simple ointment. In the mean time he regulates the diet and other parts of the general management. He has had an opportunity of observing several cases for some years, and never in one case thus treated has secondary syphilis occurred. There may be a point of doubt as to the time of treating chancre. No doubt the syphilitic matter is first formed in the chancre, and is then absorbed; and we want to know how long chancre occurs before absorption takes place. Knowing this, we may know in what cases to use mercury, and in what cases we may obtain a cure without it. The army surgeons cure chancre without mercury, and yet no secondary symptoms occur. One thing of great importance is to adopt a strict regimen—what has been called the antiphlogistic regimen. Either the primary, secondary, or ternary, forms of syphilis may be cured by the ordinary means which remove inflammation. One great error committed by patients under syphilis is the use of stimulants, by which the disease is maintained. I have no

experience in curing chancre without mercury. It is generally considered a surgical case; and therefore I have scarcely had a single patient with primary syphilis since I have been in London. I had many cases when I was in the country. I kept the mouth gently affected with mercury ten or fourteen days, the temperature of the apartment being carefully regulated during that period. This plan, with attention to the diet, being adopted, secondary symptoms did not supervene.

TREATMENT OF SECONDARY SYPHILIS.

Of the secondary form of syphilis I have seen several cases since I have been in London, and I have also seen many cases of the ternary form. The best mode of treating secondary syphilis is by an attention to what I call the general management; by adopting a bland and spare diet, supporting the strength without exciting the system at all, avoiding stimulating drinks, and attending to the state of the skin, by using a warm bath occasionally. Attend to the exercise, which should not be carried to fatigue; attend to the sleep, which should be sought by going to bed regularly at an early hour. These points of general management are very important; there is in them, united with medicine, a combined efficacy which is not to be found in medicine alone; and you will succeed by them in almost every case if you adopt mild means. The two medicines which are of greatest importance are infusion of sarsaparilla and very small doses of oxymuriate of mercury, or of blue pill: give one-twenty-fourth, or one-sixteenth part of a grain of oxymuriate of mercury for a dose, with twelve ounces of infusion of sarsaparilla in the day; or infusion of sarsaparilla, and blue pill every other night. This plan requires to be adopted for three months; and if during this time the patient commit any errors as to his diet or drinks; if he expose himself to cold, or sit up late at night, it is surprising how soon the symptoms will return. If these rules be attended to, the disease will rarely again supervene.

TREATMENT OF TERNARY SYPHILIS.

The ternary symptoms require the same treatment. I have seen many cases of patients under ternary syphilis who have been very much emaciated, where this treatment has had the happiest effects. One exception only occurred, where mercury could not be taken, as it invariably disagreed with the patient, and he got well by attending to the other means of treatment which I have mentioned. At one time I was inclined to be sceptical about the benefit

derived from sarsaparilla; but I have seen such decidedly good effects, particularly from the red Jamaica sarsaparilla, which I think is the best kind, that I have changed my opinion; and several friends of mine have told me that they have seen it very useful. One drachm of the extract may be taken three times a day when the stomach loathes a large quantity of fluid; otherwise an ounce and a half of sarsaparilla may be infused in a pint of cold water, and this quantity may be taken in twenty-four hours. When the patient takes blue pill you may make the infusion in lime water, but not when the patient takes oxymuriate of mercury.

When ulceration affects the larynx in syphilis, the same treatment is required, with the addition of the application of leeches or a blister to the throat, gargles of tepid water, an occasional tepid bath, bland diet, and mild aperients.

TREATMENT OF CHRONIC INFLAMMATION OF THE LARYNX.

When chronic inflammation from a common occasion occurs in the larynx, the same treatment is necessary, with a regulated temperature of about 60° to 65° Fahr., which I omitted to mention as a point of great consequence in ulceration of the larynx from syphilis. In common ulceration of the larynx great benefit will be derived from occasioning nausea by ipecacuanha; in all other respects treat it as if arising from a syphilitic taint. If it should spread into the trachea, assuming the form of chronic croup, with laborious and uneasy breathing, and high heat, general bleeding must be employed if the patient be robust, local if he be weak; afterwards the bowels should be opened, and then a blister applied. Free ventilation and regulated temperature are also important. When there is a hacking cough, and especially at night, a full opiate may be required. Those medicines are most beneficial in these cases which act simultaneously on the bowels and on the skin.

TREATMENT OF SPASMODIC AFFECTIONS OF THE LARYNX.

The spasmodic affection of the larynx which occurs in infants I have seen relieved by stimulants. It is surprising how rapidly a small quantity of a stimulant will relieve the flatulence in the stomach of an infant,—a small quantity of brandy, or a drop or two of tincture of assafœtida, or a little carbonate of ammonia: perhaps, on the whole, brandy is the best. I have seen adults after writhing in pain from distention of the stomach and abdomen for hours, instantly relieved by taking about one-third of a glass of

brandy with a small quantity of opium. When I eat a meal hastily I become subject to very severe pain in the stomach, with very considerable fulness, and am relieved in five minutes by half a glass of brandy. The pain consists in a gnawing sensation and a feeling as if the food were pressing against and irritating the pylorus, which I have no doubt is the case. In infants a single drop of tincture of assafœtida or a drop or two of brandy, will relieve that flatulence, which throws them into convulsions, or a spasmodic affection of the larynx. When the voice is lost, from alarm, &c., emetics are often useful; and when it arises from chronic laryngitis, occasional emetics will lessen the inflammation, and prevent it passing on to ulceration.

TREATMENT OF CHRONIC BRONCHITIS.

In chronic bronchitis act on the bowels so as to procure two or three moderate evacuations from them in twenty-four hours; and at the same time act upon the skin, confining the patient in apartments of a regulated temperature. These two things are of more consequence than anything else; and if they be persevered in the affection is always greatly alleviated, and sometimes totally disappears. I saw a man of colour who, after having been asthmatic for years, left the Fever Hospital without a trace of it, from adopting this plan. Adopt a bland diet when the patient labours under chronic bronchitis with any fever, with rest, and the use of gentle aperients and mild sudorifics. Be exceedingly careful in these cases about the abstraction of blood. I believe that one of the most serious and most common errors which I committed in the early part of my practice was the abstraction of blood in inflammation of the bronchia. Several friends of mine, for whom I have great respect, differ from me in this point; but to judge from the result of my own practice, I have been infinitely more successful by adopting the treatment which I formerly laid down than when I trusted mainly to the lancet: the only rule which I can lay down for you to adopt as to blood-letting, is to bleed moderately if the skin be hot and the pulse expanded; but beware of large bleedings if the pulse be not expanded and the skin not very hot. Avoid blood-letting when the disease attacks old persons. Emetics are very useful when there is no affection of the head or heart. I have seen several instances where old persons have sunk with great rapidity from being nauseated with squill or ipecacuanha. Perhaps no expectorant is so good on the whole as ipecacuanha, when it produces nausea: but the remaining vigour of life

seems in old persons to be seated in the stomach; and if you sink the powers of the stomach, they are apt to die very suddenly.

TREATMENT OF SPASMODIC ASTHMA.

One great advantage of understanding the pathological conditions with which diseases are connected is, that we are enabled to treat the symptoms by a reference to those conditions. Spasmodic asthma is set down in our systematic books (which contain little or nothing of modern pathology, and are a disgrace to the country and age in which we live,) as a mere collection of symptoms; and this necessarily leads to an empirical treatment. If a man have pathological knowledge he can separate possibilities from impossibilities; and if he can do no good he will avoid doing harm, which is an important point. The treatment of spasmodic asthma is extremely empirical, and sometimes exceedingly dangerous, tending considerably to shorten the patient's life. When spasmodic asthma has continued for some time, I believe there is organic disease about the heart and large vessels; therefore, let me caution you against doing too much. You may alleviate the symptoms, as I shall afterwards show, and protract the patient's life extremely. In periodical spasmodic asthma I have known change of place or scene have great influence,—especially I have known sailing keep off an attack; but this is a hazardous experiment, for if the patient be very sick at sea, the affection of the heart is apt to be aggravated. On this account always avoid emetics in spasmodic asthma, as they tend to aggravate the affection of the heart. Two things are generally very beneficial:—1. Quietude of body; 2. A fresh, bland, atmosphere. If the patient combine with rest in a bland atmosphere, strict regulation of the diet, gentle action on the bowels, and gentle action on the skin, he will generally do all that can be done in relieving spasmodic asthma with organic disease. If there be uneasiness in the region of the liver; or if the secretions of the liver be morbid: if you find the stools whitish, if you find them dark, like resin, or black, like tar, you may give a little calomel, or hydrargyrum cum cretâ, or blue pill, every other night, with gentle aperients, till the secretions are healthy. I have lately attended a veterinary surgeon, who has organic affection of the heart. His liver was very much disordered; and by attending to the state of the liver, he obtained great relief, although he has still great difficulty of breathing. If you be called to a patient with spasmodic asthma, exercise the same degree of caution as in chronic bronchitis with

regard to blood-letting. If the heat be high and the pulse expanded, abstract a moderate quantity of blood; adopt a bland diet, a regulated temperature, mild aperients, and gentle sudorifics; and if these means be persisted in, the symptoms will gradually abate. Afterwards avoid the exciting occasions, in order to prevent the violence of the returning disease.

During the paroxysm immerse the patient in a tepid bath, and give him a dose of opium in hot water.

In all spasmodic coughs, I do not know why, I have seen prussic acid very beneficial; and in no other coughs has it been serviceable in my practice. I have seen it relieve hooping-cough, and I have seen it relieve spasmodic asthma.

Galvanism has been recommended very much lately in spasmodic asthma; but if you refer to the organic disease of the heart, you will see the necessity of caution in adopting it. I have seen a patient become decidedly worse after it, from its exciting the heart's action. If it could be used without exciting the heart's action, it might be beneficial. I saw a lady who tried it nearly die from the violent shock to the heart.

LECTURE LIII.

PREDISPOSING AND EXCITING OCCASIONS, PREVENTION, SYMPTOMS, MORBID ANATOMY, AND TREATMENT, OF CONSUMPTION.—HÆMOPTYSIS.—CHRONIC INFLAMMATION OF THE LUNGS AND PLEURA.—EMPHYSEMA.

IN this lecture I shall make some remarks upon pulmonary consumption, or the disease commonly called phthisis pulmonalis.

PREDISPOSITION TO CONSUMPTION.

1. Inherent.

1st. There can be no doubt in the world that phthisis pulmonalis is an hereditary disease; or, rather, that the tendency or liability to it prevails very remarkably in particular families. I am quite certain that tubercles, or the seeds of consumption, are born with individuals. On examination I have found them in the lungs of infants who have died shortly after birth; and I have

even found them in infants at the breast when they have died suddenly of some acute disease. I have mostly found them in infants whose health has been depraved, either from their birth or shortly afterwards. Those who have fair skin and fair and soft hair, are, upon the whole, most predisposed to tubercular diseases; but I have seen many individuals who have had dark hair and dark complexions, and who have died of tubercular diseases. It has been said that individuals who have narrow chests are most predisposed to consumption of the lungs. I have again and again seen it occurring in persons with very expanded chests. Upon the whole, it appears that it is most prevalent in chicken-breasted individuals, who have long necks and soft hair and long eye-lashes.

2nd. Consumption prevails most at particular ages—between the ages of twelve and twenty-five, or between fifteen and twenty-five. It very often occurs at an earlier period, especially in the emaciated children in London, who breathe an impure air, and whose food and clothing are neglected. It occurs also at a much later period. I am now attending the father of a large family, who lost his wife and several children by consumption: he is upwards of fifty years of age, and is now the subject, and will shortly be the victim, of consumption. I attended the wife of a medical man, who was about fifty years of age, and she died of consumption. I am at present attending the housekeeper of a gentleman, and she is nearly fifty years of age, and is most distinctly affected with tubercular consumption. There generally is one remarkable difference in tubercular consumption in young persons and in old persons, as to its duration. In young persons it runs a more rapid course than in old persons. In persons after the fortieth year it goes on very slowly indeed, not terminating in less than twelve or eighteen months; but in individuals under the twenty-fifth year it usually runs a more rapid course. There is, however, one exception to this. If tubercular consumption attack a person "on 'vantage ground;" if, in fact, it be an individual who has been much wasted or exhausted by previous disease or any other cause, it then often runs a remarkably rapid course. I have seen several cases in the Fever Hospital where consumption has occurred after an attack of typhus fever, and in three weeks from its very commencement has run its course. This is the most rapid form of consumption I know of. It is remarkable for its rapidity; and it is remarkable for the extreme offensiveness of its expectoration. The tubercular sores are very ill-conditioned, and this probably arises from the exhausted state of the patient. It

depends perhaps on the atmosphere which the patient breathes in some cases; for I have observed, in such cases, that the matter is more offensive while the patient is in a confined than when he is in a fresh atmosphere; and the air which persons breathe does materially influence the secretion from sores.

2. I believe, however, that consumption, or rather, the tendency to it, may be acquired.

I am strongly inclined to believe that tubercles are formed *de novo*, from a combination of circumstances. I have seen a great deal of morbid anatomy; I have cultivated it from a sense of duty as a lecturer, and for the sake of my own improvement;—for I see, as every reflecting man must, the necessity of making every possible addition to my stock of information;—I have therefore, I say, taken every opportunity of making minute dissections and *post mortem* examinations, and nothing has struck me more than the tubercles in the bodies of tabid children who abound in the highest and in the lowest classes in London: in the lowest classes, because the diet is too spare, because they breathe a bad air, and because the clothing is deficient; in the higher ranks, because the diet is complicated, because the clothing is deficient, and because the habits even of the children of this class are dissipated. I have been remarkably struck with the fact, that, die of what disease they may, you are sure to find tubercles, which is a very remarkable circumstance. You find these tubercles in the lungs, in the liver, in the pleura, or in the peritoneum. It does appear to me that they must be formed *de novo*. The only objection to this is, that there are children wasted to the last degree of emaciation, and yet no tubercles are found after death. Not long ago, I saw a child which died of chronic inflammation of the brain, winding up by an attack of fever; and on examining that child, not a single tubercle could be found in any part of its body. This is an exception to a general remark.

1st. One thing is quite certain, which is, that every thing which tends to break up the general strength either fully developes them if they already exist, or produces them *de novo*. All these occasions pave the way to the whole class of tubercular diseases. This is one of the most common remote occasions I know of, and its importance is very great with a view to prevention. I will mention some cases which occurred in a family with whom I was very intimate. When I was a very young physician, I was consulted by this family, on one side of which consumption had prevailed

from generation to generation. I was aware of this fact, which had been long impressed upon me, and I therefore pointed out all the circumstances likely to produce the disease: these circumstances they did not avoid. The family were at Florence, and one daughter was very intent upon her improvement in drawing, and devoted a great deal of time to it. The family remained at Florence after the hot weather had set in: this lady, from the extremely ardent heat, and from the intensity of her application to her favourite study, became excessively exhausted. In this state a short hacking cough arose, a cough so slight as not to alarm the lady's mother. At length, however, she was removed with the family to Rome, and placed under the care of my friend Dr. Clarke, who removed her to England, and I attended her with him; and she died consumptive. In the winter of 1821-2, which was a very mild winter, the same family were in Scotland, and another daughter became what is called dyspeptic. She continued in this state for some time, when a short hacking cough arose, so trifling as scarcely to alarm her mother, who at length, however, did become alarmed, and brought her to London, to consult me about her. She then had confirmed consumption; the expectoration had all the characters of that of genuine tubercular consumption, and I thought her in a very dangerous state, as I knew nothing which would cure confirmed consumption. I recommended further advice upon the subject; and Dr. Baillie, who was called in, took the same hopeless view of the case; and she died. The same family, after this, removed to the south of France, where the eldest son was affected with rheumatism. A physician ordered fifteen or seventeen (I do not exactly remember which) leeches to be applied in the evening; they were applied, and bled profusely all night; one cloth, and then another, was applied, and so on till the family became alarmed at not being able to stop the blood. By these leeches he lost probably more than forty ounces of blood; he sunk into a state of extreme exhaustion, and a hacking cough arose. The family immediately removed him to London, where I saw him labouring under confirmed consumption, and he is now attended by my friend Dr. Abercrombie, in Scotland. Here, then, are three members of the same family affected by consumption from different remote occasions; but one thing was common to all the occasions—that they broke up the general strength. With a view to prevention, if you maintain the general strength in the children of families where consumption prevails, and also in adults, you will prevent the occurrence of the

disease: break up the general strength, and the disease will be developed. This shows how cautious you should be in the use of active measures in consumptive families when they have other diseases, unless the disease be one of vital importance.

2nd. The next cause that predisposes to, or excites consumption, is what is called cold, a low or variable temperature. Consumption prevails most in countries where the atmosphere is variable. It is remarkably prevalent in this country, where the atmosphere is notoriously variable.

3rd. Another occasion which predisposes to it, or excites it, is local irritation: any local irritation set up, especially in the lungs, may excite consumption in a subject hereditarily predisposed. It is a question whether consumption be generated by specific contagion. The Italians are decidedly of opinion that consumption is a contagious disease, and avoid a consumptive person as they would one labouring under small-pox. I have seen some facts which incline me to believe either that the same disease does originate from specific contagion, or that the matter expectorated from the lungs of an individual under confirmed consumption acts as an irritant on the air-passages. A medical man came from Scotland labouring under consumption, and consulted my friend Dr. James Johnson and myself. The history of his case was this: he made a dissection of the body of a lady who died consumptive; and being short-sighted, he held his eyes, and consequently his mouth, near the lungs during the examination. He felt a disagreeable stench, which he could not get rid of; and that very night a cough arose, which never left him from that time till he came to London, and then he was certainly in a state of confirmed consumption. One solitary case would not be sufficient proof, but I have seen others bearing upon the same point, which incline me to conceive, that the odour of matter in the lungs of an individual who is consumptive operates either as a specific poison, or as a local irritant, I do not know which, and excites consumption in those who are predisposed to it.

Let us return to the occasions, more particularly the first class of occasions,—those which break up the general strength. These are very important; for, that they act not only as predisposing, but as—

REMOTE OCCASIONS OF CONSUMPTION,

is very obvious, from the three cases which I mentioned; and I could mention several more in illustration of the effects of—

1. Copious evacuations in exciting consumption. I saw a gentleman some time ago labouring under inflammation of the lungs; and the surgeon who attended him told me also that he was of a consumptive stock. The inflammation of the lungs was removed by evacuations, which were not carried far. The surgeon and myself mentioned to the father that some other disease might probably arise out of this, and asked him whether he would like to have further advice. He seemed surprised, but agreed to have the advice of another physician. Dr. Baillie, the first time he saw him, was inclined to think that every thing was going on well. In two or three days, however, a short hacking cough arose, which passed on to confirmed consumption, of which the patient died. I saw a young man, who was a particular friend of mine: he was of studious habits, and of good fortune, and being rather of an ambitious turn of mind, he became a member of Parliament; and I am convinced that he would have been one of the most conspicuous individuals in that assembly if he had lived. I cautioned him again and again against doing too much; but he used to sit up at night, to inform himself upon all the complicated points which came before the house. He had an attack of cough, for which a practitioner bled him largely. His strength was broken up by night-watching and this loss of blood, and he became consumptive, and died. One of the most beautiful women I ever saw died consumptive after a copious uterine hemorrhage. Large losses of blood break up the strength very much, and when the least predisposition to consumption exists, it is very apt to supervene.

Mothers become thus consumptive by suckling their children too long, and losing their rest at night: a short cough arises, and they have evident emaciation; and if these be neglected in the onset they often pass on to consumption. Mothers who have a tendency to consumption should never suckle their children long. In nursing too they are apt to get wet; this they should avoid by wearing an apron of oil silk, which, to prevent it sticking to the clothes, may be lined with common silk. And here I may observe that this is a very good plan to adopt at night when a child sleeps with its mother. This is also a very good plan when individuals become so weak that they cannot with safety get out of bed to pass their fæces. A piece of flannel, on which the patient may lie, is to be placed above a large piece of oil silk; this may be removed when necessary, and the flannel washed and another piece substituted in the mean time, and thus the patient may be kept remarkably comfortable.

2. Night-watching is one thing which breaks up the strength remarkably. If you be called, therefore, for example, to a young lady who is consumptive, and who has two or three sisters, never allow either of them to perform the office of a nurse for the patient; if you do consumption is almost sure to follow. I have thus seen two or three persons in one family dying, one after another, from the combined effect of anxiety of mind and night-watching on persons predisposed to consumption, independent of the inhalation of the odour from the patient's breath. I advise you for one of these reasons never to allow any person to sleep with a consumptive patient. Never allow any of the relations to perform the office of the patient's nurse: if they do they are in very great danger of an attack of the disease. Such relatives should always go to bed very early. The grand thing in the prevention of consumption is to institute regular habits of general management, which ought on no account to be neglected.

3. Another condition which breaks up the strength is disorder of the stomach, liver, and bowels; and this is one of the occasions very often of phthisis pulmonalis, and we cannot be surprised at it.

1st. When chylification and digestion are depraved (for assimilation is the last process), blood is not wholesomely formed, and the body wastes for want of support; for the blood is the food of the body. This state may go on, and this is the most common way in which disorder of the stomach, liver, and bowels, produces consumption; but it operates sometimes—

2nd. By exciting the heart: by making the blood circulate around the body more rapidly than natural; and—

3rd. By creating a local irritation, thus constituting sympathetic inflammation; and this irritation may call tubercles into actual existence.

4. There is one remedy which is very much, very indiscriminately, and very empirically, used in chronic diseases, especially those which are supposed to be hepatic; I allude to mercury. I advise you never to allow a patient whose mouth is sore from mercury to go into the open air. In persons of a consumptive stock, the administration of mercury demands consideration. It very often induces consumption, and that in two ways; 1st. By exciting the circulation; and 2nd. By prostrating the strength: and these two causes are highly favourable to the development of consumption. Put a scrofulous individual under the influence of mercury, and if he have any sores you will find what an ill condition they assume; if he have any ulceration of the throat it will extend itself,

and be ill conditioned; if he have any chancre on the glans or prepuce, it becomes an unhealthy sloughing sore.

With a view to—

THE PREVENTION OF CONSUMPTION,

it is necessary to ward off all the remote occasions of consumption.

1. The effects of a low or variable temperature are best warded off by wearing a wash leather, or fleecy hosiery, or flannel waistcoat, next the skin. In winter and spring, when there is not much sensible perspiration, upon the whole perhaps one of chamois leather is best; but when there is much perspiration this is apt to be wet, and may produce a chill, and therefore flannel is then to be preferred. In London this is very necessary. When I was in the north of England I was comfortably warm with one flannel waistcoat in winter; but I am now obliged to have an additional waistcoat of leather to produce the same degree of comfort.

2. One thing is of vast importance as to the skin (for the skin is highly influenced in affections of the internal organs), and that is, sponging the surface of the body, affusion of warm water, or a shower bath; nothing, I believe, would tend to prevent consumption more than these. In doing this, the individual might begin with water at the temperature of 96° Fahr., with some salt in it, and diminish the temperature one degree every day till it is as low as 60° Fahr., which is about the temperature of the sea in summer, and here the patient had better stop; afterward the skin should be thoroughly dried, and well rubbed. In females the head should be covered with a cap of oiled silk. If the use of the bath be followed by a warm glow upon the surface, you have the best proof that it agrees with the patient. If an individual who is predisposed to consumption use this plan daily, it is surprising how it prevents him from receiving cold, as it enables him to maintain a brisk circulation under a low or variable temperature, which is the great utility of cold affusions used in the general way. In delicate individuals who do not adopt this plan, from a low or variable temperature the skin is liable to become cold, so that the blood recoils, and inflammation or consumption is the consequence.

3. If local irritation occur about the lungs, bronchial lining, or pleura, you must remove it by the gentlest means possible. Rather remove all the oppositions to recovery; and if the case be slight, leave it to what are called the powers of nature, but avoid the abstraction of blood unless it is necessary. It generally can be removed by very little depletion, if the patient be at rest, with a

strictly regulated diet, and a gentle action on the bowels. In cutaneous affections it is requisite that the skin should be very carefully attended to, and especially if these affections of the skin follow, for example, measles, small-pox, typhus fever, scarlet fever, or hooping-cough, which are all attended more or less by affections of the mucous membrane of the air-passages as well as of the skin. Great benefit will be found in bronchial cases from the use of the tepid bath, in which the skin should be soaked for fifteen minutes, and having been soaped and re-washed, it should then be thoroughly dried. This will sometimes remove the affection from the bronchial lining and prevent an attack of consumption, with the assistance of a regulated diet and clothing. On the same principle you should avoid those occasions which irritate the bronchial lining, as common dust, ivory-dust, needle-dust, and the clouded atmosphere of London. Bronchial affections are more common in London than in the country, and this is one reason. Count Rumford says he never used to see the clouds hovering over London without asking how many chaldrons of coals they contained; and it is evident that there are in the London atmosphere an infinite number of minute particles floating which irritate the air-passages. When I came to London I had an incessant cough for three or four months. A gentleman from Sheffield informs me that persons who grind needles are remarkably prone to consumption, and seldom attain the thirty-eighth or fortieth year. This has lately been made the subject of attention, and the wheel is surrounded with magnets to attract the particles of dust. Two friends of mine think this arises more from the position of the body than the inhalation of dust, but I think it perhaps arises from both.

There is one point with regard to these and similar diseases which I wish you to notice. Children whose diet is bad, whose clothing is neglected, and who sit up at night, become pallid and emaciated, and generally become chicken breasted, the chest contracting very much. It is very important to counteract this contraction; it prevents children from growing strong. Exercise should be taken in the open air, but never carried to fatigue, and if this can be avoided, the child should almost live in the open air. The sleep should be sufficient, and taken early; the mind should not be kept too long upon the stretch at one time, nor should the education be allowed to interfere with the sleep or exercise. If an individual have a narrow chest, he will necessarily have small lungs, and these will take in but a small quantity of air, and the blood is

thus not so freely ventilated as it ought to be. By causing the child to lie on the floor, with the arms stretched out, for half an hour twice a day, and by using the dumb bells, and all exercises which are calculated to increase the strength of the muscles of the chest and trunk, as dancing, riding, fencing, sparring, the breathing will be benefited; and it should run very fast, to make it long-breathed. You will generally find it surprising how greatly the breathing is improved by the expansion of the chest. A change in the habits,—for instance, from steadiness to dissipation,—often brings on consumption; hence it occurs very frequently at the period of introduction, as it is termed, in high life. In children who have been in perfect health at school, where their habits have been regular, I have often seen consumption occurring as soon as they have come home and have been allowed to sit up at night, neglecting the diet, clothing, &c.

It should be borne in mind that fifty thousand individuals die annually of consumption in this country; and that we know nothing which will cure tubercles, or arrest confirmed consumption: hence you see how important it is to bear in mind the means of preventing such a terrible disease.

SYMPTOMS OF CONSUMPTION.

When consumption arises, it generally comes on very insidiously; first, by a hacking cough, a cough so slight that little or no attention is paid to it. An accurate observer, however, sees other changes accompanying it. The skin becomes rather more delicate; the eye, especially towards night, has an expression of animation in it,—it is brighter than usual; the hair becomes softer, and does not keep in curl so well in females as usual; the breathing becomes a little short and accelerated, and it is especially hurried on running, or going up a hill, or up stairs; the pulse is a little accelerated, and very much by motion: this is a remarkable symptom, as there is no apparent local cause sufficient to account for it. The disease here is in its most hopeful state. If any thing can be done, now is the time. The most trifling cough in the world with an accelerated pulse, is an alarming circumstance in families where consumption prevails: if you see an individual going about with these indications, you should at once be alarmed, for most frequently consumption supervenes on this state. Sometimes there is a slight pain at this period in the chest; but sometimes there is no pain whatever, and the patient can take a deep inspiration without uneasiness. One thing is remarkable about this

affection, or rather about the fever which steals on so insidiously. The muscles are vigorous, there is considerable energy of the mind, and the appetite is undiminished. To this there is an exception, namely, where the liver is affected, and then the mind is simultaneously affected. In all other kinds of fever there is prostration of muscular power and of mental energy, and diminution or loss of appetite. In genuine consumption and confirmed hectic fever, all these are generally absent till there is considerable emaciation. When the stomach, liver, and bowels, are disordered, which they often are in these individuals in the incipient stage, the tongue is foul, the secretions of the liver are deficient or depraved, the bowels are torpid at one time and lax at another, and the spirits are depressed. These are the most hopeful cases. If you cure the disorder of the stomach, liver, and bowels, at once, you prevent the disease. If the disease be once actually developed it is no matter (as far as the attempt at cure is concerned) what you do, for the disease will go on in despite of every attempt to arrest it.

As the disease advances, the cough generally increases, the skin becomes more delicate, the eye becomes brighter, the breathing becomes shorter, the pulse becomes quicker, and the skin hotter, and you perceive, if you notice the patient from week to week, that a gradual emaciation is taking place. The expectoration at first is nothing but a little frothy, glairy, mucus, and then it becomes more abundant. This constitutes incipient consumption.

The disease goes on thus for one, two, three, four, five, or even six months before pus is spit up; and then the period arrives when pus is discovered in the expectoration. It is important to know the precise appearance of the sputa expectorated in consumption. In a very large majority of cases it is very peculiar, so that if I saw the expectoration I think I could give an opinion as to whether the individual were consumptive without seeing him: in ninety-nine cases out of a hundred I dare risk my reputation upon the danger of being deceived. It is difficult to give in words a description so precise as to be distinctly understood; it should, therefore, be examined by each of you. Pus that comes from tubercular vomicæ is generally of the following character: it is of a dirty white, or yellowish colour; it has a curdly consistence, and a cloudy appearance. If you examine it minutely, you will see one patch, as it were, piled on another; it is formed of several small masses, and does not run into one mass. It is composed partly of mucus, partly of a loose diffused pus, and partly of a curdly or flocculent matter, blended together. The mass gene-

rally spit up is about the size of a very small cockle. Generally at first it floats in water, and if you pay attention, you will see the reason of this; it contains several air-bubbles, and when these burst it falls to the bottom of the water. Thus when a consumptive person has expectorated into a basin of water, you see one or more of the patches having a flocculent ragged appearance at the bottom of the water, while others are floating. In the water you see particles floating, and these are the curdly matter which denotes the tubercular diseases, and which you never see in any thing else. Blood sometimes appears in the expectoration of chronic bronchitis and in that of phthisis. The most common appearance of blood in tubercular consumption is small streaks attached to each patch. It is set down in books that when a person expectorates purulent matter, he is decidedly consumptive. No such thing; for—

1. Matter is often expectorated, as I have shown, from the larynx. But if you trace the history of the case, you will clearly discover the disease from consumption. It begins with loss of voice; uneasiness about the larynx; a peculiar cough, with a harsh, suffocating, clanging noise in the larynx; there is an absence of the peculiar state of the skin, of the eye, and of the pulse, all stealing on insidiously; and, moreover, the expectoration is different,—it is common pus.

2. Chronic bronchitis produces an expectoration entirely different to that of pulmonary consumption. The patient often spits up matter secreted, not from an abraded surface, but from the bronchial linings. Each patch of expectorated matter is generally more large and diffused than that of tubercular consumption, and each patch runs into the others, till at last it forms one uniform mass, resembling in consistence mucilage of gum arabic, or the yolk and white of an egg blended together. You will observe that I say—*at last* it forms one uniform mass.

3. The only remaining expectoration which you can confound with that of consumption is the expectoration of a common abscess of the lungs; and here the history of the case will guide you. Common abscess of the lungs is a very rare disease, and does not occur more than once in a hundred cases. The patient has acute inflammation of the lungs, rapidly succeeded by an expectoration of pus. I saw a remarkable case of this. A young man was thrown out of a boat into the Thames; he was chilled, and the next day had pain in his chest; no medical man was consulted for some days, and then the inflammation of the lungs had passed into

suppuration; when I saw him he was spitting matter, and he is now convalescent. The patient has symptoms of suppuration; the pain ceases, but the dyspnœa continues. The patient has difficulty of breathing without pain; he can take a full inspiration without pain; and he spits up matter more diffused and very different from the true tubercular expectoration. The only exception to this is when a large tubercular vomica is formed from several small tubercles being connected together, and then you have large quantities of matter expectorated; but if in this case you examine the expectoration, you will find the curdly matter in it.

The fever attending consumption has been called hectic fever.

1. There is one form of hectic fever of which I have known two cases in old individuals, and which is different from what is set down in books. The eye is brighter than natural, the pulse is quicker than natural, &c., but the patient has no night sweats. You mostly meet with this slow consuming fever in old persons. It is distinguished by the absence of languor of body, lassitude of mind, and loss of appetite; by the pulse being constantly quicker, the eye constantly brighter, and by the sleep perhaps being shorter than natural.

2. In common hectic fever the pulse is quicker throughout the twenty-four hours than natural; the patient has a more bright appearance of the eye than usual; and with it he has a marked increase of fever once or twice a day; generally twice a day, about noon and in the evening. The face becomes flushed with a circumscribed redness; the eye becomes brighter; the skin hotter; and the pulse quicker: this lasts for a few hours, and is most remarkable towards night, and this goes on till about two o'clock in the morning, and then it terminates in a profuse perspiration.

These are the two common forms of hectic fever. When it occurs only once in twenty-four hours it is sometimes quite periodical. I saw a patient in a hospital for a friend of mine, and she had an accession of fever every day at three o'clock so regularly, to a minute almost, that she could tell what was the time of day by it. When the hectic fever occurs once or twice a day, the water will most generally have what is called a lateritious sediment, a sediment very much resembling brick-dust. In the other form you often have no sediment at all in the urine. When hectic fever has set in decidedly, under either of those forms, the patient wastes; but far more under the last form than under the first. The eyes become brighter,—the cornea more glistening and vivid, and the conjunctiva more pearly; the cheeks become more hollow,

and have usually a red patch upon them; the nose becomes sharp; the arch of the hand becomes remarkably hollow; the knuckles and the bones of the fingers become more prominent, and the wrists more flat; the trunk and extremities become more wasted, till at last the emaciation is extreme; and the cough is more and more hollow as this state occurs. There is a peculiar deep, hollow, reverberating sound, in the cough of confirmed phthisis pulmonalis, different from that of any other cough. I cannot describe it; but having heard it once it will easily be recognised. These things are of great importance, such as the sound of the cough and the appearance of the expectoration. Some physicians assume that it is of no consequence to be minute; but all that I have observed convinces me that the diagnosis of diseases mainly depends on minute circumstances; that excellence is to be found in nothing but minutiæ; and that those who despise minutiæ are mostly ignorant of essentials, which are made up of minutiæ.

If you except the state of the mind when the liver is affected, though the patient is dejected, yet there generally is hope to the last. A pupil at this school went to study in Paris, and became the subject of consumption. He came from Paris to see me, and when I visited him I found him gasping for breath in the last stage of consumption, and he died in four or five days. Still, to the last he was full of plans about the future, and had not the least idea of his own danger. To these individuals this is a fortunate circumstance: hope is the balm of their life, and hope forsakes them not to the last. In general, however, the spirits are depressed when the liver is simultaneously diseased.

In consumption the death is sometimes gradual; the breathing becomes exceedingly weak, matter is accumulated in the lungs, the patient loses the power of coughing, and at last dies of suffocation. In giving a prognosis to the patient's friends it should not, however, be forgotten, that these patients sometimes die very suddenly. A friend of mine, to whose case I previously alluded, was bled copiously, and was advised by his physician in the country to go into Devonshire; and he called on me in London as he went. He was staying at one of the hotels in Leicester-square, and there I visited him several times before his death, which was sudden; and I was remarkably struck with his extreme difficulty of breathing, and I felt sure that he had hydrothorax. I applied Laennec's instrument, and could in no part of the chest distinguish the air entering or permeating it, and I therefore expected he would die suddenly. His mother seemed unwilling to converse upon the

subject, and I had no one else to mention it to: she had lost four or five other sons, and this was the last branch of a very ancient family; she knew that he was dying, and she declined any conversation about him. I was at a consultation with the late Dr. Baillie when I received a message, and as soon as possible I saw him, but I found he was dead. He felt himself better than usual that morning; he got up, and died in the act of shaving himself. If such a thing happened without your seeming to be aware of its possibility or probability you might be considered ignorant, for the public, at least a certain class, make no allowances for the difficulties which medical men have to encounter in forming an opinion, which is, in most cases, founded only on circumstantial evidence; and no man has occasion so often to use the highest faculties of the mind as a medical man, and that too, in some instances, under very disadvantageous circumstances.

I attended a young lady, whose case I have before mentioned, and who was removed from Rome to England. One of her sisters read to her every night till she fell asleep: her eldest sister one night read to her till she supposed her asleep; she looked at her, and thought there was some change in her; she spoke to her, but no answer was returned; she shook her, and yet no change occurred; she examined her more closely, and found her, as she imagined, dead. She became excessively alarmed, and her mother and sisters came, and found her, as they supposed, dead: I was sent for, and went directly. She was lying on her left side, in a very easy bent posture, her hand was under one cheek, her eyes were shut, her lips were nearly closed, she had a placid countenance, and such a sweet smile was upon her face, that I could at first hardly believe she was dead.

I have known individuals die at dinner. This sudden termination of the disease may arise from an effusion of blood into the bronchial tubes, or from gangrene of the lungs. Sometimes the fatal event is accelerated by a tubercle perforating the pleura and discharging its contents into its cavity, and producing a sudden and violent attack of pleuritis. Sometimes it communicates with the bronchia, and then the case is complicated with pneumo-thorax. It is indicated by a violent pain in the side, a sense of choking, and extreme anxiety, with the other symptoms of acute pleuritis. In pneumo-thorax, the chest, on percussion, is very sonorous, but the respiratory murmur is inaudible.

MORBID ANATOMY OF CONSUMPTION.

The appearances on dissection are very remarkable. Tubercles we must trace from their origin. An opinion prevails that tubercles always arise from minute vesicles: an excellent work has been written upon the subject by Dr. Baron, who draws the general inference, from the cases that have fallen under his notice, that tubercles have always a vesicular origin. My dissections do not authorize me to be of this opinion. I believe that sometimes tubercles have a vesicular origin, but that most frequently they have not: this is the conclusion I should draw from my own dissections. I have occasionally found vesicles in lungs where there were tubercles, and I have seen them in all their stages; hence I inferred that they were the origin. I have, on the contrary, seen many cases where no vesicles could be found: I have not found vesicles, for instance, in the pleura or peritoneum; and here also it is proved that tubercles form independent of inflammation. I was for a long time at a loss for a satisfactory opinion upon this subject, but now I can confidently state that tubercles are not connected with inflammation in their origin. If any person examine the pleura when it is affected with tubercles, or the peritoneum in the same state, he will find at first only an opaque spot, and up to that point the pleura or peritoneum is perfectly transparent; and this is surely against the theory of inflammation. This opacity, with the transparency up to the opaque spot, is only to be seen by the help of a strong light. It becomes larger and larger, and then is more like the pineal gland than any thing which now occurs to me. As the tubercles enlarge they seem to be the occasion of inflammation; they increase and become local irritants. Now, apply this to the lungs: the tubercles, which at first consist of small greyish semi-transparent points, imbedded in the cellular connecting membrane of the lungs, gradually increase in size, become yellowish and opaque, and several of them unite together, enlarge, and at length become local irritants; a portion of the lung around these is affected, and the tubercle forms a membrane, which surrounds this circular portion. The tubercles often suppurate afterwards, and the adjacent lung becomes inflamed from irritation: frequently parts of the lung become hepatized; or there is effusion of a gelatinous substance into the cellular connecting membrane of the lungs, rendering these parts dense, impervious to air, and of a reddish-brown colour; and from the tubercular cavity which is formed by the suppuration, there is generally a fistulous opening

connecting it with the bronchia. There is then a particular sound produced, upon which I could venture an opinion as to the nature of the disease without seeing the patient; it resembles a mucilaginous fluid forced up and down a very narrow aperture by a piston through which fluid bubbles of air are crackling every now and then. It probably arises from the pus and mucus rising up and down in the fistulous openings between the tubercular cavities and the bronchia, and the bubbles of air every now and then making their way through the fluid. The excavation becomes lined by a membrane, which probably secretes the curd-like matter. In some cases, after death, cavities are found in the lungs, lined by a semi-cartilaginous membrane, and communicating with the bronchial tubes by fistulæ: this appearance indicates the healing of tubercular excavations. In some cases portions of the parenchyma of the lungs are found infiltrated by the curdly matter. Frequently adhesions are found between the pleura pulmonalis and pleura costalis, and occasionally fibro-cartilaginous bands are discovered extending across the cavities of the abscesses. You will see the difficulty, then, of curing confirmed consumption, for every part of the lung frequently is diseased; the lung is in an ill condition; and it is notorious that the state of confirmed consumption is almost hopeless. These tubercles form in other membranes, in the pleura, in the peritoneum, and in the substance of other organs; and the investigation of the subject of tubercular diseases is one of very great interest and importance. In the advanced stages you sometimes have what is called colliquative diarrhœa. The tongue is sometimes shining and red, and aphthæ are seen upon it, about its tip and edges, and about the fauces, and then sometimes inflammation is found in the lining of the lower part of the ilium and upper part of the colon, and sometimes tubercles are found in the lining membrane of the intestines.

I shall next speak of the treatment of tubercular diseases.

TREATMENT OF CONSUMPTION.

If you be called to see a person who is threatened with consumption, you should endeavour to ascertain where the irritation is, and having found it, your next object is to remove that irritation and to improve the general health. If the irritation be in the stomach, liver, and bowels, the case will be hopeful, if you see the patient just as the strength is giving way. If the irritation be in the pleura, the patient has a fair chance if you remove it without breaking up the general strength. If the irritation be in the

bowels, regulate the temperature, adopt a bland diet of arrow-root, &c., avoid the abstraction of blood, use rest in bed, and regulate the bowels. If when the functions of the skin are disturbed you remove its disorder by a tepid bath, and thus remove the local irritation, you may prevent the disease from advancing. The main means are rest, a bland diet, and regulated bowels; and if you perceive any inflammation remove it by local or general blood-letting, carried to as little an extent as possible. If the pulse continue quicker than natural when the pain is gone, rest, aperient medicines, a regulated temperature not exceeding 60°, and a regulated diet, may be persevered in till the pulse comes down; and if this be not sufficient you may give digitalis, which in this state is often very useful. When the disease is incipient the same treatment is applicable: if the pulse should not come down give digitalis. In this stage, and in this only, sedatives are very serviceable in effecting the reduction of the heart's action. Of these colchicum is the best; next digitalis; then ipecacuanha; and lastly, prussic acid. In some instances, when one of these sedatives fails, another will succeed. I have found a formula very useful, which consists of two scruples of sulphate and one scruple of carbonate of potass, and five grains of powdered colchicum, taken in an ounce and half of water, in the state of effervescence, with citric acid. The preparations of iodine have been strongly spoken of in incipient consumption. My trial of them does not enable me to form a correct opinion upon the subject; but they have appeared to me to be beneficial in two cases, in which they were given under favourable circumstances, the general management being at the same time strictly attended to.

When consumption is confirmed, you may consider the disease in ninety-nine cases out of a hundred as fatal; I have not seen more than one case out of a hundred recover. Since I have been in London I have seen three individuals who had all the symptoms of tubercular consumption and afterwards recovered. It is the opinion of all intelligent and honest men with whom I have conversed on the subject, that medicine is of no use in the cure of consumption; and I should be sceptical about any case of cured consumption which has been published unless I saw the case; for chronic bronchitis has too often been mistaken for it. The late Dr. Baillie, one of the most candid men I ever met with, had no faith in physic as a radical cure for consumption. Some persons confounding, as I have said, chronic inflammation of the bronchia with tubercular consumption, will say that they have cured many

cases; and thus, from the mere sordidness of interest, pretend to cure consumption, and call every case in which cough and expectoration occur by that name. The only thing to be done in confirmed consumption is to palliate the symptoms, render them less violent, and retard their progress; but still the disease will go on in spite of any remedial measures. And recollect that there are three things which palliate the symptoms very much.

1. A regulated temperature. The best is generally one ranging from 58° to 64°; but upon this point the patient's feelings should be consulted.

2. A proper diet. It should be such as to support the strength without exciting the heart's action, and it should be very bland: a milk diet answers best. All fruit and other irritating food should be abstracted; animal food, in some cases, is beneficial in confirmed consumption, provided it does not heat the system.

3. Sponging the surface of the body, especially towards the evening, has a remarkable effect in mitigating the fever, lessening the perspiration, and supporting the patient's strength. If you can get the water from 96° gradually down to 60° Fahr. all the better. The patient should never be allowed to perform the operation for himself, for two reasons; first, because he is apt to be too long about it, and may thus be chilled; and, secondly, because he may be fatigued. It should be done rapidly, and it has a tendency to diminish the hectic fever.

In all chronic diseases attended by fever, rest is very beneficial; but in some of them the sofa is preferable to the bed, so that the patient may be able to use his limbs, which is often desirable. In incipient and confirmed consumption the wasting by perspiration is much less on the sofa than in the bed.

I have often thought that the ancient litter might be used with advantage, as a palliative in chronic bronchitis and tubercular phthisis. A carriage might be constructed to be drawn by a horse in fine weather, and in which, being placed on springs, the patient might take passive exercise in the open air, being covered with clothes, which would be exceedingly beneficial. Sydenham speaks of horse exercise as very advantageous in tubercular phthisis; but no doubt he mistook chronic bronchitis for consumption. The ancients were very fond of sailing. The Romans, for instance, sent their phthisical patients to sea. I believe that sailing will often prevent, though it will not cure, consumption. Boys who have gone out delicate, having worked hard and been fed well and constantly surrounded by a fresh breeze, have

become remarkably strong. And if other means failed to restore the strength, I would put a delicate lad on board a ship, and let him work like a sailor. Sailors and fishermen, although their sleep is often broken in upon, scarcely suffer at all, because they are continually encompassed by a fresh atmosphere.

Keep the bowels gently open, but avoid all harsh purgatives, for they are apt to bring on what is called a colliquative diarrhœa. If you do not use laxatives you have may colliquative diarrhœa from the accumulation of fæces in the colon: the best plan, therefore, is to give a few grains of powder or extract of rhubarb in the day. With a few grains of senna very finely powdered, and mixed in honey or syrup, you may often produce the same effect; or you may give a little fine Socotrine aloes with a little extract of gentian; or you may give infusion of senna, or cold-drawn castor oil. You must also send the patient some medicine as a matter of form, and this may be changed, altogether or in appearance, every now and then; in short, you should administer a placebo, which you may conscientiously do. The patient's hope of recovery generally remains to the last; if you tell him that his case is hopeless he will not believe you, but will send for another physician; you must, therefore, every now and then make a change in the medicine, still keeping in view that you are to do no harm. When the hectic fever is very urgent, in some cases the sulphate of quinine; in some, the infusion of sarsaparilla; in some, digitalis; and in some prussic acid, will relieve it. On the whole, the sulphate of quinine, and the infusion of red Jamaica sarsaparilla in lime-water, seem to mitigate it more than any thing else. Digitalis seems rather to shorten life by breaking up the general strength. I saw a case where the patient had all the symptoms of confirmed consumption, and a variety of remedies had been tried; digitalis was given, and the patient recovered. In some cases nothing relieves the sufferings of a phthisical patient so much as a full opiate. When the night sweats are excessive, relief is sometimes found from the exhibition of the mineral acids.

From the dissections of Laennec it is certain that consumption is sometimes spontaneously cured; I have seen some such cases. Bayle and most other writers have been of opinion that the disease is absolutely incurable.

When there are open tubercles, and the pus is oppressive by its accumulation, mild emetics of sulphate of zinc or ipecacuanha are beneficial. Zinc is less likely to produce diarrhœa than ipecacuanha; and, with the same view, an opiate should be given after

the emetic. Many old physicians prescribe sulphate of copper in phthisis as an emetic; but I recommend you to avoid it.

With regard to climate, I thought favourably of a change some time ago; but so many appalling facts have come to my knowledge that I have been induced to change my mind. If consumption be threatened, the patient has the best chance at home: if consumption be confirmed, it is hazardous to leave home. If the patient be in threatened consumption, to remove him from his friends is to wrench him from all the affections which have held him from the time of his birth; and no man can bear this without receiving a shock which may be exceedingly injurious. Beside which, the fatigue of travelling, the risk of cold, the worry and bustle of inns, the diet, which becomes in some measure dependent upon chance, on the road, the danger of damp beds, and the necessity of changing the abode at different seasons of the year, must all be taken into account: they more than counterbalance the good which might result from a less variable climate; and many persons who have left this country in a state of threatened consumption, have returned with confirmed phthisis. If an individual of a delicate constitution, with a slight cough and a slow pulse, should pass to a warmer climate, he can scarcely ever return with safety to this. As to confirmed consumption, removal is quite out of the question; it is a hopeless disease; and change of climate only hastens the patient to his grave. Medical men have been too much accustomed quietly to take up the errors of men who lived in times of darkness and ignorance; and the age in which we live is remarkable for the fortitude with which some individuals have thrown off this cumbrous load, and have dared to think and to act for themselves. This independence of mind has led to very beneficial results in the improvement of professional knowledge. It is for you also to endeavour to cultivate the opportunities afforded you, not only for your own sakes and for the sake of your patients, but for the improvement of your profession; and I have no doubt that at some future period the whole class of tubercular diseases will be arrested. It is a field of study which perseverance and observation will find at all times worthy of cultivation.

Before concluding this lecture, I shall just say a few words with regard to the disease called—

HEMOPTYSIS,

hemoptoe, or spitting of blood. You must recollect that there are a great many abstract terms of pathology which refer to differ-

ent conditions; and this word is one of them. Hemoptoe arises from a variety of causes. Sometimes the mucous membrane being surcharged with blood, it is effused and mixed with a large quantity of mucus; but sometimes the bronchial tubes are suddenly deluged with blood, and the patient dies instantly, in which case it proceeds from bronchial inflammation; sometimes from general plethora, falling more especially upon the lungs; sometimes from suppression of the catamenia, or any other habitual discharge, as piles, or an issue, &c.; sometimes from gorging the stomach, and having the bowels confined; sometimes from an enlarged liver; sometimes from the pressure of a pregnant uterus; sometimes, especially in advanced life, from disease about the heart or large adjacent vessels; sometimes from tubercles which interrupt the circulation.

Now, as it proceeds from various causes, it requires various treatment. When it occurs in full habits, on the suppression of some habitual discharge, nauseants are very beneficial; but premise blood-letting. They are most useful when it arises from chronic bronchitis or from tubercles. I once prescribed emetics in hemoptoe, but I committed a mistake; for they will frequently increase the hemorrhage. The good effect arises from the nausea, and not from the full vomiting.

With regard to hemoptoe and other internal hemorrhages, they arise, as was noticed by Celsus, from one of three causes:—

1. Transudation. The common opinion is, that internal hemorrhage arises from a rupture; but this is not so common as transudation, the blood escaping from the open mouths of the vessels.

2. Rupture. When a vessel is excessively distended it is apt to become ruptured; and this is especially the case in the head, where the vessels are very tender. Van Swieten states that the capillary vessels of the brain are more minute than the finest thread of a silk-worm.

3. Erosion; as from a tumour pressing on a vessel and producing ulceration.

CHRONIC INFLAMMATION OF THE LUNGS.

The lungs are subject also to chronic inflammation; and of this there are two terminations. Hepatization of the lungs is constantly occurring, and sometimes, though very rarely, a common abscess of the lungs. It is frequently a sequel of acute pneumonia, and very often a concomitant of phthisis. The

symptoms at first are a harsh, hard, grating sort of cough, limited, as it were, to one part of the chest, with a scanty expectoration of small patches of yellowish mucus, a heavy or oppressed respiration, and a flagging pulse. Frequently there is no pain at all in the chest. The natural respiratory murmur is either indistinct or altogether absent. As the affection proceeds to hepatization the breathing becomes more and more difficult. As it goes on to chronic abscess the case pursues the same course as in phthisis, from which, however, it evidently differs pathologically, because this may occur without tubercles. In the early stage cautious blood-letting, mild aperients, rest in bed, a spare diet, a regulated temperature, and digitalis or some other sedative, will often be of service.

CHRONIC INFLAMMATION OF THE PLEURA.

The pleura also is subject to chronic inflammation, denoted by slight pain, or tenderness, or dragging, in the side, especially if a deep inspiration be taken in the supine position, as suggested by Baglivi; by difficulty or shortness of breathing, increased upon motion; by a slow nocturnal fever; by some oppression of the chest on lying down; by the sleep being short and disturbed, and the appetite deficient or variable; by the bowels being torpid, and the urine scanty and high coloured. With these symptoms there is a short tickling cough. The case frequently winds up in anasarca, and terminates suddenly. It may, and not unfrequently does, arise independently of acute inflammation. It terminates by inducing either an effusion of water into the cavity of the chest, or adhesions between the pleura pulmonalis and the pleura costalis. Before effusion has occurred, moderate blood-letting, general and local, followed by blisters, laxatives, and a spare diet, with a regulated temperature, are the best means that can be adopted. If these fail, mercury pushed to ptyalism, and then squills or some other diuretic, may be tried. Sometimes a seton is very beneficial.

Tubercles often irritate the pleura pulmonalis, and the consequence is inflammation and adhesion. You must treat these cases accordingly, taking into account the signs I before mentioned, and calling into use Laennec's instrument, in using which you will also be assisted by percussion. Tubercles mostly form in the upper part of the lungs first. The chest should be exposed under a regulated temperature, and then with the hand you should strike the chest on each side. If the lungs be in a healthy state, the

chest sounds like an empty cask. If there be tubercles in the lungs, you have a dead sound, as if you struck the thigh. If there be no respiratory murmur when you apply the instrument, it is a still more suspicious circumstance. When tubercular cavities are formed, the circumstance may be known; for if you apply the instrument over the part where the cavity is seated, and tell the patient to cough, or count ten, if there be a tubercular vomica, the sound will appear to come through the instrument directly to the ear, from the reverberation of the sound. This instrument is, therefore, a good guide in consumption.

EMPHYSEMA

sometimes arises from an accident, as a fractured rib, and requires a bandage to be applied around the chest tight enough to restrain the motion of the ribs, but not to compress the abdominal muscles. If inflammation of the lungs should occur, it is to be treated upon common principles.

LECTURE LIV.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF CHRONIC DISORDERS AND DISEASES OF THE HEART, PERICARDIUM, AND AORTA.

It is my intention in this lecture to make some observations on affections of the heart, which may be divided into two kinds: disorders and diseases. Disorders consist in mere irregularity, for example, in increase, diminution, or oppression, of the action of the heart without any change of structure. Diseases consist in an actual change of structure about the heart itself. Disorders of the heart are very important in acute, in sub-acute, and in chronic diseases. The heart is connected with all febrile diseases which are attended by diminution, oppression, or increase of its action. When the heart's action is diminished or oppressed, the venous system is overloaded with blood; when it is increased the blood circulates more rapidly than natural over all parts of the

body, and if one part be predisposed to inflammation, it will be affected with it. See, then, the importance in febrile diseases of attending to the particular conditions of the heart's action.

CHRONIC DISORDERS OF THE HEART.

I shall proceed to make a few remarks upon these states as they occur in chronic diseases.

Chronic disorder of the heart, whether its action is increased, diminished, or oppressed, is produced by disorder of the stomach, of the liver, or of the bowels.

1. The stomach, being disordered in some individuals, the heart's action is suddenly oppressed or suspended.

I have known it instantly suspended by pork, by tongue, by rich pastry, by heavy dumpling, or any indigestible substance of that kind. In some of these cases the person dies as suddenly as if he were shot through the brain, or through the heart itself. One of the first cases of typhus fever I attended was in a schoolfellow and friend of mine. He was convalescent, and as I was ignorant of this connexion between disorder of the stomach and disorder of the heart, I neglected to give any particular directions as to the quality and quantity of his diet during the state of convalescence. I was sent for one day, and upon arrival I found that he was dead; he expired instantly after having eaten a large and indigestible meal. I have seen other cases of this kind. The only way to save the patient, if you chance to be present, is by diffusible stimulants, as a glass of brandy, the patient being placed in a recumbent posture.

In other cases great oppression of the heart only occurs. The patient is pale over the whole surface of the body; sometimes he falls down suddenly and faints, with a dilated pupil, a blanched conjunctiva, a weak respiration, and a small, struggling, irregular pulse. I saw a gentleman who had been travelling a long way, and at the end of his journey ate some veal pie with a heavy crust. He dropped down insensible, his breathing was feeble, his pulse struggling, his eye blanched, his pupil dilated, and he was in a slight degree convulsed. If you can act on the stomach by an emetic, it is the best plan; but if the stomach be not obedient to an emetic, the patient has the best chance from diffusible stimulants. When persons die in this state you generally find the brain more or less gorged with blood, or an effusion of thin serum into the ventricles or between the membranes of the brain.

2. More commonly than this, there is an intermittent or an

inordinate pulse from disorder of the stomach. A person has a torpid liver, uneasiness about the stomach, and a torpid colon: he is subject to very great irregularity of the heart's action, to flushes of heat in the face, to coldness of the feet, and his pulse is frightfully intermittent after a meal. It beats once, twice, thrice; then there is a sudden stop, and then it goes on again. It is to be remedied by acting gently on the liver and bowels, and regulating the diet.

3. Sometimes the heart's action is what is called inordinate. One pulsation is strong, the next weak; then three or four pulsations are rapidly performed, and are succeeded by three or four slow pulsations. This is exceedingly common, from disorder of the stomach. So long ago as the year 1811, I saw a lady who for a long time had been subject to violent palpitations of the heart, and extreme irregularity of its action, so that at length she was unable to walk across the room without assistance. Every now and then she was suddenly seized with great difficulty of breathing, and coldness of the hands and feet, her face was flushed, she was perfectly powerless, and sunk from off her chair upon the ground. She went on in this way for twelve months; she had consulted several physicians, who agreed that she had organic disease of the heart. When I saw her, I thought it might possibly depend upon the stomach; and upon enquiring into her diet, I found it all originated from a small quantity of pastry which she always took once in twenty-four hours, or oftener. By withdrawing this, and giving her a small quantity of animal food, she recovered very rapidly indeed. I saw a lady in London with the same symptoms, with a torpid colon, and a foul tongue. She was supposed to labour under organic disease of the heart by the physicians whom she had consulted. I regulated the diet carefully; I acted gently on the liver, and moderately on the bowels; and all her symptoms disappeared with great rapidity.

If, then, you see a case in which there is irregularity of the heart's action, with a foul tongue, with irregularity of the liver, the stools showing either a deficiency or a depravity of bile; when, indeed, there are any indications of disorder of the stomach, liver, and bowels, be careful of giving an opinion as to the existence of organic disease of the heart. In all these cases, try first to remove the disorder of the stomach, liver, and bowels.

4. The heart's action is preternaturally increased from disorder of the stomach, liver, and bowels. Chronic inflammation, seated

in different parts, is chiefly maintained by excitement of the mucous membrane of the stomach operating on the heart's action; and this excitement of the stomach is produced and maintained by daily errors of diet and drinks. A great many chronic inflammations arise, or, if not, are maintained, thus; therefore, in all chronic inflammations, support the strength, without exciting the heart's action, by carefully regulating the diet. In all chronic diseases, that diet is prejudicial which increases the heart's action and the animal heat simultaneously.

CHRONIC INFLAMMATION OF THE PERICARDIUM.

The pericardium is very liable to acute or sub-acute inflammation, as I have already noticed, especially in rheumatic subjects; and it is also very liable to chronic inflammation in rheumatic subjects. If you see a patient labouring under chronic rheumatism, with a dull aching uneasiness, numbness, and a sense of tightness, in the region of the heart, increased on stretching the trunk upwards or backwards, especially when lying on the left side, or by a deep inspiration, you may be sure that some insidious inflammation is going on; and in general you may remove it by regulating the diet, by the abstraction of blood, by the use of blisters, and by the administration of colchicum. When it has continued some time, adhesions often arise between the pericardium and the heart; and I believe that adhesions often exist without any indications by which they are to be discovered. It has been said that the pulse intermits; but this is by no means a frequent guide. I have seen cases where there has been extensive adhesion, and yet during life the pulse was regular. The most constant sign is an uneasiness and tightness about the heart, increased by a deep inspiration.

Corvisart says, that any quantity of fluid less than seven ounces found in the pericardium after death, is not to be looked upon as preternatural. This quantity perhaps is too large, but a thin pale serum is very often effused *in articulo mortis*. If it be inflammatory, there are portions of coagulable lymph floating in it, and the heart is often found coated with coagulable lymph. A pale, thin, transparent fluid, without any thing like curds floating in it, is not preternatural.

But let us enter more minutely upon the consideration of some chronic affections of the heart. One has been vaguely called angina pectoris.

SYMPTOMS OF ANGINA PECTORIS.

The patient has a sense of anguish or uneasiness in the region of the heart. This generally comes on suddenly, and occurs in fits: when it returns, generally there is severe pain shooting from the left side of the chest down the left arm to the elbow, and sometimes below the elbow. Sometimes the patient has pain in the right arm; and sometimes the pain is absent, and the patient feels the left or right arm somewhat numb. It is most apt to come on when the person is walking, especially if he be walking up a hill or up stairs. I knew a gentleman in the north of England, who used to go every day to a coffee-room, and in returning one night, he felt pain in the region of the heart on ascending some rising ground. He stopped for a time, and then went on. The pain returned two or three nights successively afterwards, just about the same spot, and he became alarmed: he went on, and at last the disease terminated fatally at once. When the fit comes on, the patient feels a peculiar distressing want of power to inspire, and generally complains of a sense of stricture across the chest and a sense of suffocation, so that he instinctively stops at once. There is a livid or pale countenance; a small, oppressed, and very often an irregular pulse; a weak, anxious respiration, an universally cold skin, and an intense desire for fresh air. The fit frequently continues for a long time, but sometimes it goes off speedily. These attacks are afterwards often induced by any thing which disturbs the stomach or the mind remarkably.

PATHOLOGY OF ANGINA PECTORIS.

Angina pectoris, as far as the conditions are concerned, may be considered as including different affections. It arises—

1. Sometimes from organic disease about the heart or its valves.

2. From diseases about the large adjacent vessels or their valves.

3. From some ossification of the coronary arteries: this has several times been found.

4. Sometimes entirely from irritation about the stomach. I have seen two cases during the last year, where individuals had all the symptoms I have enumerated, and which depended on combined disorder of the stomach, liver, and bowels, by removing which both of them recovered. Generally speaking, however, this affection is associated with some organic disease.

THE TREATMENT OF ANGINA PECTORIS

must be regulated with a reference to its cause. Never pronounce an opinion that a person has organic disease till you have removed the apparent disorder of the stomach, liver, and bowels. If the symptoms continue after you have done this, the presumption is strong that there is organic disease; and then there are two modes of treatment: one during, and one after, the paroxysm.

1. The treatment during the paroxysm must vary according to the condition of the patient. In some cases you find the patient with a feeble, irregular pulse, a pallid face, a weak, anxious respiration, an universally cold skin, and intense anxiety for the admission of fresh air. In these cases procure a free circulation of pure air, keeping the surface of the body warm, and administering diffusible stimuli, as brandy or ammonia, or sulphuric æther in camphor julep. Upon the whole I think brandy is the best. In other cases, you have a struggling pulse with considerable power, and then you will produce the greatest benefit by abstracting blood with great care, to the amount of one, two, three, or four, ounces. If the heart's action be more regular, if the respiration be more easy, if the anxiety cease, and if the patient have an increase of power, you may abstract blood moderately: but in all these cases never carry it to any thing like approaching syncope, for this may pass into complete syncope, which may easily produce death. If any pain should remain in the region of the heart, blisters may be applied. In some cases, even when the pulse is small and struggling, when other means fail, relief is obtained from a small abstraction of blood. M. Zea, the late ambassador from the republic of Columbia, whose character has been so much traduced by the rascality of his government, was the subject of angina pectoris, which had sometimes been relieved by stimulants. On one occasion he seemed to be expiring, and the abstraction of four ounces of blood apparently saved his life. He died subsequently, and his body was, after death, examined by a pupil from this school, who went into the country with him: organic disease was found about the heart, and also about the liver.

2. In the absence of the fit another mode of treatment is required.

1st. Regulate the diet: that is, adopt a diet which is very simple in quality, to avoid irritating the mucous membrane of the stomach; and exceedingly moderate as to quantity, to avoid

the generation of too much blood; both which, if not avoided, will excite the heart's action.

2nd. The bowels should be moderately relieved once in the day.

3rd. Attend to the tranquillity of the patient's body. If persons who have organic affections of the heart wish to live long with comfort, they must adopt a still life. This is one of the most important rules with respect to the treatment of these diseases, and by adopting it, individuals may live with comparative comfort.

The mind is very important, and every thing which tends to disturb it should be avoided as much as possible. But if you change the patient's habits and disturb his mind, you thus affect the heart more than his habits perhaps would have done. This should be taken into account.

Advise the patient as far as possible to avoid those things which he knows will make his mind anxious.

In all formidable diseases it is better to conceal the disease from the patient. I have occasionally been solemnly requested by patients to tell them the truth upon the subject, and in some instances have done so, and have mostly had to repent it, for nothing would afterwards allay the irritability of mind. Few persons have firmness enough to be told that they have a mortal disease. Many of them will not believe you, and would rather think you are deceived, than that they are labouring under a fatal disease: the consequence of this is, that you are discharged, and another physician is consulted. The best way is always to be candid to the friends. Candour is a most important ingredient in the character of a physician.

It is surprising how beneficial these means will be, if the patient avoid all those occasions which disturb the heart's action.

There are other organic affections or diseases of the heart which I shall now notice. One is—

SIMPLE ENLARGEMENT OF THE HEART WITHOUT DILATATION,

that enlargement being generally seated in one of the ventricles, which loses in size what it gains in thickness. The muscular substance in these cases is found redder and thicker than natural. The auricles are rarely thus affected. When the left ventricle is thus enlarged, the patient has a more frequent and considerable sensation of the heart's action than usual, and inclines the trunk of his body forwards. These subjects are very liable to palpita-

tions, especially on motion. Sometimes the pulse is strong, sometimes it is weak, and occasionally it is irregular; but there is a want of due regularity between the stroke of the heart in its neighbourhood, and that of the radial artery. In acute diseases this circumstance should be attended to, that the pulse is often small when the heart's action is strong. This is the case in enteritis. The practical inference which I draw is this,—that when the pulse is small, and the heart's stroke is regular and strong, you can generally bleed moderately with benefit.

In these cases there is generally an absence or a diminution of the natural sound on percussion. Between the cartilages of the fifth and sixth ribs you perceive a very strong impulse, with a sound duller than natural, and the pulsation confined to a small extent, while the auricle can scarcely be heard. I have not myself been able to distinguish the healthy from the morbid sounds, so as to discriminate diseases of the heart, by means of Laennec's instrument, so accurately as I could desire; but I believe that the instrument is of great utility for this purpose, and that my want of success arises from a want of sufficient attention. In these cases of affection of the heart, examine the neck, and you will find pulsation and swelling about the external jugular veins, especially when the right ventricle is the seat of the disease. This affection may exist simultaneously in both ventricles.

Enlargement of the substance of the heart, with an increase of the cavities, has been, perhaps improperly, called—

ACTIVE ANEURISM.

I have repeatedly seen cases of this kind. The subjects of it have a tremendous stroke in the region of the heart, and this stroke is more extended than natural. The pulse is full and bounding, like a cord. I saw a lady who is a mass of organic disease, who has active aneurism of the heart, and the stroke of her heart is remarkably strong, full, and expanded, and hard. You may abstract blood very largely in these cases, and still this action is unabated. Every now and then this lady is distinctly threatened with apoplexy, and sometimes she is threatened with suffocation. This generally arises from the stomach or the mind having been excited; but by living quietly, regulating her diet, and keeping her bowels open, she lives comfortably. In a former lecture (page 82), I alluded to such a case, which I saw when I was at the Edinburgh Hospital, which, from the patient having a sort of catarrhal cough, was supposed to be one of chronic pneumonia; but the heart was

in a state of active aneurism. These symptoms, then, designate active aneurism; but recollect, that then they are permanent. The same symptoms often are seen occurring occasionally. In what are called functional diseases, the symptoms are not constant; they come and go, so as to convince an accurate observer that the cause of them is not permanent. But the cause is not only permanent, but progressive, in organic diseases, and hence the symptoms also are constant.

Another affection has been called—

PASSIVE ANEURISM,

consisting of dilatation of the ventricles, with thinness of the parietes, the muscle being softer and paler than natural. It most frequently occurs in sedentary persons, who breathe a bad air, whose food is bad, who disturb the digestion remarkably by spirits, &c. It generally affects both ventricles, and is indicated by a pale face, with shrivelled lips, a feeble pulse, and a tendency to palpitations, dyspnœa, and syncope, from any slight mental emotion or corporeal exertion. Organic affections of the heart and pulmonary consumption are apt to be confounded. A gentleman came to me who was supposed to be consumptive, but he had not the combination of symptoms which designate true phthisis; his pulse was frequent and feeble, his face pale, and he was very apt to faint when he was in active exercise. He fainted in my room from the effect of walking up stairs, continued long in a state of syncope, and the heart's action was so feeble for many hours that I was obliged to put him to bed. He had a cough; and a cough very often attends chronic affections of the heart. Laennec says there is a less clear sound than natural when the instrument is applied over the region of the heart.

TREATMENT OF SIMPLE ENLARGEMENT OF THE HEART.

The patient should live on as moderate a quantity of food as possible; he should avoid active exercise, but will generally bear passive exercise on horseback, or in an open carriage; the bowels should be kept soluble; he should breathe a fresh atmosphere; and he should regulate the mind by avoiding all those occasions which from experience he knows will disturb it. These patients generally have a pulse of twice or three times the natural volume; and this sometimes increases to a very great extent, and then bleeding is very beneficial, but it should not be carried to syncope. Sometimes this affection is combined with rheumatism, and then great

benefit often arises from moderate bleeding, blisters, and the exhibition of colchicum.

TREATMENT OF ACTIVE ANEURISM.

In cases of enlargement of the heart with increase of the cavities, the patient should live on as small a quantity of food as possible. If either the head or the respiration be disturbed, abstract blood to relieve them. This is a case in which a still life is necessary to the last extent. I know a lady who is labouring under this disease, but who can take an airing in her carriage comfortably. If these individuals use exertion of mind or body, they are liable to apoplexy, and require copious bleeding. A lady on going up a flight of steps nearly fainted, and about thirty ounces of blood were abstracted, as she was distinctly threatened with apoplexy. This active aneurism of the heart sometimes occurs in rheumatic subjects. Rheumatism seems not only to affect the pericardium, but the substance of the heart itself. The use of colchicum is exceedingly beneficial, with the other treatment which I have mentioned, and, above all, a regulated diet. A young lady had pain in the chest after a long walk, which went on, and when I saw her there was a tremendous stroke in the region of the heart which I could feel over the whole region of the chest, and she was dropsical. She was careless about her food, eating a complicated diet, and drinking wine occasionally. She was bled repeatedly, and the dropsy was entirely cured, so that the patient was apparently comfortable. She returned, however, to errors of diet and drink which I directed her to avoid, and again became very uncomfortable. In such cases you must speak very strongly to the patient and his friends. One of the most serious errors handed down from age to age is the opinion that medicine will cure chronic affections. It is the bounden duty of the medical man to explain this to his patient or the patient's friends: it may seem an humiliating duty to perform, but it is a truth that must be told, that the efficacy of a regulated diet upon the whole is infinitely greater than that of physic in chronic diseases; and if this be applicable to one disease more than another, it is to this disease of the heart. Do all you possibly can to regulate the diet as to simplicity and moderation.

TREATMENT OF PASSIVE ANEURISM.

In dilatation of the cavities with thinness of the substance of the heart, the great feebleness of the habit, and especially of the circulation, must be taken into account. Here your grand object is

to sustain the strength without exciting the action of the heart. The patient should breathe a fresh atmosphere; he should keep perfectly still; he should take the air in an open carriage, or on horseback; or, if these cannot be borne, he should sit in the open air; and his mind should be kept as easy as possible. A moderate quantity of animal food is generally of use. All stimulating drinks are hurtful; they often bring on an attack of syncope by exciting the heart's action, which is followed by a depression of the heart's action; but a stimulant is necessary when syncope does occur.

One affection of the heart called the—

BLUE DISEASE,

is born with an individual. The foramen ovale, instead of being closed after birth, remains open. The lips and skin are blue, the surface bloated, and the ends of the fingers enlarged. The respiration is remarkably disturbed by crying or laughing, or by motion, or by any affection of the mind. Children often die in a fit of passion, crying, or coughing, in the first three years; but they may survive for many years. I have seen some adults of this description; and a friend of mine found it in many individuals far advanced in life. Dr. Gregory, of Edinburgh, used to mention some Russian sailors who were affected with typhus fever in Leith Roads; several of them died, and in some of them the foramen ovale was found open. But as the foramen ovale sometimes continues open without the blue disease, probably it is produced more frequently by a communication between the ventricles, and ossification of the pulmonary arteries. In these cases a regulated diet, quietude of body, and quietude of mind, are always necessary, because from an improper diet, great exertion of body, or emotion of mind, they may suddenly terminate in death.

DISEASES OF THE VALVES OF THE HEART.

One of the most common affections of the aorta is a slight dilatation of the arch just as it arises from the pericardium, with a slight degree of opacity and puckering of the inner membrane, and opacity of the ventricle. Sometimes, when the arch of the aorta is not affected, the valves are affected by earthy depositions. Ossification of the valves of the heart rarely occurs under twenty-five years of age, but it is exceedingly common in old persons, especially those old persons who drink ardent spirits. It is found more frequently in the left than in the right side of the heart. The mitral and aortic valves are the most common seat of

ossification, the pressure on the aortic being greater than on the other valves. The most remarkable symptom is a peculiar jar or vibration in the pulse, which is difficult to describe, but which is very conspicuous. It seems as if a piece of catgut were tightly stretched, and then struck so as to vibrate. The patient is very liable to attacks of palpitation, dyspnœa, and universal distress, upon motion, because the blood is poured with greater force than natural from the auricle into the ventricle, and from the ventricle into the aorta. On applying the ear over the part there is often a sound which is like that of a pair of bellows smartly compressed. During contraction, this is a sign of ossification of the sigmoid valves. Sometimes it sounds like rasping wood with a file; and I saw a case with a pupil of this school, where the sound was like the cooing of a dove. Your object here is to have as little blood in circulation as is possible to maintain life, and to keep the patient as quiet as possible.

It was an opinion that polypi formed about the heart. In many bodies you will find strings of coagulable lymph hanging about the ventricles or auricles, or in the pulmonary artery or veins; they are formed during the agonies of death. Sometimes there are excrescences formed in the arteries. A lady desired me to give her a candid opinion as to whether she had organic disease of the heart. She was sitting down, and to all appearance was in robust health. She was pale, as often is the case in organic affections of the heart; I desired her to walk across the room, and when she did so, she became livid, and sat down. In twenty or thirty minutes her breathing again became calm. In a short time this lady died, and on examination of the heart a tumour was found attached to the side of the pulmonary artery.

When you see a patient with a remarkably easy respiration when sitting quietly, and whose respiration is disturbed to a very great extent on motion, and again becomes easy on resting, you may be sure that there is some organic disease of the heart.

You see individuals going about with a red, flushed appearance of the whole face, with redness here and there about the cheek and nose; with an eye watery and minutely streaked like that of a person after a fit of intoxication. Talk to such a person, and he will speak to you for five or six minutes and then suddenly stop, take a deep inspiration, and go on talking again: when these symptoms occur, mostly the individual has organic disease about the heart.

CHRONIC AFFECTIONS OF THE ARTERIES.

Aneurisms of the internal arteries are found most frequently in the arch of the aorta; next in the arteria innominata; and next in the abdominal aorta. Very frequently they exist in branches of the internal arteries.

1. One of the most common occasions of internal aneurism is too much work of the heart. Aneurisms are more frequent among males than among females, because far more exercise is taken by males than by females. There is more activity both of mind and of body. The muscles press on the veins, and the blood is returned more abundantly and more rapidly, and therefore the heart contracts more rapidly than natural. The diets and drinks of males are far more stimulating upon the whole, than those of females; when females take violent exercise and drink spirits, they become exceedingly liable to affections of the heart and vessels. Disorder of the stomach has a considerable influence on the heart and large vessels; and this is occasioned by irregularities of diet. Another reason why males are more subject to these affections than females, is that a man has far greater anxiety of mind; he has far greater struggles to make in the world than a woman has, whose life is comparatively tranquil. Spirits excite the heart, and produce organic affections of the heart and arteries; so also does mercury, which stimulates the heart excessively. Persons with secondary syphilis, it has been remarked, are very liable to affections of the heart and arteries; I have not been able to trace this connexion, but I believe it was frequently found when mercury was more severely used than it now is. Individuals are more liable to aneurism after the thirty-fifth year than before. It very often occurs among those who have taken severe exercise; females who work very hard are remarkably subject to it. It is very common amongst runners, walkers, rowers, &c. I saw two washerwomen the subjects of dilatation, and even of aneurism, of the abdominal aorta. In women who follow that employment, the heart and large vessels appear to be affected by the excessive exertion of constantly bending over the tub and rising again, and by their rest being disturbed. The American savages are exceedingly liable to affections of the heart and large vessels, from the long journeys which they perform with great rapidity. I have traced a great many cases which I have seen to excessive exercise; for example, in the mistress of a large school, from going up and down stairs frequently. It has been said, and with some truth, that dragoon soldiers are very

liable to popliteal aneurism, from riding with the heels pressed down, and the whole muscles upon the stretch. The Elgin marbles show that the Greeks rode in a different way, and more judiciously: they balanced themselves without stirrups. Our dragoons, however, are suddenly called upon to rise in their stirrups in performing their exercise.

2. Another occasion of aneurism is repletion; from eating and drinking too largely, especially after the age of forty. This is one of the most common occasions in civilized life, if you except the use of ardent spirits, of organic disease about the heart.

3. Another occasion, in all probability, is some change in the blood. By attending to the stomach, liver, and bowels, we have in modern times been enabled to trace the connexion of the affections of those organs with stone in the kidney and bladder; and I believe that there is a relation between this combined disorder and some cases of aneurism. No doubt there is a change in the blood itself, or in the secretions from it.

Aneurism may arise in one of three modes.

1. Without previous disease, from puncture, by which blood escapes into the surrounding cellular membrane.

2. It may, and very often does, arise from dilatation. If you examine after death, you will very frequently find the artery not cylindrical, but you will find a bulging out of a particular part, without rupture. Inflammation and ulceration take place, and you have all the symptoms of aneurism.

3. A peculiar deposition is often connected with aneurism.

When an aneurism takes place, there is a deposition of lymph in layers, which, becoming organized, forms what surgeons call the sac; but in several cases on dissection I have found considerable dilatation of the arch of the aorta and of the abdominal aorta not formed like the aneurism of surgeons, and sometimes there is rupture. The aneurism of surgeons consists in inflammation and the deposition of coagulable lymph, which forms the tumour. Patients with this dilatation I have often seen die of rupture suddenly, from agitation of the mind, &c. When patients die of aneurism they often die this way, but more frequently from repeated hemorrhage. I have known individuals who have died of aneurism of the arch of the aorta where the disease was not suspected.

THE SYMPTOMS OF ANEURISM OF THE THORACIC AORTA

are very various, because it takes different directions. When it

presses on the trachea, it may produce symptoms of suffocation, or of irritation of the air-passages; when it presses on the œsophagus, it may produce symptoms of some affection of this part; when it presses on the spine, producing absorption of the bone, it may occasion paralysis of the lower extremities; when it presses on the parts in the chest, it may produce inflammation there. Sometimes a stronger pulsation than natural is felt at the upper part of the chest, not exactly corresponding with the pulsations of the heart. On exposing the neck and chest, a circumscribed tumour may sometimes be seen, variously situated. A peculiar jar is evident, when there is dilatation, about the right extremity of the left clavicle and the left extremity of the right clavicle, the pulsation extending from one side of the sternum to the other, whilst the pulse is tranquil at the wrist. The patient generally has a cough more or less; and he has pains in different directions which are not accounted for. On severe exercise he is liable to palpitations and difficulty of breathing. In some cases of aneurism of the aorta the patient can only sit or lie in one position. The pain which is felt in different parts arises from the pressure which is made on various nerves. A friend of mine was consulted by a patient who was supposed to have rheumatism in his shoulder; on examining the parts minutely he found a subclavian aneurism. In pains of the limbs, or of other parts connected with large arteries, ascertain their state. Sometimes glands are seated near arteries; and I lately saw a case of this kind where there was pulsation. These are secondary, and are not connected with the pulsation of the arteries. In subclavian aneurism you find less jarring in the chest, and the patient is less affected on motion. The most common of the—

SYMPTOMS OF ANEURISM OF THE ARTERIA INNOMINATA,

is uneasiness referred to one part of the neck. Sometimes there is difficulty of swallowing referred to one particular part of the œsophagus; and sometimes the patient can only drink in a particular position. Generally there is a jarring at the sternal extremity of the right clavicle; this is a remarkable circumstance. One remarkable thing is, that the pulse is generally smaller at the right wrist than at the left; and there is a huskiness of the voice, with a chronic dyspnœa, frequently becoming spasmodic. When you find these symptoms existing, the presumption is strong that aneurism exists in the arteria innominata.

SYMPTOMS OF ANEURISM OF THE ABDOMINAL AORTA.

Aneurisms are existing sometimes in the abdominal aorta, especially from great exertion in a bending position, or from riding very hard. It is common in young persons, and in old persons it is exceedingly common to find strong pulsation of the abdomen, which is entirely independent of aneurism. Occasionally it is associated with an overloaded colon. It occurs also occasionally in cases where the stomach is disordered, and also in cases of disease of the spleen. Be very careful in persons of exceedingly advanced age not to mistake an aneurism for what might appear to be disorder of the stomach, liver, or bowels. I was consulted in a case of what was supposed to be indigestion; and in the epigastrium I found an aneurism of the abdominal aorta pressing on the stomach and bowels. When aneurism exists you sometimes find a circumscribed pulsating tumour.

MEDICAL TREATMENT OF ANEURISM.

In aneurism you must observe the rules I have before mentioned: diminish the quantity of the circulating fluids, and lessen the heart's action by a moderate diet, a still life, a quiet mind, &c. This is all that can be done. An English writer has said that grief is the sickness of the mind; and it is generally attended by bodily sickness. In all these cases remove as much as possible all anxiety from the patient's mind. In the upper ranks of life a medical man has little power this way; but in the lower ranks he often has very great influence of this kind, and can often soothe the patient's mind very much. If I had to begin my professional career again, I would pay much more attention than I did to the lower orders. No character is so contemptible as an individual who pays attention only to the upper and middle ranks of society, and neglects the lower classes: and, independently of the satisfaction derived from the consciousness of doing good, it is the best plan by which a medical man can get into practice. No man, I believe, who is attentive to the lower orders will fail of getting into practice; they are exceedingly grateful for what is done for them, and you may thus lay the foundation of a reputation which is not transient, but permanent.

LECTURE LV.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF CHRONIC DISORDER AND DISEASE OF THE STOMACH, LIVER, BOWELS, AND PERITONEUM.

In the next place I shall proceed to make some observations on that disorder of the stomach, liver, and bowels, which I have so often mentioned. You are aware that the terms dyspepsia, indigestion, and disorder of the digestive organs, are exceedingly common at this time; they are not only common in the mouths of medical men, but in the mouths of the public, and perhaps no terms have been more vaguely used than these. What I mean by disorder of the stomach, liver, and bowels, is a simultaneous affection which very often indeed occurs in children. A slight degree of irritation in the mucous membrane of the stomach, not amounting to inflammation, and which we rather infer:—we infer it because certain articles of food irritate the stomach, which produce no such effect in health, and generally there is some preternatural redness of the papillæ of the tongue;—generally there is a torpid, sometimes an irregular, action of the liver, made obvious by the appearance of the stools, indicating sometimes a deficiency, sometimes a depravity, of bile; sometimes there is a gush of unhealthy bile, and sometimes there is too little bile;—there is also torpor of the bowels; the evacuations are smaller, or the bowels are more confined than natural, showing a torpor or irregularity of the bowels. Very often there is a simultaneous irritation of the mucous membrane of the intestines and stomach.

An affection has been called marasmus among children; and an affection has been called dyspepsia among adults: these are precisely the same affections modified by habit and age. Marasmus and dyspepsia arise generally from the same occasions; only two remote occasions of it occurring in adults which do not occur in children. You may generally trace marasmus to some error of diet, to some error of drink, to imperfect clothing, or the influence of a variable or vitiated atmosphere. The same occasions operate on adults; and in them you have two additional exciting agents,

which are the state of the mind, and the use of diffusible stimulants. A great many cases of disorder of the stomach, liver, and bowels, can be traced to affections of the mind. This is one reason why the stomach, liver, and bowels, are apt to be disordered in London, where the mental energies of individuals are so much depressed or elevated. Very few individuals who drink much wine, or much spirits, or much malt liquor especially if it be acid or strong, live long without being liable more or less to disorder of the stomach, liver, and bowels. This often leads to disorganization of the stomach, liver, or bowels: most frequently of the liver; and it is remarkable that, if spirits be given to the lower animals, the liver becomes diseased.

MARASMUS.

The signs by which this combined disorder is to be known in children are the following:—the face is almost invariably more pale than natural; the tongue is furred at its root; the bowels are generally fuller than natural; the stools are either deficient in quantity at one time or excessive at another time, and they are of an unnatural character. The upper lip is generally more swollen than natural; the extremities are withered; and the temper is fretful. This frequently goes on week after week without fever; but if it be allowed to go on, it winds up by an attack of insidious fever, or an attack of acute, sub-acute, or chronic, inflammation, which will be seated in different parts: sometimes in the stomach, sometimes in the liver, and so on. Very often before fever occurs the general health gives way, either slowly or rapidly; and if disorder of the stomach, liver, and bowels, occur in scrofulous families, the external glands are often swelled, and very often you will find ill-conditioned inflammation affecting the bones; and the attacks of scrofula which occur in broken-up habits, both in children and in adults, are generally preceded by this combined disorder. In almost all the bodies of the tabid children of London who die from the effects of disorder of the stomach, liver, and bowels, tubercles are found, very often in the cellular connecting membrane of the lungs; very often in the pleura; very often in the peritoneum: sometimes large, and sometimes only the size of millet seeds. With respect to what has been called—

DYSPEPSIA,

in adults, you have here the same set of symptoms: the tongue furred: the temper fretful or depressed; the same irregular colon;

a pale face; and an irregular or torpid liver; flatulency, acidity, &c.; and frequently it winds up in chronic inflammation, which inflammation may have its seat in the stomach, in the liver, or in the intestines. Many diseases which have the character of dyspepsia are complicated with inflammation. In many cases on dissection you will find no disease of the stomach, liver, and bowels; but let it go on, and it is sure to wind up with inflammation either of one or other of them.

This inflammation has three stages generally:—

1. Generally there is only an increased secretion of the part, with a preternatural quantity of blood.

2. The part in which the inflammation is seated is generally thickened, and softer than natural.

3. Ulceration occurs. These remarks apply to almost all cases of chronic inflammation. Different structures, however, are differently affected. If it occur in the stomach, it often induces what has been called scirrhus of the pylorus. The rectum, if it be the seat of the inflammation, is also liable to a scirrhous condition. Scirrhus is a very vague term as it has been used by medical men; applied to the stomach and rectum it generally means thickening where the inflammation has been seated. It more frequently winds up by ulceration in the ilium; and in the upper part of the colon it generally winds up by ulceration. In another individual inflammation leads to disorganization of the substance of the liver; in another the peritoneal coat becomes inflamed. This seems to depend on local predisposition.

If there be inflammation of the peritoneal coat of the stomach, the tongue is generally pale down to the end, and there is pain on pressure in the epigastrium; the stomach is more or less disordered by flatulence, nausea, retching, or vomiting; most commonly also there is a pale face, shortness of breath, a pulse a little quickened, and gradual emaciation. It is most common in females.

If the mucous membrane of the stomach be affected, the tip of the tongue is vividly red; the papillæ are red and raised; and there is pain on pressure. When you see the tongue all over red, and seeming inclined to be aphthous, as it frequently is in the last stage of consumption, it is then generally combined with irritation of the mucous membrane of the bowels, and a tubercular state, most frequently situated in the jejunum, or in the ilium, or in the proper peritoneum.

When the mucous membrane of the intestines is inflamed you

have the tongue vividly red at its tip, and pain on pressure over the parts, with often some degree of fever; and the stools most frequently contain more mucus than natural, so as to have an oleaginous and morbid character.

When the liver is the seat of inflammation, the only symptom to guide you is the pain on pressure, if you trace it from the spine to the epigastrium, in the direction of the large or of the small lobe of the liver. Sometimes the inflammation is seated in one, and sometimes in another, part of the liver; and if, therefore, you do not examine by making pressure both from the spine and from the sternum, you may overlook it. You mostly have a depravity or a deficiency of bile; and very often the urine is distinctly tinged with bile. Frequently the spirits are depressed; there is a weight or uneasiness in the middle of the sternum, a dry cough, and pain shooting up to the shoulder from the side. You may be assisted in your diagnosis by these symptoms: by aching across the forehead, by the dirty white fur at the root of the tongue, and by the patient not being able to lie on the left side without a dragging sensation. Sometimes the skin has a yellowish tinge. It is very often combined with an irregular fever of an intermittent character; and sometimes ends in suppuration. On examining the body after death you sometimes find the substance of the liver mottled, or grey, and hard, or like gingerbread. Sometimes it is simply enlarged, so that you feel its edge through the abdominal parietes, and its uneven surface may be felt during life. Sometimes it is tuberculated; and this frequently arises from the abuse of mercury. And so I am convinced does the grey granular hardness combined with a varicose state of the vena portæ.

When there is chronic inflammation of the peritoneum you have generally a round distended belly; the pain is diffused over the whole abdomen; and the tongue is pale. This state of the abdomen often exists with a tubercular peritoneum, being generally preceded by a break-up of the general health: generally then there is no pain for a long time; but when the tubercles enlarge and excite inflammation, the peritoneum becomes distended. Sometimes you have a swollen belly, with pain on one side of it, and a pale tongue; and then the inflammation generally is seated on a small portion of peritoneum covering the intestines, which at length are glued together; it goes on for some time, and thus what seems to be a tumour is formed.

Many individuals have all the symptoms of dyspepsia from an

affection of the brain; and then you will often see a remarkably rough tongue, almost like velvet. Of this I have formerly mentioned instances. When the stomach is disordered secondarily from the head, by tracing its progress and origin you will be often enabled to draw a fair inference as to the original disease. The inference which is to be drawn is important, because all these symptoms, together with uneasiness, numbness, or tingling in the extremities, may arise also from inflammation of the spinal cord, as I saw in the case of a pupil of this school. Affections of the brain and spinal cord very often disturb the stomach, liver, and bowels secondarily. These affections when seated in the abdominal viscera, then, are various.

TORPID LIVER AND COLON, WITH IRRITATION OF THE STOMACH.

The most common form of dyspepsia in the first stage in children and adults, is a torpid liver, a torpid colon, and slight irritation of the stomach. In a child, then, you may give one grain of calomel, now and then, with a few grains of powdered rhubarb or of the extract of rhubarb, followed up by infusion of senna or a little cold-drawn castor oil. The calomel may be given every second night generally. If the breath and stools be sour, a little magnesia may be given. Early rest, and fresh air (in the bed-room especially), are required; and warm clothing is essential, because when the skin is chilled the liver is congested. Use a tepid salt-water bath about twice in the week, and regulate the diet, taking care that it is simple in kind and moderate in quantity. By this treatment you will generally in a few days succeed in removing the complaint. If the diet be neglected you will find physic of no avail. The diet generally is exceedingly important, not only as to kind and quantity, but as to the manner of masticating it. Almost all persons who swallow their food hastily without sufficiently masticating it, become the subject of disorder of the stomach, liver, and bowels. A most important improvement will occur from eating the food slowly, and thoroughly comminuting it; and therefore in those cases it should always be recommended. If there be no fever present, if the skin be cool and the pulse slow, animal food once a day is generally very beneficial: plain stale bread should be taken morning and evening with milk, and perfectly plain vegetables with very plain pudding at dinner. All pastry and unnecessary additions to the diet should be avoided, also all dried fruits, and all recent fruits which have skins or seeds. If

any thing be taken in the interval between the usual meals, let it be simply bread and water. In regulating the diet of adults we must take into account the previous habits; for if the patient be advanced in life, a gradual, but not a sudden, change must be made. If free from fever, he may take three meals in the day, at intervals of about five hours, masticating the food slowly, and resting for some time after each meal. In the morning tea or coffee and stale bread will suffice, unless the individual be very active, and then a little meat may be added. Between breakfast and dinner nothing should be taken, unless it be plain biscuit or bread and water; and at dinner animal food may be taken with plain vegetables, which, if there be a tendency to flatulency, should be taken in small quantities. The evening meal may be like that of the morning, without the meat; and if any supper be taken in cases where it has been a long established habit, it should be light and spare. Sometimes the desire for food greatly exceeds the power of digestion; and if you cannot get the individual to lessen the quantity of food, you must give him a little wine or home-brewed ale. If there be a tendency to repletion, large quantities of drink should be abstained from. The best diaphoretic is a tepid salt bath; but if there be pain it should first be relieved by leeching.

This state if neglected is very apt to assume an inflammatory character; and it is astonishing how rapidly the system recovers as soon as the inflammation, which may be acute, sub-acute, or chronic, is subdued. When it advances it generally implicates the mesenteric glands, and the body wastes, at first without fever, but after a time the consuming hectic comes on, and the patient dies.

CHRONIC INFLAMMATION OF THE STOMACH.

In every case of indigestion be very particular in your inquiries. In some you will find the cause mainly or entirely in the stomach, and that very often is chronic inflammation. Then a farinaceous diet is best; for instance, barley, groats, or oatmeal, or flour, that have been baked to prevent their turning acescent. Apply a few leeches to the pit of the stomach in the first instance, give a mild aperient occasionally; and this with the alterative plan will be sufficient to remove the affection. Food should not be taken oftener than once in four hours.

Here I may allude to some symptoms occasionally produced by affection of the stomach; and first of—

ACIDITY.

Acidity is referrible to hasty eating, to some error of diet, or to taking exercise too soon after a meal; the most frequent occasion, however, is some improper diet. Vegetables, if they be taken in large quantity, and especially if they be taken without pepper, will produce this affection. New bread in large quantity, or even in any quantity, will sometimes produce it. This effect will sometimes be prevented by a tea-spoonful or two of brandy taken after a meal. I am told by one gentleman, who is now present, and for whose opinion I entertain a high respect, that he has seen about two drachms of the compound tincture of senna produce the same good effect. If vegetables be taken by persons who are subject to this affection, they should be mixed with either black or cayenne pepper.

GASTRODYNIA,

another affection of the stomach which is by no means uncommon, consists of violent pain after eating. It is one of the most common causes of scirrhus of the pylorus. Persons who eat their food hastily, or eat indigestible food, in two, three, four, five, six hours, or immediately, are seized with violent pain in the stomach, and feel as if something were pressing against the pylorus, accompanied by acid eructations and distention of the stomach. This is generally relieved almost immediately by brandy combined with a little opium; half a glass of brandy will generally produce relief, and if it fail, you may give a full dose of opium. In some patients hot water or strong tea answers very well. It may, I believe, lead to inflammation or scirrhus of the pylorus. Warn individuals against the source of it, which generally is eating hastily. In these cases the patient should take care to masticate his food very slowly and minutely; and rest after a meal, more especially after dinner, is necessary. If these points be attended to medicine generally is not necessary. If this affection exist in conjunction with acidity, a small quantity of magnesia, of carbonate of potass, of carbonate of soda, or of subnitrate of bismuth, may be given; of these, the last is the most efficacious. These observations are applicable also to cases of irregular spasms of the colon.

Another affection is—

VOMITING;

and you should recollect that vomiting is a mere indication of some disorder, and that it is necessary to ascertain its precise cause.

1. Sometimes it proceeds from sheer exhaustion. Thus, when you have abstracted a large quantity of blood from a patient, he generally begins to retch or vomit: this state is relieved by cordials.

2. It very frequently arises from pregnancy, and in these cases it is sometimes very urgent. A very curious circumstance is, that the appetite remains good; the person vomits in the morning, or throughout the day, and directly after this she feels as if she could eat. This vomiting is generally relieved more or less by regulating the diet, by regulating the bowels, and by an effervescing draught, or by soda water. The internal exhibition of fixed air certainly diminishes very remarkably the irritability of the whole system, and especially of the stomach. I have seen a patient sleep comfortably from two or three effervescing draughts taken in the evening or through the night. A pupil of mine, who is now in practice at Exeter, has written me an account of two cases of excessive nervous irritability, in which every usual remedy had failed, and yet he completely subdued the morbid affection by the application of carbonic acid gas to the back in the course of the spine. And the external application of fixed air is certainly deserving of attention as an anodyne in cases of excessive irritation where the ordinary remedies have failed.

3. Vomiting may arise from excessive feeding. Nothing is more common than to see persons who eat an uncommon quantity of food occasionally vomiting and complaining of the weakness of their stomachs. Two things will cure the symptoms under these circumstances; namely, rest and starvation for eight or ten hours after taking an emetic. The patient then generally recovers the tone of the stomach, and has a very good appetite. And if there be irritability of the mucous membrane of the stomach, you may apply a few leeches to the epigastrium.

4. Vomiting sometimes arises from what is called scirrhus of the pylorus. If you see a person with a faded skin, of an emaciated habit, complaining of occasional attacks of violent pain in the stomach, with a sensation as if the food were thrust against the pylorus, but being unable to pass, and vomiting a glairy mucous fluid like white of egg mixed up with the food two or three hours after a meal, the strong presumption is that the person has scirrhus of the pylorus, which is the condition upon which the symptoms depend. And I would say of scirrhus of the pylorus, that it is almost always, and as far as my observation has extended, always,

the product of inflammation. This may be palliated by opium, rest, and a bland diet.

5. It may arise from acute, sub-acute, or chronic, gastritis.

6. From organic affections of the liver.

7. Vomiting of blood may arise by exudation from the mucous membrane of the stomach, as the black vomit in fever. Sometimes black bile regurgitating, a substance is vomited like tar in appearance. Sometimes in females vomiting of blood is vicarious of the menstrual discharge, in consequence of some fault in the colon; and in drunkards it is generally produced by obstruction of the liver, and then calomel should be given if the stools be clay-coloured: if the quantity vomited be large, and the patient exhausted, a full opiate should be given.

CHRONIC TORPOR OF THE LIVER.

In the liver there is sometimes torpor, and then you have no pain; but a deficiency, or a depravity, and sometimes an excess, of bile is shown in the stools. It is very apt to end in chronic inflammation. Here you may give one grain of calomel every other night and an aperient next morning, and regulate the diet. These, with exercise in the open air twice or three times a day, early hours of rest, and the use of the tepid bath, will soon remove it. Animal food may be given in these cases. In many chronic affections where the liver is concerned, and there is a deficiency of bile, and in cases where constipation is connected with torpor of the liver, mild emetics are beneficial, especially if the skin be dry and husky. Dragoons are less liable than foot soldiers to affections of the liver. Hence I infer that horse exercise is of service, except immediately after meals, and then rest is desirable for half an hour or an hour if possible; this, however, is very much influenced by habit. Many persons go to work immediately after eating, but those who rest at that time generally have the best health. The tepid salt bath will restore the natural state of the liver if persevered in twice or three times a week, even though mercury should fail. Sulphur baths have a similar effect; but when the skin is dry and harsh, frictions and soaping should be used at the same time. The flow of bile is more copious in summer than in winter, and this is connected with the state of the surface.

If there be—

CHRONIC INFLAMMATION OF THE LIVER,

abstract blood by leeches till the pain ceases, and then adopt the

plan I have just mentioned, with saline purgatives, colchicum, and blisters. Mild doses of mercurial medicines are preferable to large ones: three, four, or five grains of blue pill may be given every other night, or a little calomel or hydrargyrum cum cretâ. Mercury is a direct irritant of the liver, and I know no occasion so productive of organic affections of the liver as the excessive use of mercurial preparations: they seldom require to be given night after night in chronic affections, as is often advised.

Sometimes these chronic affections cannot be removed, and you may gently affect the mouth with mercury; and if you leech at the same time, and keep the skin cool, you may always affect the gums with very small doses of mercury. I have in a former lecture alluded to the operation of chlorine upon the liver. Rest is very important: many cases will not subside unless the patient will keep the recumbent posture. In chronic inflammation and enlargement of the liver, I have heard Dr. Baillie say that setons applied in the integuments over the liver are very beneficial. Be cautious, however, if there be a pulsating tumour, lest hemorrhage occur. Setons sometimes do good by producing a quiet state of mind; for many affections attended by pain, or to which the attention is directed, are aggravated by notice; for instance, ophthalmia and irritable bladder, which are increased by talking about them. Issues are much less used in chronic hepatitis than formerly.

JAUNDICE

may arise from various conditions.

1. It is sometimes an attendant upon fever. In some instances there is no obstruction in the liver or ducts, but such an excessive secretion that the bile cannot readily pass off.

2. But sometimes there is an obstruction, and then the stools are not tinged with bile: for instance, it is sometimes produced by a foreign body, as a gall-stone, occupying the duct, in which case the patient suddenly complains of a severe agonizing pain in the region of the liver, shooting through to the back, with retching, vomiting, and a tranquil pulse. He suddenly recovers, and perhaps the next day his skin is yellow, and if the stools be examined the stone may be detected in them. In the paroxysm smoking tobacco is the best remedy: it operates by producing relaxation. Exercise on horseback, by removing the stones while small, prevents them from becoming very large. Sometimes it arises from an enlarged pancreas pressing on the liver; these cases are mostly

fatal. In one case jaundice was connected with a tumour in the mesentery which pressed upon the ducts.

3. Sometimes it depends upon a spasmodic contraction of the ducts independent of inflammation.

4. Sometimes jaundice is produced by inflammation of the mucous membrane of the ductus communis choledochus producing thickening and diminution of the caliber until the duct becomes obliterated, and the bile accumulating in the gall-bladder ruptures it, and fatal peritonitis follows. This inflammation is generally an extension of the affection from the duodenum.

If there be—

CHRONIC INFLAMMATION OF THE SMALL INTESTINES,

if it be in a slight degree, it will generally require a mild treatment; leeching, with a bland diet, rest, mild alteratives, and gentle laxatives, will almost invariably remove it, if you use the tepid bath. If the patient be strong you may bleed him from the arm; but generally leeches are preferable.

CHRONIC INFLAMMATION OF THE LARGE INTESTINES.

Here the same treatment is required. Much as I personally respect Mr. Abernethy, it is my duty to say that the vague manner in which he has used the term disorder of the digestive organs is exceedingly injurious. In one case you find the stomach, in another the liver, in another the large or small intestines, inflamed. The blue pill and flesh diet would be prejudicial in these cases. In all cases where the liver is torpid this plan answers an admirable purpose, but when it passes on to inflammation it is very injurious. I have pointed out, therefore, the distinguishing pathology of these affections, and you will find the treatment of these affections is precise, if you attend to the conditions on which the symptoms depend. When inflammation does occur, it constitutes the main or sole object; for unless it is removed it goes on and winds up by ulceration. I have seen a lady the subject of diarrhœa without any pain for many months. Dissection revealed a most extensive chronic inflammation of the colon, which often goes on thus insidiously.

Torpor of the liver is very common; but still more common is—

TORPOR OF THE COLON,

which is very often the effect of a torpid liver. The bile seems

to perform two offices in the animal economy. The first use is to convert the chyme into chyle. Those old persons whose stools indicate a deficiency of bile never digest well; they commonly complain of the food feeling like a load in the stomach; torpor of the bowels occurs, and they generally waste, because chylification does not take place well. In the second place, bile is connected with the regular action of the large intestines, which are invariably torpid when the bile is deficient. One very common error is committed in examining the stools. If the bile be secreted in a concentrated state, sometimes it leaves a deep-brown appearance of the stools: bile is not deficient here; for if you wash them in water, the water will be tinged. Sometimes they are dark and clayey, and when washed do not communicate a yellow tinge to water, and then there is a deficiency of bile. Neglect of regular evacuations is one occasion of a torpid colon. It most commonly, therefore, occurs in females. They are very delicate, and something occurs which prevents their going to a water-closet; and thus a habit is formed. Very often it occurs in men oppressed by business; they are prevented by want of time from evacuating the bowels, and then sometimes the muscles about the rectum refuse to act, the peristaltic motion of the gut is unable to overcome the sphincter ani, and the individual is not able to obtain an evacuation. The custom of procuring a daily alvine evacuation habitually is very desirable, with some exceptions; for I know some individuals who would be ill if they had a stool every day. A very eminent physician told me that he never was well unless he had an interval of two days. Sometimes it may arise from smallness of the sigmoid flexure of the colon. This goes on, and a gradual accumulation takes place, until the colon becomes excessively distended. Very often patients complain excessively of the stomach with this state of the colon: they have a capricious state or a prostration of appetite, with distention after a meal. In many individuals, if they omit an evacuation at a certain time, a rending headache torments them all the remainder of the day. In some instances I think such an accumulation in the colon leads to disorganization of the heart. It certainly sometimes produces palpitations; and two friends of mine, in dissections of such subjects, have found the thoracic portion of the aorta dilated very much, and the abdominal aorta diminished. These patients generally have cold feet. Affections of the head are exceedingly common from a distended colon; and anomalous pains occur in the stomach, bowels, &c. Sometimes

there is a spasmodic affection of the bladder: many are liable to great irritation of the neck of the bladder; and sometimes retention of urine occurs from this cause. The first case I attended when I settled as a young physician (at Sunderland) was of this kind. An old gentleman had been for many years supposed to labour under organic affection of the bladder; every now and then he had spasmodic pain in the region of the bladder, with difficulty of passing the urine, and sometimes painful retention; and about once in six weeks he obtained temporary relief by what was supposed to be a diarrhœa, containing numerous scybala. Dr. Hamilton, of Edinburgh, was passing through the place, and I requested him to see the patient, which he declined; and it was afterwards intimated to me that he did this from motives of delicacy, thinking that as I was a young physician the case might be of use to me. I thought there was an affection of the colon, and put the patient under a course of purgative medicines, and he got remarkably well. He was a kind-hearted old man, and this case was worth £200 a year to me while I stayed at Sunderland, because the condition of body upon which the symptoms depended had been overlooked by those who had previously attended him. If a medical man succeed in such cases as these, it is surprising how much good they do him. I think the second case I was consulted upon when I came to London was that of a lady who had suffered for years from violent colic. The abdomen was immensely enlarged, and I could distinctly trace a distended colon, which was plugged up with scybala. She laboured under what she called diarrhœa every now and then, the stools being like thin mud, in which scybala were detected in pouring it from one vessel into another. I put her under a purgative plan, and she got well. It is surprising how grateful she was; and I am quite sure that case has been worth £300 a year to me ever since. This is exceedingly common in sedentary persons, and leads to a variety of anomalous symptoms. You will detect this by an examination externally; for you may feel the colon hard, distended, and irregular: but if you examine the stools the case is quite evident, mud-coloured stools being often passed. Chronic inflammation of the liver sometimes appears to be the occasion. The abdomen is distended, and the tongue is furred; the breath is fœtid; the pulse is slow, and the skin cool; the stools are generally black. On the exhibition of brisk purgatives an evacuation of an enormous quantity of scybala will follow.

If there be no deficiency of bile there is no need for calomel: but calomel must be given if there be a deficiency of bile. It is a good plan, however, in all these cases, to begin with three grains of calomel with a little jalap or rhubarb, followed up by cold-drawn castor oil; afterwards you may give decoctum aloes compositum, or castor oil, daily, for a fortnight; cold-drawn castor oil, I think, is upon the whole the best, combined occasionally with some resinous purgative, as aloes, or, if you can get them carefully prepared, extracts of jalap or of rhubarb. Warm gums with purgatives are better than cold medicines; for instance, the bowels will often act readily if you give aloes with myrrh, or ginger, galbanum, or assafœtida, in cases of torpor of the liver or colon. The exhibition of a glass of wine warm with cloves, makes some purgatives operate easily. In cases where the bowels are slow, a pill before or after dinner is very good; and there are two forms which you will find useful. If the appetite be good and the evacuations scanty, it necessarily follows that the colon is overloaded, and in this case the best pill consists of five grains of rhubarb and one grain of perfectly fresh Castile soap, for if rancid, it disagrees excessively with the stomach, and sometimes even when quite fresh, and should then be omitted. If this should not answer, one of the best pills is made of two or three grains each of aloes and extract of gentian. The London dinner pill is a very good thing. Aldermen generally have a box by them, and swallow one slyly before dinner. A very good aperient in torpid colon is five grains of the compound extract of colocynth, to which, if the patient be irritable, you may add five grains of extract of henbane, which will prevent griping. Sometimes enemata of warm water with a little soap or salt are very beneficial.

I wish tea or coffee without milk or sugar were introduced into England as a substitute for wine after dinner. In London we have what may be called commercial dyspepsia, and it is right in the treatment to have an especial regard to the state of the mind.

COLICA PICTONUM,

is connected with torpor of the colon. In colic arising from the inhalation of the fumes, or the use of the preparations, of lead, which may be taken into the stomach or absorbed from the skin, the colon is excessively torpid, not evacuating its contents for ten days or longer, and in the first instance there is bilious vomiting. The pain about the umbilicus, which is quite constant, is every now and then aggravated by a violent spasmodic attack. In this

case the patient bears gradual pressure, not only without pain, but with actual relief. The skin is cool, and the pulse slow. After repeated attacks the patient is liable to become paralytic, most frequently in the upper extremities. It sometimes passes into inflammation; and when the attack has been removed it is readily renewed by cold, constipation, &c. The colon is invariably relieved by a combination of calomel and opium carried to ptyalism. You may give, for example, one grain of opium and one, two, or three grains of calomel every six hours, and then you will find the pulse rise, the skin become warm and moist, and the bowels obedient to the mildest aperients. When the symptoms are very urgent bleeding may be required. As mercury is beneficial in affections arising from lead, perhaps it would be worth while to try if lead would be of service in diseases arising from mercury. Persons who are called improperly water-gilders, and who are exposed to the fumes of mercury, become irritable and weak, and then paralytic. Paralytic affections produced by lead are removeable by mercury. We must not, however, in physic, take any thing as true from reasoning *à priori;* nothing but what is proved by experiment is to be taken for granted, and therefore, probably this suggestion deserves no notice.

This torpid state of the colon is connected with affections of the rectum; and chronic inflammation of the colon is very often the consequence of a torpid colon. More blood, it is admitted, accumulates in the colon when it is distended than when it is empty. This generally, I am sure, winds up with chronic and very often with acute inflammation. Sometimes it leads to—

STRICTURE OF THE RECTUM.

This is the consequence of inflammation, which is very often occasioned by constipation. There is first a spasmodic condition of the parts, then inflammation, ending in induration or genuine stricture. I believe that stricture of the rectum is by no means so common as writers would lead us to suppose. When it occurs it is a very formidable disease. One thing it is important to remember, that the patient has sensations on passing a motion of mechanical interruption. The best aperient is the introduction of a bougie. There are only two cases which you can confound with it.

I. A SPASMODIC AFFECTION OF THE SPHINCTER ANI.

This is very common in cases of overloaded colon. You introduce your finger, and find a difficulty, which you suppose to be a

stricture; and therefore, before you give an opinion, you should unload the bowels.

II. PILES.

These are various diseases. Sometimes they are formed of an enlargement of the veins adjacent to the sphincter ani, which inflame, and afterwards acquire a cartilaginous hardness. A more frequent character of piles is, that there is an actual accumulation of a number of capillary vessels, forming a softish substance. Another tumour is one growing from the mucous membrane of the rectum, feeling like a grape, and which seems similar to tumours forming in the cellular membrane; these have been called piles. Almost all the subjects of piles are liable to constipation, as the consequence of a torpid condition of the liver and colon; and when small, they may frequently be removed by stimulating the liver and emptying the colon. A very good aperient is a combination of electuary of senna, sulphur, and cream of tartar. Castor oil is very good; but aloes and calomel are bad. Sometimes they may be removed by ligature; and then it is necessary to avoid including any portion of the skin. Before the operation, the stomach, liver, and bowels should be attended to, and the patient should be watched afterwards. They are to be distinguished from stricture by examination.

In examining the rectum, which should always be done after an evacuation, always use a bougie, after having made an examination with your finger lubricated with pomatum. I saw a lady whom I supposed to have stricture: she was attended by a general practitioner whom I knew, and as he had known the lady a long time, I requested him to make an examination. He assured me, after having done so, that she had no stricture. The lady was not satisfied, and consulted another medical man, who examined the rectum, first by his finger, and then by a bougie: he discovered a stricture beyond the reach of the finger, and relieved her very much by the repeated introduction of bougies. I have seen other similar cases. This shows the necessity of making the examination in such cases yourself. Some time ago I saw a case, with Mr. Scott, of stricture of the rectum, which he felt by a bougie, though his finger would not reach it. When the stricture is seated within reach of the finger, it is surprising how it may be relieved; but no relief can be given if it be very high up. When the stools are passed, the patient feels a mechanical impediment, and

the stools are small, compressed, or twisted like a corkscrew. Every now and then the patient is liable to eructations and attacks of violent pain, and the bowels are immensely distended, and there is pain on passing a motion. When these symptoms occur, there are strong reasons for suspecting stricture of the rectum. Sometimes an affection of the uterus, attended by bearing-down pains, is the consequence of stricture of the rectum in females. A surgeon told me that a gentleman had suffered from pain in the rectum, which nothing had relieved. On examining the rectum he found sticking there a small bone of a bird, which the gentleman had eaten some time before. This shows the importance of making minute examinations; and if, in any case, you can have the evidence of sight or touch, you know whether the disease admits of physical relief or not.

Sometimes blood is passed from the bowels: this might be called—

SANGUINEOUS DIARRHŒA.

It arises from one of three causes generally. 1. From that congestion of the vena portæ, which is occasionally the cause of serous or mucous diarrhœa, blood transudes from the mucous membrane of the small intestines. 2. In the advanced stages of inflammation of the mucous membrane of the bowels in many cases it arises, and a sudden gush is the consequence. I had a patient in the Fever Hospital, who had inflammation of the mucous membrane of the bowels, and suddenly lost a quart of blood. In these cases you must suspend the use of aperient medicines; for if you act on the mucous membrane of the bowels you will probably destroy the patient. A full opiate, if the tongue be moist, rest in the recumbent posture, and a bland diet, with gentle aperients afterwards, will be the best remedies. If the tongue be sticky, as in cases of typhus fever, the less you do the better. 3. Sometimes it arises from ulceration, and then you have symptoms of chronic disease. I saw a patient at Dulwich, who laboured under symptoms of obstinate inflammation of the stomach and abdominal viscera. He died suddenly one day; and on examination, the intestines were found full of blood, which had flown from an ulcer seated about the pylorus.

In chronic discharge of blood from the bowels, I have known turpentine succeed when every thing else has failed. I have known some persons from hot countries who have become extremely

emaciated from chronic bleeding, and have been cured by moderate doses of rectified oil of turpentine.

HEMATEMESIS.

Hemorrhage sometimes occurs from the stomach. Very often an individual, who has a gorged state of the liver, will vomit suddenly a pint or a quart of blood, and in many cases the patient's life is lost, after large bleedings, by doing too much. The best thing will be a full opiate. It is surprising how opium saves life when large evacuations of blood occur without organic disease. This vomiting occurs suddenly in obstructed menses, and requires the same treatment. Sometimes it occurs in conjunction with a torpid colon; and then give opium first, and after the evacuation is allayed give gentle purgatives, with calomel if there be a deficiency of bile, which you must learn by washing the stools in order to examine them. Adopt a spare diet, and absolute rest; and almost all the patients recover.

Another affection has been called petechiæ sine febre, or, more recently—

PURPURA HEMORRHAGICA.

I never saw a patient with petechiæ in fever where they did not depend upon a bronchial affection. They most frequently occur without fever; and then I never saw a case which did not appear secondary of the disorder of the stomach, liver, and bowels, of which I have been speaking. To treat it successfully you must entirely put out the consideration of its being a specific disease, and attend to the disorder of the stomach, liver, and bowels. Place the patient in a fresh atmosphere; open the bowels very gently by cold-drawn castor oil, or give lemon-juice alone, or oxymuriatic acid, and the spots will rapidly disappear. The two last are excellent aperients in these cases. It sometimes happens that fever supervenes upon it, and then you may bleed moderately with benefit. Purpura hemorrhagica may be connected with an effusion of blood from the bowels: and then let the diet be simple and moderate if there be no fever; keep the bowels open with any mild aperient, and the patient generally rapidly recovers. I have known milk whey an excellent aperient in these cases. In some cases of habitual constipation, half a pint of milk whey taken in the morning fasting will open the bowels effectually when other aperients have failed. Sometimes it winds up with what systematic

writers call infantile fever;—inflammation about the mucous membrane of the stomach or bowels. The tongue becomes furred and vividly red at the tip; and there is some degree of pain on pressure, with a hot skin and a quick pulse. You may bleed moderately generally with very great benefit; and a farinaceous diet must be adopted. A farinaceous diet is to be preferred in all cases of febrile diseases with only one exception, and that is when external sores occur when the pathology of the internal fever is simple. When a surgical operation is performed, or when an external sore arises and is followed by fever, the fever if slight is beneficial, but it ceases to be beneficial when internal inflammation occurs.

LECTURE LVI.

CHRONIC DISORDERS AND DISEASES OF THE GENITAL AND URINARY ORGANS.

CHLOROSIS

occurs occasionally about the period of puberty, and has been supposed to be peculiar to the female, but, except the condition of the menstrual discharge, it takes place also in males. It is indicated by a peculiar sallow or greenish hue of the skin, by a tongue covered with a dirty white fur, by clay-coloured stools, by a depraved appetite, accompanied with desire for eating unnatural substances, as cinders, &c., generally by considerable wasting of the body, and in the female by retention of the menses. In its progress it is attended by more or less œdema of the lower extremities, and sometimes by anasarca. It is invariably secondary of a local affection, chiefly of the stomach, liver, colon, and skin.

The functions of the skin should be restored by a tepid bath used twice or three times in the week, the surface being well rubbed with rough towels afterwards. The liver should be stimulated occasionally by moderate doses of some mercurial; the bowels should be daily opened by aperients—the decoctum aloes compositum with bitters answers best. The diet should be strictly

regulated; it should be simple but nutritious. The patient should be warmly clothed, and live in a fresh atmosphere.

AMENORRHŒA.

When at the age of puberty menstruation does not occur, sometimes the obstruction is only apparent, not real; the menstrual secretion actually takes place, but owing to an imperforate hymen there is no external discharge. When the menses cease to flow at the usual period, after they have once appeared, there is said to be suppression; but whether amenorrhœa occurs under one form or another, it is generally secondary of disorder of the stomach, liver, bowels, and skin. Hence, if you restore the functions of these organs to a healthy state, the menses will flow naturally. In suppression of the catamenia the patient is liable to some affections of the head, and at the same time the stomach, liver, bowels, and skin, are in an unnatural condition: here, where there is a full habit, it is necessary to abstract blood. In some cases of this form of amenorrhœa the menses are in a very irregular state—they are not constantly, but only occasionally, suppressed; thus for two or three months there is no discharge, and then it takes place in excessive quantity. Horse exercise, or jolting on a rough road in a carriage, will be useful to females who have irregularity or retention of the natural discharge; and dancing is a very pleasant way of taking exercise for the same purpose. When the ordinary remedies fail, aloes answers an extremely good purpose: the Hindoos from time immemorial have applied an infusion of aloes to the os tincæ with universal success. Injection of ammonia in small quantities has also been very advantageous. Electricity communicated through the pelvis has been serviceable. Dysmenorrhœa, or amenorrhœa difficilis, is sometimes rheumatic, and then it is relieved by colchicum: generally opium is beneficial in these cases, the stomach, liver, bowels, and skin, being at the same time attended to.

LEUCORRHŒA

arises from various causes: it is symptomatic of what is called dyspepsia. In nine cases out of ten it is the consequence of some disorder about the stomach, liver, bowels, and skin; and when that is corrected the mucous discharge from the vagina will cease: but sometimes it arises from certain solitary and vicious indulgences, and it is exceedingly common amongst women of the town;

and sometimes it is symptomatic of an organic affection of the uterus. In some instances benefit has been derived from oleum terebinthinæ, tinctura lyttæ, decoctum tormentillæ, astringent injection, &c.; but these are secondary remedies. Sulphate of zinc has been used in solution in leucorrhœa and in gleet. When it arises from dyspepsia a little wine is very beneficial if the digestion be defective and the patient have a good appetite.

MENORRHAGIA

is most frequently that occasional discharge which occurs in suppression of the menses; and is generally dependent on some disturbance of the general health, referrible to disorder of the stomach, liver, bowels, and skin. Among its exciting occasions are mental distress, the abuse of spirits and other diffusible stimuli, and general relaxation. Sometimes it takes place during pregnancy; but these cases are rare. Sometimes it occurs from an abortion; hence in married females always examine the discharge, that you may ascertain whether the placenta has been separated. Keep the patient at rest for some time, as by early over-exertion prolapsus uteri frequently takes place. When the lochial discharge is profuse, rest in the recumbent posture, opiates, and spare diet, are requisite; for if the diet be too full, hemorrhagic reaction is apt to take place: hence what is called puerperal fever so frequently follows profuse lochial discharge. Sometimes it is connected with hydatids, and when these are discharged it ceases. It is very often an attendant on organic affections of uterus, especially towards the change of life. It should be treated by rest, mineral acids, bland diet, occasional anodynes; and where the system is very much relaxed, very considerable benefit may be derived from port wine.

SLOUGHING ABOUT THE LABIA PUDENDI

is most frequent among children who are badly fed, badly clothed, and who sit up late at night. Inflammation takes place about the external genitals, which is followed by sloughing. It is almost invariably the consequence of some disturbance in the functions of the stomach, liver, bowels, and skin; and if you remove that disturbance, the patients generally do well. In cases of sloughing opium will relieve the pain which attends that process.

In adult females there is sometimes an erysipelatous affection

on the labia pudendi attended by pimples, which are remarkably hot and excessively troublesome from the itching they produce: restore the general health and it generally disappears.

CHRONIC INFLAMMATION OF THE UTERUS.

This is by no means uncommon about the period of what is called the change; it takes place especially about the fortieth year, and is generally secondary of some disorder of the stomach, liver, and bowels. The tongue is furred; the stools unnatural; the skin sallow; the urine scanty and pink coloured; and pain takes place in the region of the uterus, and this being continued, passes into chronic inflammation. Frequently one of the kidneys is simultaneously affected. There is pain in the back, and a muco-purulent discharge from the vagina.

In the first instance, cupping on the loins may be had recourse to, and then the functions of the stomach, liver, and bowels must be restored to a healthy state. A separate bed also should be enjoined, as sexual intercourse increases the chronic inflammation; but this should be done with caution, as in some instances it has produced such great irritation and distress as have far more than counterbalanced the advantage proposed to result from it. When chronic inflammation arises about the uterus, and the patient breathes a bad atmosphere and is of uncleanly habits, it is very apt to pass into a sloughing sore; or if the general health be broken up by other causes, this also sometimes takes place. It is indicated by pain about the hypogastrium, hips, and back; a muco-sanguineous offensive discharge; a withered appearance of the skin, with a pallid face and hands; and is almost invariably fatal. Very great attention is required to ascertain whether or not it is connected with syphilis.

When it has once taken place, and is not connected with syphilis, all that can be done is by palliatives: a regulated diet, rest, a fresh atmosphere, and a placebo to keep the mind at ease.

SCIRRHUS UTERI

is almost invariably the consequence of chronic inflammation. Scirrhus or cancer very often occurs in connexion with disorder of the stomach, liver, and bowels, especially if the mind be anxious. A naturally irritable mind, or a mind rendered irritable from the anxiety of situation, &c., has been the characteristic of all the cases of cancer which I have seen. I have seen many cases of scirrhus

in the uterus and in the breast suspended by a remarkably spare diet. When it has taken place there is a more or less offensive mucous discharge, which is profuse at the menstrual period, accompanied by pain in the back and about the rectum, and difficulty of passing the urine. But these symptoms alone are not to be depended upon; and I recommend you never to trust to the mere appearance of the discharge: an actual examination of the parts must be made, and then the uterus is found hard. The general health suffers, and the external glands are frequently enlarged.

In the treatment it is of consequence to keep the mind at rest. A regulated diet should be adopted, and the object is to support the strength without increasing the heart's action. When the mind is anxious it should be full; when at ease it should be spare, as milk. This with a fresh atmosphere, occasional cupping on the loins, and strict attention to cleanliness, will palliate the symptoms, if not successful in curing the disease. The great point is to detect the early symptoms of inflammation and remove them. I may here remark, that whenever you see any tendency to scirrhus of the breast in a married female, you should advise a separate bed. I saw a case last year where a scirrhous tumour became converted into an open cancer by pregnancy; and I have witnessed several similar instances; and I need not point out to you how much the condition of the breasts is influenced by gestation. About the period when the menstrual discharge ceases, if the diet be not spare universal plethora is apt to occur, from which may arise various affections of the chest, head, &c. In this way cancer very often arises. Many of these affections may be avoided by keeping the bowels open and adopting a spare diet at this time. Scrofula most frequently occurs in earlier life, but in some things there is a connexion between these diseases. They are both sometimes, though not often, strictly local. But in other cases, cancer of the lip, for instance, being removed, the disease will reappear in some internal part. I saw a lady whose diet was very full at the change of life, and in whose neck a small hard lump arose; it increased, became scirrhous and cancerous. Before death she had difficulty of breathing, and upon examination of the body a tumour of a cancerous nature was found pressing upon the right lung.

With regard to organic diseases in general, three things are of vast importance. The first is to appeal to the mind of patients

and administer hope. The second is to keep the stomach, liver, and bowels, in good order; if possible rather by diet than by physic, but if this cannot be done, by a little mild laxative medicine. The third is to keep the circulation of the blood within bounds. By these three means you will lessen the patient's sufferings and prolong his life, and this is generally all that can be done in these cases. In internal scirrhous and fungous complaints the patient hardly ever obtains relief except from opium; for instance, in the horrible pain that attends scirrhus of the pylorus.

POLYPUS UTERI.

Polypi are of two kinds, firm and fungous. They are attended by a mucous, and sometimes by a bloody, discharge.

When connected by a narrow neck they may be removed, and after removal the patient recovers.

PROLAPSUS UTERI

is sometimes—more often indeed than is suspected—produced by an overloaded colon: the uterus is forced down by the immense accumulation of fæces. Getting up too early after delivery is a very common occasion of this affection, and so is standing too much at any period. It is brought on by occasions that relax the whole system, and sometimes by the introduction of wooden pessaries. You should endeavour to restore the general strength by rest, and by a fresh atmosphere. Keep the bowels open, but do not act on the rectum. Sponge pessaries may be employed, made of compressed sponge with a tape tied round it: one should be introduced in the morning, and removed at night; a clean one should be used daily.

DIABETES.

In this affection the patient passes an immense quantity of urine with a taste like that of honey. The skin is remarkably changed: it is dry, constricted, and furfuraceous; the tongue is generally red at the tip and edges, and furred in the middle; the breath is sub-acid; the gums swollen and tender; the stools indicate a deficiency or depravity of bile; there is a large or capricious appetite; the patient is liable to acid eructations; and there is an anxious, contracted countenance. Before death it often happens that the urine is diminished in quantity, and of a more natural quality. The kidneys have naturally been examined after death,

and in some instances they have been found inflamed, but in others little or nothing morbid has been discovered; and from the peculiar state of the skin, stools, urine, &c., it is probable that the affection of the kidneys is the ultimate result of disorder of the skin, of the mucous membranes of the stomach and intestines, and of the liver.

In one instance, where the patient recovered, it was by the use of a vapour bath every second day. Opium surprisingly lessens the flow of urine. Both these act on the skin. We have not yet paid sufficient attention to the sympathies which exist between different organs. In the treatment, those remedies which restore the skin, the mucous membranes of the stomach and intestines, and the liver, to their natural state, are the means on which the greatest reliance is to be placed. Leeches should be applied to the pit of the stomach so long as there is tenderness on pressure with a red-tipped tongue; and even, in some instances where the pulse is hard and the pain urgent, general blood-letting may be premised. The vapour bath alters, not only the quantity but, the quality, of the urine. Aperients, with calomel or blue pill occasionally, and attention to the diet, drinks, and clothing, are of essential importance. The German physicians prescribe emetics, which operate on the skin, and probably may relieve some cases.

CHRONIC INFLAMMATION OF THE KIDNEY

is not uncommon; it is frequently the consequence of disorder of the stomach, liver, and bowels, with an unhealthy condition of the skin. It is exceedingly common in sedentary females, whose stomach, liver, and bowels, are disordered, with the urine scanty and depositing a pink or white sediment. Sometimes an obscure pain comes on in the kidneys, and, if neglected, it passes into inflammation. Sometimes it is produced by a blow; and when the kidney is inflamed, calculi are very apt to form in it.

Chronic nephritis is indicated by pain in the region of the kidney; and the patient is often seized by a sudden pain in the testes, sometimes more severe than that in the kidney. There is very often a numbness or tingling sensation down the thigh, a painful desire to make water, and sometimes a copious pink or white sediment. If this sediment be examined, it is found to consist of small crystals. In some cases the patient passes immense quantities of pus, and afterwards sometimes gets entirely well; and then

after death one kidney is found completely consumed, nothing but a capsule being left.

Cupping in the region of the kidneys when there is pain, a regulated diet, mild aperients, and an occasional tepid bath, may be employed. After the abstraction of a little blood these cases may be controlled almost entirely by a regulated diet. If the sediment be of a pink colour, alkalies assist in relieving the irritation; and if whitish, like lime, mineral acids, especially the muriatic, are serviceable, and will correct it without increasing the acidity of the stomach. The first point, however, in the treatment is to remove the inflammation.

In all inflammatory affections of the uterus, bladder, and kidneys, avoid giving harsh purgatives.

Two very important things in chronic diseases are, the diet and drinks, and the rest. If you allow patients to go about in these cases you will do no good. The bladder is very much influenced by motion; and both in nephritis and cystitis, if the drinks be stimulating the inflammation will be protracted. The same observations apply to chronic inflammation of the uterus. In chronic irritation of the kidney, bladder, and uterus, a hip-bath is exceedingly soothing, and often alleviates it when other means fail.

CHRONIC INFLAMMATION OF THE MUCOUS MEMBRANE OF THE BLADDER AND URETHRA

arises in the same way, in conjunction with the same condition of the stomach, liver, bowels, and skin. Affections apparently seated in the bladder, are very often connected with an overloaded state of the colon, which often makes persons subject to painful retention of urine. In the treatment there are two objects in view—to remove the disorder of the stomach, liver, bowels, and skin; and to remove the local inflammation. These may be accomplished by local blood-letting, which is generally necessary, and by mild aperients, with occasional alteratives, and fresh air. Nothing can be done in these cases without regulating the diet; and it is desirable to be very particular as to the water which the patient drinks.

When there is a calculus in the bladder, it is indicated by pain at the end of the urethra; frequent and painful desire to make water; the stream is liable to stop suddenly, and sometimes the urine passes only in drops; the patient can pass it generally better in one position than in another; the pain is generally most severe

when the bladder is empty; and there is frequently a mucous sediment in the urine, and sometimes blood.

Copaiba will generally relieve a gleet if the balsam be good, and there be no stricture. It is on the whole a better medicine, in these cases, than cubebs, which have no power unless they contain the volatile principle; their efficacy is spoiled by keeping. Astringent injections of the acetate or sulphate of zinc are sometimes beneficial if these cases become chronic.

DISEASE OF THE PROSTATE GLAND

is most frequent in old persons, but sometimes it occurs in the middle period of life. The patient is very liable to attacks of irregular fever assuming the remittent or intermittent character; it has the cold, hot, and sweating stages, but the returns are not at stated periods, and it is invariably preceded by pain in some part of the urinary organs. Sometimes the fever puts on the typhoid character. The patient passes his urine with pain and difficulty, and is liable to retention. There is a mucous discharge; and when he has had an evacuation he feels as if his fæces were retained. The only certain mode of ascertaining it, however, is by an examination. If a mucous discharge occur from the bladder, it often arises from irritation about the prostate gland, but sometimes from inflammation of the mucous membrane of the bladder.

With respect to the treatment, a great deal depends on the management of the diet. Milk food is the best if it agree with the patient, as it supports the strength without increasing the heart's action. Where it does not agree alone, it will with a small portion of alkali; or arrow-root may be tried. Whey often answers very well. The state of the stomach, liver, and bowels, requires attention. Castor oil is the best laxative. It is best to do without opiates; and it is only where the pain is urgent at night that they should be given. The catheter should be frequently introduced. If there be fever, local or general blood-letting, according to the strength and constitution of the patient, should be had recourse to.

LECTURE LVII.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF DROPSY.

The subject of this lecture will be what is commonly called dropsy. The word dropsy is derived from the Greek word signifying water; and all the words which designate the different kinds of dropsy are derived partly from this word, partly from the appearance and the seat of the dropsy.

Dropsy takes place, first, in certain cavities of the body, as in the ventricles of the brain, in the canalis vertebralis, in the bags of the pleuræ, in the bag of the peritoneum, and in the tunica vaginalis. It very often takes place in the cellular membrane. Sometimes it occurs in cysts, as in the ovaries; sometimes in a single cyst, as a large hytatid. The ancients supposed that those persons who were leucophlegmatic, and those who were most lax and flabby in fibre, were most predisposed; but as the cause of dropsy is very various and may affect any individual, so we find dropsy affecting all classes. It is a very important part of modern pathology to ascertain the causes of certain symptoms. When dropsy was supposed to be a disease proceeding necessarily from weakness, almost all cases were fatal. But though experience has fully proved that the theory about weakness being the cause of dropsy is incorrect, it is surprising that such an idea still exists. Dropsy is a mere symptom; the effect of very different conditions.

PATHOLOGY OF DROPSY.

1. One cause of dropsy is inflammation; and there are many facts which show this. A child has inflammation of the brain, which runs its course in three weeks, and then the child dies: and upon examination the ventricles of the brain are found distended with fluid. Another child has symptoms of hydrocephalus internus, which goes on more insidiously; the bones give way, and the head becomes tremendously enlarged. It dies, and the body is examined. The convolutions of the brain are found unfolded, and

there is an immense bag of fluid in the centre: this is what is called hydrocephalus chronicus, and it is most frequently the result of inflammation. You have examples of the same kind in the spinal cord from acute or chronic inflammation. Acute or chronic pericarditis occasionally ends by dropsy of the pericardium, or hydrops pericardii. Acute, sub-acute, or chronic inflammation of the pleura very often leads to hydrothorax, or dropsy of the chest. A child becomes immensely dropsical from inflammation of the lungs, especially after scarlet fever. On examination of the bodies of phthisical patients, an effusion of fluid in the chest is often found. In acute, sub-acute, or chronic inflammation of the peritoneum, you find effusion into the belly, which is then called ascites. Upon the same principle hydrocele occurs, or effusion into the tunica vaginalis. Inflammation of an erysipelatous kind produces an effusion into the cellular membrane. The veins of the lower extremities being inflamed, a French writer has found dropsy of the lower extremities take place, and the same in the upper extremities. When the vena portæ is inflamed, so as to prevent the return of blood through it, ascites takes place. Inflammation of the veins of the thigh is the cause of phlegmasia dolens, as appears by the paper which has been written upon that subject by my friend Dr. Davis.

But inflammation is not the sole cause of dropsy; for—

2. Another cause is some local obstruction to the return of venous blood. A German writer has given an account of the water-stroke, as he calls it. I have seen several examples of it. It is in fact a variety of congestive fever: it is an effusion into the ventricles of the brain. Upon the same principle you frequently find effusion taking place slowly into the head from chronic bronchitis, or from tumours or tuberculated glands pressing on the jugular veins. On the same principle tumours pressing on the vena cava ascendens produce abdominal dropsy. The liver when hardened by an effusion of lymph, presses on its returning veins, and produces dropsy of the belly. In pregnancy dropsy of the lower extremities arises from pressure of the gravid uterus on the iliac veins. An organic affection of the heart is a remarkable example of this cause of dropsy; as an affection of the valves of the heart, or of the aorta, or any cause which obstructs the free return of venous blood: the consequence is dropsy into the pericardium, into the cellular membrane, and into the belly. On a similar principle those persons become dropsical who are worn out from a want

of rest. After a fever the patient sits up, and the heart's action is exceedingly feeble; blood is not returned with sufficient freedom, and dropsy of the lower extremities is the consequence, and sometimes of the belly and chest too. If you tie an arm up for some time with a ligature, so as to impede the flow of blood through the veins, dropsy of the arm will be the consequence; and thus you may put the reality of this cause of dropsy to the test.

3. Another cause of dropsy is plethora, or repletion: an excessive quantity either of blood or of watery fluid. Dropsy from this cause is by no means uncommon, especially from plethora of blood. An individual whose habits have heretofore been active, suddenly becomes sedentary, and lives freely; swelling of the legs occurs, and he begins to breathe short, and sends for a doctor. In such individuals you may discover no symptoms of inflammation. There is a very expanded or a very oppressed pulse; the blood is rich and not buffy. I have seen several examples of dropsy appearing to arise from this cause. I saw a medical man who was dropsical from this cause. I attended a literary gentleman for dropsy, which he produced by good dinners and plenty of wine. Sometimes the pulse is intermittent or irregular. This form of dropsy is sometimes connected with inflammation, but sometimes it is not.

Dropsy of this kind sometimes arises from an excess of water. An experiment was made upon a dog: he was bled to syncope, and as soon as he recovered a large quantity of water was given him, and he became dropsical. I attended a gentleman for inflammation of the bowels. He drank a good deal of cold water one night, and he was completely dropsical the next morning. Hales made an experiment on this subject by putting water into the jugular vein of a dog.

No work on the subject contains so many valuable facts as that of Munro on Dropsy. It is an old book, and if you can lay your hands upon it I recommend you to read it.

4. In the next place dropsy arises from some change in the constitution of the blood, attended by some laxity of the solids. This will be illustrated by the case which I mentioned p. 82; that patient's blood became very remarkably changed before the dropsy occurred. In chlorosis this occurs sometimes about the age of puberty: the skin, the stomach, liver, and bowels, are disordered; the feet generally swell; and the veins steal over the skin like blue veins in white marble. If you draw blood in such a case it some-

times scarcely leaves a stain on the linen. Put the disordered parts into a healthy condition, and all these symptoms disappear. This form of dropsy sometimes exists without organic disease, and is simply the effect of disorder combined with a depraved state of the blood. Generally, however, this variety of dropsy is complicated with organic disease of the liver in the male, or of the uterus in the female. The state of the blood to which I refer, in which there is a deficiency of red particles and an overplus of serum, often attends organic diseases of the lungs, heart, &c.

5. But these doctrines do not exactly apply to encysted dropsy. The most common seat of this dropsy is the ovary, where the fluid is contained in several cysts. Sometimes there is but one cyst, in which you find a serous fluid. Sometimes it has a more dense consistence; sometimes it is like arrow-root. Sometimes dropsy is only in one cyst, and that is a large hydatid; but sometimes many hydatids exist at the same time. A lady was supposed to have ovarian dropsy: the belly was immensely enlarged, she became exceedingly dyspeptic, and died suffocated. On examination of the body hydatids were found communicating with the fundus uteri (where they commenced) by a peduncle. They were attached to the peritoneum, and this mass of hydatids, weighing fifty pounds, pressed on the diaphragm, heart, and lungs, and thus killed the patient. Sometimes dropsy arises from rupture of the thoracic duct. In the Memoirs of the French Academy for 1700 a case of this kind is recorded. It is a very remarkable form of dropsy. Munro made some experiments to prove this.

I do not know what is the cause of encysted dropsy; and I believe it is right, when we do not know the cause of any disease, just to confess our ignorance.

As to the different kinds of dropsy considered with respect to their seat, one form has been called—

HYDROTHORAX,

where fluid is effused into either pleura, or both. A patient having considerable effusion in both bags of the pleura, the breathing is difficult; the face is almost invariably pale; the patient has great increase of the dyspnœa in lying down, attended by palpitations of the heart; he has also œdema of the lower extremities, scanty urine, respiration more laborious on exertion, sudden starting from the sleep, and sometimes a sense of fluctuation in the chest.

Hydrothorax sometimes steals on as an effect of one of the four causes I have mentioned; in some instances very insidiously, but sometimes very rapidly. An intellectual man for a long time laboured under an affection of the liver, and his feet swelled slightly; the swelling increased; the abdomen became rounder and rounder; his breathing became disturbed more and more; and in a few days he had anasarca, ascites, and hydrothorax.

A patient may have effusion into one side of the chest, and yet have no sign of hydrothorax whatever. I was called, when I was a young physician, to see a patient who appeared to have some abdominal affection. I left him apparently convalescent. In two or three days I was sent for in haste, and found that before I arrived he was dead. I was perfectly astonished: on examination of the body, an immense quantity of fluid was found in one bag of the pleura. This patient was old, and he had a florid cheek. He trimmed the lights on Sunderland pier, and this he did daily without any degree of difficulty of breathing or shortness of breath. He was a very active man, up and down stairs all day long. Laennec's instrument will detect this circumstance; it is a very correct test of the presence or absence of such a collection of fluid in one side of the chest. The respiratory murmur, moreover, will be absent, and the sound on percussion will be dull, if there be hydrothorax.

Some authors pretend to lay down a diagnosis between dropsy of the pericardium, and dropsy of the pleura. In dropsy of the pericardium they say that the patient is easiest when he is bent forward, but this accompanies also very frequently dropsy of the pleura. It is a strong indication that something is wrong in the bag of the pericardium, which may or may not be effusion into the bag. In dropsy of the pericardium, it is said that the heart gives a sort of a double stroke. This may be the case sometimes, but I am certain it is not always so. Sometimes there is uneasiness about the heart, a tendency to syncope upon motion, occasionally pain shooting down the left arm, &c. These affections frequently co-exist.

ASCITES,

or effusion into the cavity of the peritoneum, sometimes forms very slowly, sometimes very rapidly, from one of the causes of dropsy I have already mentioned. The belly is elastic, and becomes fuller and rounder: the roundness at first adding beauty

to the form, especially in the female, but at length it increases until it becomes a deformity; and the skin has cracks or white lines running across its surface, and has a very smooth shining appearance; the veins are more apparent and more distended than natural; there is a sharp peaky expression of countenance when it has existed for a long time; the extremities are emaciated; and the general health suffers considerably. One of the most decisive marks is this; press your hand on one side of the abdomen, and then striking the fingers of the other hand on the opposite side, you will perceive a sensation like that of a wave striking against the opposite hand. A fillip will sometimes show it more distinctly.

OVARIAN DROPSY

frequently forms very insidiously. A small tumour, seated at first in the region of one of the ovaries, gradually enlarges, and acquires ultimately an enormous bulk. This kind of dropsy seldom disturbs the strength materially, or renders the urine scanty; the patient's health does not suffer as it does in ascites. You must attend to the history of these cases, and under these circumstances the presumption is that ovarian dropsy exists.

Pregnancy may be confounded with ascites. Mistakes of this kind have occurred to several very intelligent men. Of two medical gentlemen, one thought a lady to be the subject of ascites, and, having consulted the other, he performed the operation. After the operation the lady was soon the subject of labour-pains, and was delivered of a child; and it was found that the uterus had been penetrated. Two medical men urged a woman to undergo the operation of tapping for dropsy, and this threw her into so much mental agony that she fell into labour. A very excellent surgeon performed the operation in a similar case, and the result was fatal. This shows the necessity of caution in forming a diagnosis. We should condemn criminality in our profession, but not error of opinion. Let any man lay his hand upon his heart, and ask himself, and his conscience will tell him he must have committed many errors, especially in this infant state of medical science; for I repeat, that we are merely on the threshold of the sanctuary of medical science. A friend of mine, who had tapped a woman repeatedly for dropsy, was sent for to perform the operation upon her again. On examining her, from the appearance of the breasts, and other circumstances, he was led to suppose that

she was pregnant as well as dropsical. He paused, and did not perform the operation of tapping—and she was delivered of a living child. If you have the slightest doubt in such a case do not operate till the expiration of more than nine months from the cessation of the menstrual discharge. If you trace the history of the case minutely, you will generally come at the truth, for most errors of this kind in practice arise from hurry. Almost all my errors have arisen from that cause; and the more and more I see of practice the more convinced I am of the necessity of a minute investigation of symptoms, especially at the first visit to a patient, which should always be a long one. In tracing the history of cases backwards (those cases I mean where pregnancy may be suspected), always take into account the fallacy of human testimony. In pregnancy there is usually more or less vomiting, especially in the first four or five months, and the patient has a good appetite, which is a very remarkable circumstance; she generally has an appetite for strong tasting things, as salted or high-seasoned things. There is enlargement of the breasts, a dark areola, general enlargement of the abdomen, and the abdomen is round, even, and hard, and has a very different feel from dropsy of the abdomen. If you have any doubt on the subject after six months, when the uterus has left the pelvis to a considerable extent, if your ear be well educated you can hear the pulsation of the fœtal heart, and a peculiar rush of the blood, which is the circulation of the placenta. As to the round even belly, you should remember that perhaps there may be twins. If you apply a cold hand on the abdomen you will almost invariably feel the motions of the child. You should take into account the character of the female. I have met with young married women who have been flatulent, whose stomachs have been disordered, and the menstrual discharge ceasing they have fancied they were pregnant; they have made the baby's clothes and have engaged the accoucheur. Sometimes, like the witches in Macbeth, it has vanished into soft air. In all doubtful cases be excessively careful. It is astonishing how circumstances of this kind will take place in situations of life where you would least expect them. A lady in this state went from one medical man to another to get an opinion favourable to her wishes; she came to me a short time before her delivery, and the motions of the child could be distinctly felt, and she had all the appearance of high health, while in dropsy there is a faded appearance of the skin.

ANASARCA

is a soft inelastic swelling in the cellular membrane, easily detected by pressure. Press deeply into the skin, and your fingers leave a pit. Anasarca takes place in the integuments of the belly sometimes, and there is often a feeling as if of an obscure fluctuation. The same occurs sometimes in an erysipelatous arm. Dropsy in the integuments of the belly is easily distinguished from dropsy of the peritoneum. When it exists in the integuments of the abdomen you may bury your fist in it. This is a certain indication of it.

TREATMENT OF DROPSY.

You should in all cases investigate the cause, whether it be inflammation, plethora, obstruction to the return of blood, or some change in the blood, or whether the dropsy be encysted. It is in vain to prescribe for a symptom without reference to a cause. Books tell us that the treatment of dropsy is very simple. They tell us that there are two indications; one is to evacuate the fluid, and the other is to prevent the recurrence of it. All this is very true, but dropsy, as far as its cause and its treatment are concerned, is very different. Some forms of dropsy are remediable; those arising from inflammation generally are so.

1. If dropsy be connected with inflammation, the urine is scanty and high-coloured, and on boiling it, or adding to it nitric acid, it very often, but not always, deposits albumen. Other general symptoms will guide you, as hardness and frequency of the pulse, a furred tongue, and a hot skin towards night. Bleeding, purging, and a regulated diet, are to be adopted in these cases. In some strong subjects you may bleed largely, but in delicate patients you must abstract a moderate quantity of blood. Other medicines greatly assist you in these cases, as digitalis, squill, or calomel. Digitalis may be given in infusion, two drachms morning and evening, gradually increased to half an ounce, six drachms, or an ounce, twice a day. Of the tincture of digitalis ten drops may be given twice a day, gradually increasing the dose. In giving digitalis attend to the state of the pulse, of the stomach, and of the head. If there be retching, or giddiness, or if the pulse become small and slower, omit the digitalis. If it produce very alarming effects, give ammonia and wine, or opium and brandy. Squill, when recent, operates remarkably well. It often fails as a diuretic, because it is not good. Colchicum is another remedy which has very great efficacy. I

generally give colchicum twice or three times a day, with a purgative; it increases the flow of urine in inflammatory diseases very remarkably, and tends powerfully to carry off the inflammatory symptoms. When it occasions any degree of sickness, withdraw it immediately.

2. When obstruction to the return of the blood exists as the cause of dropsy, you must ascertain what is the condition upon which it depends, in order to know whether that condition is remediable. If it exist about the liver or bronchial linings, you may frequently relieve it: in the one case, by alteratives every second night, and daily purging by calomel, elaterium, or turpentine, with alkalies and a regulated diet; in the other, by purging, diaphoretics, and a regulated temperature. If the heart be obstructed, you must also attend to the liver: alteratives and purging, and moderate blood-letting, with a bland diet and rest, will be of great benefit. Sydenham was in the habit of giving emetics and nauseants in dropsy of the belly; they are seldom used now: but as ascites is often connected with torpor of the liver, when it arises from that cause, they may occasionally be employed with great advantage.

3. If the dropsy arise from repletion, and if that depend on a very large quantity of blood, you may bleed your patient, open his bowels, put him upon a moderate diet, and let him use a warm bath; and the dropsy disappears. Nauseants are sometimes productive of great advantage. If the repletion arise from the sudden absorption of a large quantity of water, use purgatives, the warm bath, and occasional alteratives, with rest, a spare diet, fresh air, and a regulated temperature.

4. Where it arises from some change in the blood, with laxity of the solids, you must endeavour to ascertain whether the affection from which that change is derived be a disorder or a disease. If it be a disorder of the stomach, liver, or bowels, as it often is, and you remove it by mild laxatives daily, mild alteratives every other night, fresh air, a bland diet, and bleeding or leeching if requisite, the dropsy soon disappears. If there be organic disease, all that you can do generally is to palliate the disease. One palliative sometimes is the operation of tapping. Diuretics are sometimes useful.

5. In respect to ovarian dropsy, I recommend you to read what has been written on this subject by Dr. Hunter—that patient has the best chance, under this disease, of living longest, who does the

least to remove it. It has sometimes disappeared from falls; but the cysts have in other cases been broken, and yet the patient has not been cured.

The operation of paracentesis is commonly performed on the belly. It is not a cure, but a temporary relief. When you perform the operation, do it with deliberation. If you strike suddenly, the patient may sink under the shock, or violent reaction may occur and inflammation of the peritoneum may be the consequence. You should make the operation appear to the patient to be nothing more than the mere prick of a pin. This is perfectly justifiable. It is a pious fraud, which we are compelled to adopt on account of the infirmities and feelings of human nature. When a very small quantity of fluid exists in the belly, the colon is sometimes uncommonly distended with flatus, and comes against the peritoneum or parietes of the abdomen; and if you perform the operation too early, you may very easily penetrate the intestine by the instrument. Never perform the operation till there is a most distinct fluctuation. The part generally recommended for performing the operation, is just the middle point between the navel and the anterior superior spinous process of the ilium. One objection is, that the recti muscles are sometimes pushed aside, and the epigastric arteries following them, one of these vessels may be divided. The preferable place is midway between the pubes and umbilicus, in the linea alba. In performing the operation, take care to keep clear of any vein which may be seen under the skin. Have a proper instrument, a trocar, and, as soon as you feel a cessation of resistance, stop directly, and withdraw the trocar. You should have a peculiar bandage, to save a great deal of trouble. It should be two or three yards long, according to the size of the patient, and should be cut evenly down; then having placed the patient in an easy chair, put this bandage over the abdomen, and having made a small point with a pen and ink where you mean to operate, make a slit in the flannel, and find that point. Two persons should stand behind the patient, and pull the bandage tight. Whenever you perform an operation upon any human being, you should remember to treat the patient with great compassion. Rest and starvation are necessary for the first twenty-four hours after the operation.

Scarifications for letting out the fluid in anasarca I am very much afraid of. I have frequently seen them become gangrenous, especially below the knee.

One of the greatest difficulties connected with the operation of paracentesis thoracis has been the uncertainty of the indications that fluid is positively present in the chest. This obstacle, however, is removed by the use of the stethoscope; and there is now no reason why the fluid may not be removed by the trocar.

As to the—

PROGNOSIS OF DROPSY,

you must found it, in some degree, upon the cause from which it proceeds. If the cause be inflammation, the prognosis is very often favourable. If it be from some change in the blood, &c., it is favourable, if that change be arising from mere disorder. If it be arising from organic disease it is almost invariably unfavourable. It is connected with organic disease most frequently in persons who are advanced in life. If there be disease in the abdomen, the peculiar expression of countenance which I have mentioned often occurs.

THE END.

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