An oration on the principles of the practice of medicine, delivered before the Medical Society of London, on Saturday, March 8, 1828, on the occasion of the fifty-fifth anniversary / by John Burne ... printed at the request of the society.

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AN

ORATION

ON THE

PRINCIPLES OF THE PRACTICE OF MEDICINE,

DELIVERED BEFORE

THE MEDICAL SOCIETY OF LONDON,

ON

SATURDAY, MARCH 8, 1828,

ON THE OCCASION OF

THE FIFTY-FIFTH ANNIVERSARY.

By JOHN BURNE, M. D.

LICENTIATE OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON;
HONORARY SECRETARY FOR FOREIGN CORRESPONDENCE OF THE MEDICAL SOCIETY OF LONDON;
AND FORMERLY PRESIDENT OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH.

PRINTED AT THE REQUEST OF THE SOCIETY.

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ORATION.

THE Principles of the Practice of Medicine consist in a knowledge of the deviations and changes of the body and of the mind from their natural state of health and integrity; and, also, in a knowledge of the extent and power of curative means to correct and amend such changes and deviations.

A knowledge of these deviations and changes can only be derived from the anatomy and physiology of the body and of the mind in health and in disease; and a knowledge of the extent and power of the curative means can only be derived from an experience in the use of these means. Such various knowledge makes up the whole fabric of the Principles of the Practice of Medicine.

It is the outline of this vast fabric which I shall endeavour to trace; not, however, with any confidence in my ability to achieve so great a work, but in the hope that, by engaging other and abler labourers in the same most useful and philosophic purpose, the Practice of Medicine may, ultimately, be made something more than a conjectural art.

The anatomy of the organs and tissues of the body in a state of disease, or, in other words, morbid anatomy, unfolds to us the nature of those lesions which result from the various diseased ac-

tions to which the human frame is liable. All these lesions, whether of organ or of tissue, are indicated by peculiar assemblages of signs, as well during the period of their formation as during their existence when formed; and it is by a comparison of these signs which manifest themselves during life, with the appearances which are discovered by dissection, that we can become qualified to appreciate the indications of the phenomena of disease, and to judge accurately of its extent and nature.

The physiology of the organs and tissues of the body in a state of disease, or, in other words, physiological pathology, teaches us the nature of those altered and impaired functions which result from diseased action and organic lesion; and it is by the contemplation of these functional changes, that we discover the immediate and remote influence which particular diseased actions and organic lesions exercise over the future health and life of the individuals afflicted.

I have said that every disease is indicated by a certain assemblage of signs; and although this position may be questioned on account of the obscurity of the indications of many diseases, yet, I think I am borne out in saying, that the obscurity is less owing to a deficiency in the manifestations of nature, than to a want of penetration in ourselves. I believe that all internal diseases are manifested by particular sets of outward signs, adequate to afford evidence of the precise nature of such diseases; and, that it only remains for us to exercise a diligent and acute observation, in order to avail ourselves fully of this evidence which Nature kindly proffers.

That the difficulty in discovering the precise seat and nature of internal disease rests with ourselves, has been recently shewn by the lamented Laennec. Until his time, a class of diseases, the diseases of the organs of respiration, was so imperfectly understood, as not to be distinguished with any degree of certitude during life, or with accuracy even after death. From the labours of this pathologist, however, the science of medicine has derived accessions of knowledge, by which the various diseases and lesions of the respiratory organs themselves and of their tissues can, now, be detected, in all their states and stages, with a certainty bordering on demonstration.

This advancement in our knowledge has been very much effected by the aid of the sense of hearing; a sense which physicians, before Laennec, scarcely availed themselves of in the investigation of disease; but which he cultivated with a success so remarkable, as to attain an admirable and almost wonderful degree of perfection.

The assistance of the sense of hearing is chiefly available as a conjoint means of diagnosis in the diseases of the lungs and of the heart; because the action of these organs is accompanied with sound.

The various actions of these organs in health produce various sounds; and various sounds are produced, also, when their functions are impaired by disease; and it is by an intimate acquaintance with these diversified sounds and with the particular states to which they correspond, that we acquire the power of ascertaining the precise condition of the viscera within the chest.

Now the perception of sounds within the chest, by the naked

ear, is difficult and often disagreeable; and we are indebted to the ingenuity of Laennec for a discovery which has obviated these impediments. This discovery is mediate auscultation, by means of an instrument which conveys the sound from the chest of the patient to the ear of the auscultator at a convenient distance.

The instrument is exceedingly simple and exactly adapted to the purpose. It is called a Stethoscope, and is now so well and generally known throughout the profession as not to require further description in this place.

It is to Laennec, then, we owe the greater advantages now derived from the sense of hearing in the investigation of disease; and to him, also, belongs the undisputed honor of the invention of the medium through which these greater advantages are to be obtained; namely, the Stethoscope.

The Stethoscope, however, like other new inventions, has had to encounter opposition; but this, it is pleasing to observe, is fast declining; for the utility and, indeed, the necessity of this instrument, as a means of diagnosis in affections of the chest, has been experienced and acknowledged by so many enlightened members of the profession, that its adoption may now be considered established.

Was it necessary to urge more in support of the value of the Stethoscope, the end would be best accomplished by a reference to the works of Laennec himself: works which afford a splendid specimen of pathological research, and which will ever remain an honourable memorial of the ardent zeal and well-directed talents of their industrious author.

In conformity with that perfection, which is conspicuous in all the works of the great Author of our Being, the body and mind of man are, by nature, sound and healthy.

All the various parts and organs of the body are exquisitely adapted to their various ends; and so nicely proportioned and truly balanced each to the other and to the whole, as to form one beautiful and wonderful machine.

Equally fitted to its peculiar purposes, also, is the mind; and although, from its immaterial nature, the knowledge of its essence is beyond the reach of our attainment, yet are we able to judge of its existence by its effects; and, by its effects, are we further able to recognize the entire accordance of the constitution of the mind with the organization of the body.

It is this accordance which renders the actions of the body and the operations of the mind consistent with each other; and which gives to man the power and the privilege of enjoying a sound mind in a sound body through the whole period of his being.

In this natural state of integrity and of harmony, the body and mind are exempt from any inward source of deviation from health; and, therefore, all derangement must, originally, result from the influence of EXTERNAL CAUSES.

Now these causes are manifold, both in point of number and in mode of action; and they arise, chiefly, from that life of con-

gregation and of social intercourse, which an innate propensity leads man to prefer. For although, in the most simple states of human life, the body is subject to injury and the mind to emotion, the proportion of the causes, under such circumstances, bears no comparison with the proportion of causes which springs from the mode of life in organized society.

In society, the appetites and the passions of man are constantly exposed to the influence of temptation and of excitement: excitement leads on to preternatural exertion and vast enterprise; and temptation to excessive enjoyment: all which, though they may be pursued and supported with impunity for a time, disturb and undermine, sooner or later, the functions and the organization the operations and the constitution of the mind and of the body, and become the productive parent of disorder and of disease.

All EXTERNAL AGENTS operate, primarily, upon the body or upon the mind; secondarily, they operate upon the body through the medium of the mind, and upon the mind through the medium of the body.

The operation of agents primarily upon the body is, directly, upon the body itself, as a contusion, or a fracture; or, indirectly, through the medium of the stomach, as, ingesta; or, through the medium of the lungs, as, a contaminated atmosphere.

The operation of agents primarily upon the mind is through the medium of the senses, as, the shock of an awful flash of lightning, through the sense of sight; of a violent clap of thunder, through the sense of hearing; of an earthquake, through the sense of feeling.

The operation of agents secondarily upon the body through the medium of the mind, is exemplified by an attack of jaundice from mental anxiety or distress.

The operation of agents secondarily upon the mind, through the medium of the body, is exemplified by any injury or disease which interferes with the functions of the brain, the organ of the mind; as, a concussion of the brain, or a cerebral hæmorrhagy, or the typhus or adynamic fever.

Now the operation of external agents, in SOME of the above several ways, may derange the functions of the body or the operations of the mind for a greater or less period of time; but, the derangement having ceased, the bodily functions and mental operations shall be restored to their pristine state of health and integrity. And such derangement constitutes, what is technically termed, DISORDER.

Disorder, then, as relates to the body, is only a derangement of its functions; thus, a disordered state of the liver consists in an unhealthy secretion of bile, the structure of the liver itself being in no way affected. Disorder, as relates to the mind, is only a disturbance of its operations; thus, a person, whose mind is oppressed by anxiety, has a disturbed state of the operations of the mind, by which he attaches an undue importance to any untoward event or circumstance; which, in a state of mind undisturbed by anxiety, he would almost disregard. So, also, a person, who is over-elated by success or good fortune, has a disturbed state of the operations of the mind, by which he attaches an undue importance to any favorable event or circumstance; which, in a

state of mind, undisturbed by success, he would scarcely regard. Such, then, is bodily and mental disorder.

The operation of external agents, in OTHER of the above several ways, may excite such preternatural actions in some part or organ of the body, as may produce a change of structure in that part or organ; or may excite such preternatural operations of the mind as may produce a change in the constitution of the mind. And such preternatural operations of the mind, or actions of the body, constitute, what is technically termed, DISEASE.

Disease, then, as relates to the body, is such preternatural action as tends to produce a change of structure: thus, in acute inflammation of the lungs, there is a tendency to consolidation; or, in inflammation of the transparent cornea, there is a tendency to opacity. Disease, as relates to the mind, is such preternatural operation as tends to produce a change in the constitution of the mind; thus, a person shall be guilty of such inconsistency of conduct as tends to destroy the natural relation of his mind to to the external world: as, the getting up at unusual hours of the night without any object for so doing; the engaging in enterprises which are unreasonable or impracticable. Such, then, is bodily and mental disease.

Now the preternatural actions of disease having produced a change of structure in some part or organ of the body, the change of structure of that part or organ will remain after the diseased actions shall have ceased or shall have been subdued. Or, the preternatural operations of mental disease having produced a change in the constitution of the mind, this change will remain after the diseased operations shall have ceased or shall have been subdued:

and such permanent change in the constitution of the mind or in the structure of the body constitutes, what is technically termed, LESION.

Lesion, then, as relates to the body, is a permanent change of structure, the effect of diseased action; as the consolidation of the lungs, or the opacity of the cornea. Lesion, as relates to the mind, is a permanent change in the constitution of the mind, the result of diseased operation; by which the natural relation of the mind to the external world is destroyed: as, a person shall believe he is the possessor of a vast property which belongs to another; or, that he is some great personage, to whom he is in no way connected or known. Such, then, is lesion of the mind and of the body.

The operation of external agents, in OTHER of these several ways, may be such as not to excite disorder or disease, but so to affect the body or mind as to bring about a state favourable or prone to take on the actions of disorder or of disease: and this state of the body or of the mind, constitutes what is technically termed, PREDISPOSITION. In this manner predisposition may be acquired.

But predisposition may also be hereditary, or it may be congenital.

It is hereditary when transmitted from parents to their offspring; the parents themselves being afflicted with the particular disease, or with strong predisposition derived from their parents. Hereditary predisposition will also be transmitted from ancestors to the offspring through parents, who themselves shew no predisposition to any particular disease. It is congenital when it exists at birth,

and is independent of transmission from the parents or ancestors; there being no trace of similar disease or predisposition in them. Thus predisposition may be HEREDITARY, CONGENITAL, or ACQUIRED.

Predisposition, then, as relates to the body, is not an actual state of disorder or of disease, but one favorable or prone to disorder or disease. Thus a person may be free from complaint, and yet have a state of body prone to scrofulous disease. Predisposition, as relates to the mind, is not an actual disturbance of its operations or change in its constitution, but a state prone to such disturbance or change. Thus a person may be perfectly consistent and rational in all his thoughts and actions, and yet have a state of mind favorable to hypochondriasis or insanity.

In a healthy state of body and of mind, any disorder, however set up, has a natural tendency to subside: and, the cause being removed or existing no longer, the disorder will subside as fast and as soon as is consistent with the laws of the animal economy.

The space of time required for any disorder to subside after the cause has ceased to operate must depend on the nature of the cause, on the intensity of the cause, and on the time the operation of that cause has been in force. Thus, one cause will produce a disorder, the course of which will be longer than the course of another disorder produced by another cause; the longer or shorter course depending on the nature of the cause. So, also, a violent cause will produce a disorder, the course of which will be longer, than when produced by a slight cause; the longer or shorter course depending on the intensity of the cause. And a cause, which has been long operating, will produce a disorder, the course of which

will be longer than when produced by the same cause which has been operating only for a short period; the longer or shorter course of the disorder depending on the time the operation of the cause has been in force.

The mildness or violence of a disorder will depend on the intensity or slightness of the cause.

But the shorter or longer course of one disorder as compared with another, is not always in proportion to its violence; for some of the most violent disorders have the shortest course.

Generally speaking, disorder which is quickly formed will quickly subside, and disorder which is slowly formed will slowly subside.

The same may also be said of disease.

The ORIGIN of disorder and of disease is from external agents; the principal of which are, AFFECTIONS of the MIND, IMPURE AIR, POISONS, IMPROPER DIET, and AN UNDUE RETENTION of the INTESTINAL EXCRETIONS.

The affections of the mind have a remarkable influence on the functions of the body. Those affections which depress the energy of the mind, depress the energy of the body; and those which exalt the energy of the mind, exalt the energy of the body.

The influence of these affections is first exerted on the brain, the organ of the mind and the great centre of the nervous system and source of nervous influence. From the brain they are extended to the dependent nervous system; and, through this system, to all the organs of the body. These organs being all submitted to the

guidance and control of the nervous system, have their functions regulated by its influence; and the nervous system deriving its influence from the brain, and the brain being subjected to the influence of the mind, the affections of the mind are, in this way, extended to the organs of the body.

Hence it is, that grief and anxiety, affections of the mind which depress the energy of the brain, depress the functions of all the organs of the body: and, from this depression, there ensue a general languor of the system, an indisposition to exertion, and a reluctance and inability to go through the ordinary avocations of life: and the strength of the respiration and the vigour of the circulation flag, the powers of the stomach become languid and digestion is imperfect, the liver becomes sluggish and the supply of bile is defective, and the peristaltic action of the intestinal canal grows slow and retards the excretions, the perception of the sentient extremities of the nerves of the rectum is less acute, which, together with the want of natural stimulus in the excrementitious matter itself from a deficiency of bile, renders the calls of Nature consequently less imperative: and thus do affections of the mind produce languor, indigestion, constipated bowels, and all their consequences.

So also joy, an affection of the mind which exalts the energy of the brain, exalts also the energy of all the organs of the body; so that their functions are performed with uncommon vigour.

An impure and insalubrious atmosphere exerts also a remarkable influence on the functions of the body; and depresses or exalts their energy according to the nature of its impurities.

The air may be rendered impure either by an undue proportion of its natural elements, as by too much oxygen, or nitrogen, or carbonic acid gas; or by the admixture of something adventitious, as ammonia, or the effluvia from putrid matter.

The influence of an impure air is exerted, primarily, upon the blood through the medium of the lungs, or upon the sentient extremities of the nerves forming the sense of smell.

The operation of an impure air through the sense of smell is only by those impurities which are manifestly perceived by this sense; as ammonia, musk, and the like: for there is no evidence of any impure air affecting the body through the sense of smell unless the impurity is perceived by this sense. For example; we have no evidence that the nitrous oxyde gas affects the body through the sense of smell, because its odour is exceedingly faint, and its effects upon the body violent. But all impurities which are perceived by the sense of smell do not necessarily produce their injurious effects upon the body through this sense; for putrid effluvia is perceived by the sense of smell, yet there is no reason to believe that its injurious influence on the body is through that sense.

The operation of an impure air upon the blood through the medium of the lungs, is the way in which the most pernicious effects are produced upon the body: and it is only in this manner that we can account for the operation of marsh miasma, or malaria, human effluvia, carbonic acid gas, and the like. These agents produce changes in the blood which are recognized even by its altered physical properties, and the blood being less fit for its natural purposes, the organs which derive support from the blood

are directly affected by it; and foremost of these is the brain: and the functions of the brain, being affected by the impure blood, the product of its functions, the nervous energy, is proportionably affected also; and the organs of the body are duly or unduly supplied in consequence.

The operation of an impure air through the sense of smell is generally quick, and its effects proportionably short, as the excitement from ammonia or tobacco.

The operation of an impure air through the blood may be exceedingly quick, or may be exceedingly slow: when it is quick, the effects are proportionably short; when it is slow, the effects are proportionably lasting. Thus, the exhilarating effects of nitrous oxyde gas are quickly produced, and they quickly subside: the effects of carbonic acid gas are quickly produced, and they as quickly subside or destroy life; for the languid state of body which succeeds the operation of these gases is not from a continuance of operation of the gas, but is the result of that operation which has ceased: just as the fatigue of labour is felt after the labour is finished. Thus, also, the pernicious effects of the impure atmosphere which produces the fever in temperate climates are slowly concentrated, and the fever has a long course: while the effects of the impure atmosphere which produces the fever of tropical climates are rapidly concentrated, and the fever has a short course.

That an impure air acts upon the blood through the lungs, and not through the skin, has been demonstrated by the well-known experiment of Sir Astley Cooper: who exposed a part of his body to the vapour of turpentine, at the same time that he respired an atmosphere free from this vapour; and this experiment did not

give proofs of the blood having been impregnated by the turpentine: but when he respired an atmosphere containing the vapour of turpentine, the urine very soon gave evidence of the blood having been impregnated.

Poisons are external agents which exert a well-known influence on the body; and this influence is exerted, primarily, upon the blood: but it is a question how far they exert an influence, also primarily, on the nerves themselves.

The influence of poisons upon the blood may be through the lungs, as by the respiring an atmosphere impregnated with the poison of small-pox; or, it may be through absorption from a poisoned wound, as small-pox inoculation, or a dissection puncture; or, through absorption from the stomach, as opium when swallowed.

There are circumstances, however, which lead some to believe that poisons exert an influence primarily upon the nerves themselves. It is, for example, a well-known fact, that persons, who are labouring under the effects of a poison, as of opium, taken into the stomach, frequently experience obvious relief when the opium is ejected by vomiting, or withdrawn by the stomach-pump.

This fact seems to prove, that the effects of the opium arise from its contact with the nerves of the stomach: but some physiologists account for it by saying that the effects are produced by the continued act of absorption; and this absorption being arrested by the removal of the poison, the system is able to rally against that portion already absorbed; and then relief is procured. If absorption has already taken place to a certain extent, the removal of the remaining poison from the stomach is not followed by much

relief. That poisons do operate through the medium of the blood in the same manner that they operate when taken into the stomach, is shewn by the introduction of a solution of tartarized antimony into a vein; for, by this means, vomiting is excited more speedily than when the antimony is taken into the stomach itself. As, then, we have proofs of the operation of poisons through the medium of the blood, and no decided proof of their operation directly upon the nervous system, there is reason to believe that the operation of poisons is first excited upon the blood.

It is said, that fear renders the body more susceptible of the operation of poisons: as, that if a person on unexpectedly seeing any one affected with the small-pox, feels alarmed lest he should take the disease, he is more liable to be attacked than another person so exposed but who did not feel alarm. And it is a curious circumstance, that, as far as has come within my own knowledge, those persons who have been bitten by rabid animals and in whom the hydrophobia did not supervene for a long time after the bite, were free from the influence of fear; most of them not even recollecting that they had been so bitten, until the appearance of the disease had led the medical attendant to question them on the subject.

There is another cause, also, which may favor or retard the operation of poisons; namely, the nature of the wound. And this may, in part, account for the speedy operation of poison introduced by an incised wound, and the frequently tardy operation of poison introduced by a lacerated wound; the incised wound interfering so little with the organization of the part, as to admit of absorption more readily than a lacerated wound; laceration being

destructive of organization. The nature of the wound, then, and the absence or presence of fear may perhaps account for the uncertainty of the period of the supervention of hydrophobia after the bite.

Foremost in the list of those agents which bring on disorder and disease is improper diet. And diet may be improper either as relates to quantity or quality, or both.

The ingenuity and the industry of man supply him with a superabundance of food of an over-nutritious and stimulating quality: and the gratification which savory meat and flavorous drink affords to the sense of taste, allure him to habitual and unwholesome indulgence. And thus it is, that those means which are intended for the enjoyment and support and prolongation of life become the instruments of its suffering, abridgement, and destruction. For although, from the immensity of the population of the civilized world and from the nature of organized society, man must be exposed to the vicissitudes of fortune and often be reduced from abundance to penury, yet the habitual indulgence in meat and drink is the last privation to which he will submit. This habitual indulgence pervades every class of society and every order of men; for the daily table of the plebeian and of the noble peer, of the peasant and of the philosopher, is spread with a luxury and extravagance equal in proportion to his individual means.

In this way is the palate gratified and the stomach pampered, till at last it is difficult to please the one and suit the other: and then, having satiated the palate and over-worked the stomach, he complains of a disordered taste and weak digestion.

In savage life, where man does not look beyond the wants of the day and where the means of subsistence lie far and wide, the very procuring the necessaries of life demands a laborious exercise which whets the edge of appetite and keeps the body in health. And the food, when procured, being of the simplest kind and dressed in the simplest manner, affords a nourishment wholesome and sufficient.

But, in civilized life, the vast combination of physical and intellectual power enables man so to multiply the resources of nature, as to render abundant the necessaries of life, and to furnish himself with one comfort after another, and one luxury after another, till, at length, the whole course of his life is a succession of sensual gratification.

All his food, whether derived from the vegetable or animal kingdom, is reared and dressed with so much care and research, as to be of the richest and choicest quality and kind: and, not content with the forms in which Nature has presented it, man, by his ingenuity, has converted the natural and innocent forms of food into artificial and pernicious: and thus has he, from the vine and from the corn-stalk, supplied himself with stimulating and intoxicating drink; the bane of human life.

The savage, inhabiting a climate favorable to the growth and propagation of the human race and restricted to the simple food which Nature has placed within his reach, retains a vigour of health and growth of body and courage of mind which is in vain sought for in the members of highly civilized life: but, when he has intercourse with civilized man and tastes the poisonous cup of intoxicating drink, he, from that moment, becomes diseased in body and depraved in mind.

The effects of an excessively nutritious and stimulating diet are to afford a great supply of rich blood, which over-nourishes and excites all the organs of the body and urges man on to the free indulgence of his passions. This activity of the organic functions is soon followed by an exhaustion, which calls for a further excitement, and which, in its turn, exhausts also: and, in this way, the energy of the nervous system is impaired, and digestion and assimilation are imperfect and incomplete: the blood is consequently impure and less adapted to furnish healthy materials for the structure of the body: the whole fabric of the body becomes depraved, and all its functions vitiated; and a general disorder of the system is the consequence. Nature now turns restive, and in vain is the appetite tempted by delicate and dainty viands: she requires, and will have a course of abstinence and a period of repose, as the price at which health is to be redeemed.

An undue retention of the intestinal excretions is another source of disorder and of disease arising out of civilized life. It is produced by affections of the mind, by indigestion, by inattention to the calls of nature, and by mechanical obstruction from organic disease: which last is frequently excited by the retained excretions themselves.

The undue retention of the excretions takes place in the large intestines; for, until the excrementitious matter arrives here, there is no reason to believe that its propulsion is arrested, although it may be less quick at one time than at another.

The undue retention of the excrementitious matter allows of the absorption of its more liquid parts; which is a source of great im-

purity to the blood: and the excretions thus rendered hard and knotty act, more or less, as extraneous substances, and by their irritation induce a determination of blood to the intestine and to the neighbouring viscera; which, ultimately, ends in inflammation and organic change of the bowel itself.

It has, also, a great effect on the whole system; it causes a determination of blood to the head, which oppresses the brain and dejects the mind; it deranges the functions of the stomach, causes flatulence, and produces a general state of discomfiture.

In civilized life, then, the causes which are most generally and continually operating in the production of disorder and of disease are, affections of the mind, improper diet, and retention of the intestinal excretions.

These severally disorder the body and the mind in the ways which have been described; and, was their action continued only for a time, the consequent disorder might soon be relieved and the former health restored. But when man arrives at the age at which the responsibility of the affairs of life devolves upon him, from that moment he becomes the slave of mental solicitude: which, ever disturbing the functions of the brain and nervous system, and, through them, the functions of the other organs of the body, is a continual obstacle to the enjoyment of health. To lighten the pressure of this solicitude, recourse is had to stimulating drink; which, though it may be a momentary solace to the mind, is another source of disorder to the body; and, thus, one evil is incurred for the temporary alleviation of another.

The usages of society and the constant intercourse required by the duties of private and of public life, engage men in one unceasing round of sumptuous entertainment; and, indeed, the private mode of life, reputed temperate, is one of daily excess when compared with the prescribed simplicity of Nature. This excess of diet imposes labours on the stomach which it is unequal to perform, and the reproaches of indigestion follow.

The general disorder which attends this course of life, is of most insidious progress: all the functions of assimilation are deranged, and the blood is consequently impure; although, at the same time, abundant, rich, and stimulating. Hence the actions of the sanguiferous system are excited; and there is a continued excessive supply and determination which lays the foundation for future disease.

From one or more of these causes of disorder and of disease, scarcely any member of civilized life is altogether free. And existing, as they do, year after year, and re-acting upon and thus aggravating each other, the solids and fluids of the body become one unhealthy mass: and, when the meridian of life is past and the restorative powers of Nature are no longer able to resist the general corruption, disease breaks forth.

Disease, which is thus produced, shews itself in various shapes; and accident often determines the locality of its action. Thus, we have cancer, malignant ulcer, fungus hæmatodes, dropsy, and lesion of one or other of all the organs of the body; which, however they differ in their march of destruction, are, in their nature, all closely allied, and, inasmuch as they are incurable, all alike.

Nature, provident and anxious to avoid this sure destruction, often anticipates the danger, and establishes running sores as out-

lets for the accumulating impurities; or, she sets up diseased action, as the gout, in parts not essential to life to preserve those which are; and which action so deranges the system, as to oblige a temporary course of abstinence; and, thus, a respite is afforded, by which the body is able to throw off part of its impurities, and in part to re-instate itself in health.

Disorder and disease being, then, common to all the members of civilized life, and their offspring being, as it were, part of their own bodies, its frame and constitution necessarily partake of the peculiarities of its parents: and, although this offspring may be born free from an absolute state of disease, it is not free from predisposition. And hence, disease is so trasmitted from generation to generation and encouraged by the imprudence of every succeeding race, that it is rare to find a single family which is altogether exempt from hereditary taint either of the body or of the mind.

All the disordered and diseased actions of the body centre in the nervous and sanguiferous systems: and give rise to certain assemblages of phenomena which constitute fever and inflammation: into the consideration of which the limits of this Oration will not permit me to enter.

It has been said, in the former part of this Oration, that the mind like the body is liable to disorder, disease, and lesion: but it is a question, how far this view of the mind should be admitted. Or, whether it would not be more philosophical and more consistent with the immaterial nature of the mind, to consider it,

as in itself, perfect and unchangeable: and that the various perfection and imperfection, in which it is manifested to us, depends on the perfection or imperfection of the organ through which these manifestations are made; namely, the brain. And this view of the mind is supported by the infinite variety of the development of the brain which is found to exist in human beings.

The size and form of the brain differs as much in different individuals as the size and form of the face; and we all know that there is an equal difference in the powers of the intellectual faculties and the strength of the animal propensities.

The very curious facts which have been discovered by the labours of Gall and Spurzheim, not only strengthen but go far to establish such an opinion: and, although, in the present state of our knowledge, we should be reluctant to acquiesce in the views of these philosophers to the full extent to which they have been carried, yet the contemplation of the great scale of the animal creation, obliges us to recognize a decided accordance between the development of the brain and that of the intellectual faculties and animal propensities. This accordance has been fully demonstrated by Camper, in his work on the Facial Angle, and by White, in his work on the Gradation in Man and Animals.

If, then, we consider the mind perfect and unchangeable, we must consider its perfection and imperfection, in health and in disease, as arising from and dependent upon the perfect or imperfect development and the healthy or diseased condition of the brain itself, the organ of the mind. And, therefore, in those states of disease in which the relation of the mind to the external world is destroyed, and in which we can trace no corresponding change in

the organic structure of the brain, we must conclude that the operations of the mind have produced a lesion of the brain, which, in the present imperfect knowledge of its structure, is not cognizable to the senses: as, for example, a straining of the fibres of the brain by which its functions may be for ever impaired. And in many of those states of disorder of the mind also, in which a manifest change of structure is found in some part or in the whole of the brain itself, many of these changes must not be looked upon as the cause of the diseased manifestations of the mind but as the consequence of the disturbed operations of the mind, by which the functions of this part or of the whole of the brain have become disordered, and the brain itself, ultimately, diseased.

The necessarily limited scope of this Oration makes it, I find, fall far short of that which it was proposed to be, an Outline of the Principles of the Practice of Medicine; and even the partial sketch which it has embraced is, I am aware, full of imperfection and unworthy of the philosophical and highly interesting subject: but I may be allowed to repeat, that I entered upon it not from any consciousness of my ability to the undertaking, but with a view to enlist the talents of my more able brethren in a work so essential to the cause and to the advancement of medical science.

A knowledge of the Principles of the Practice of Medicine is only to be acquired by an assiduous observation of the phenomena of disease, and by a deliberate contemplation of these phenomena, as manifested by Nature herself. Learning may supply means ample for disputation, and matter auxiliary to the study of nature, but it forms an inefficient and unworthy substitute.

The learning of the closet student, like the learning of the cloistered schoolman, is not available in the active business of life; "For the wit and mind of man, if it work upon matter, which is the contemplation of the creatures of God, worketh according to the stuff, and is limited thereby: but if it work upon itself, as the spider worketh his web, then it is endless and brings forth indeed cobwebs of learning, admirable for the fineness of thread and work, but of no substance or profit."—BACON.

"Illud etiam adjungo, magis ad virtutem atque laudem, natura sine doctrina, quam doctrina voluisse sine natura."—CICERO.

THE END.

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