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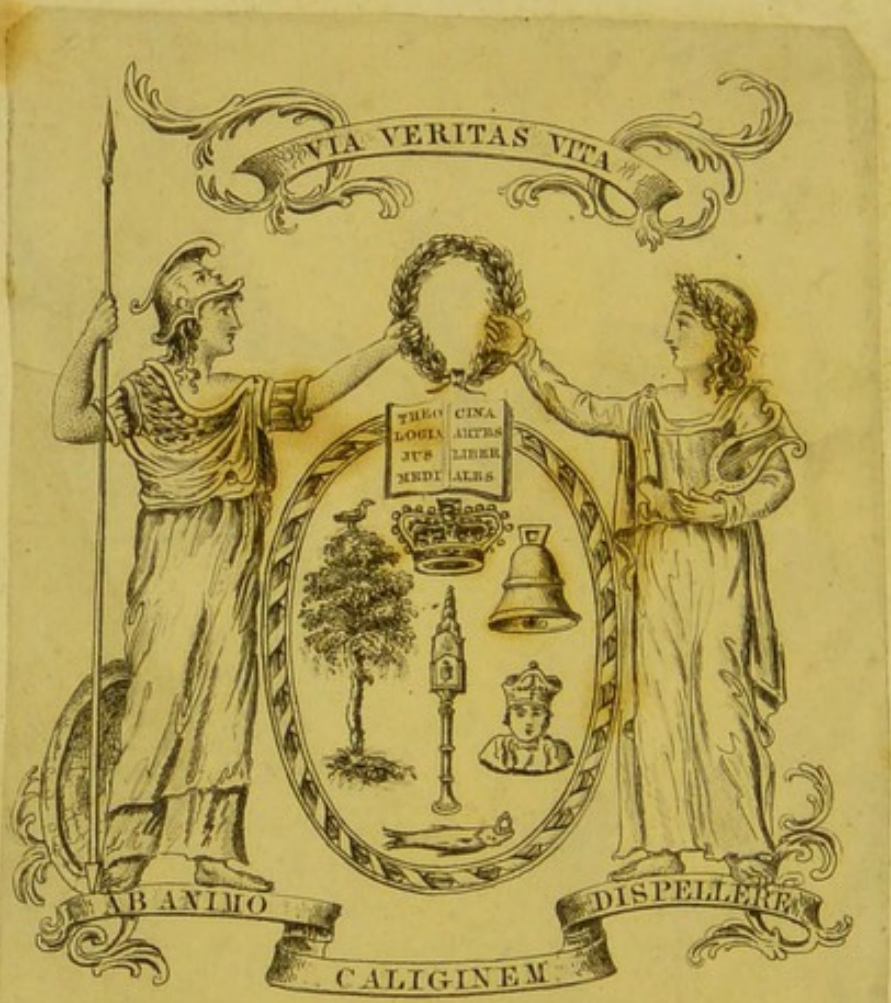

CLINICAL ILLUSTRATIONS

OF

FEVER.

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CLINICAL ILLUSTRATIONS

OF

FEVER

COMPRISING A REPORT OF THE CASES TREATED AT THE LONDON FEVER HOSPITAL

1828—1829

BY

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ETC. ETC.

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PREFACE.

THE investigation of disease at the bed-side of the patient, where ultimately the soundness of all practical deductions must be judged, is so decidedly superior to every other, that I trust no apology is required for the attempt to illustrate, on this principle, a class of diseases so important, and in some respects so obscure, as the various forms of Fever.

The public have an undoubted right to expect that the information acquired in Hospitals should not be confined to those to whom the care of the sick is entrusted; but that, by impartially and faithfully recording the symp-

toms, causes, and treatment of disease, together with morbid appearances observed on the dissection of those who die, these charities should be not only a blessing to the sick, but, by thus diffusing the most valuable kind of knowledge, prove a source of universal good. These considerations have induced me to offer the present volume of Clinical Illustrations of Fever.

The subject being entirely practical, I have confined myself as much as possible to a detail of facts; if at any time I have been led into digression, it has been solely with the object of elucidating some point of practical importance.

A. TWEEDIE.

40, Ely Place,
4th January, 1830.

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CLINICAL ILLUSTRATIONS

OF

FEVER.

CHAPTER I

Preliminary Observations.

Though, in a clinical report, I am not called on to notice any of the ancient or modern doctrines of fever, yet, as I have attempted a classification of the cases, I trust I may be permitted to offer a few observations on the nature of the disease.

Having, since my appointment to the Fever Hospital eight years ago, attentively observed the phenomena of fever, and traced the morbid appearances after death, in connexion with the symptoms during life, I am convinced that the partial views which have been taken by many of this general affection, prove that the disease has, in some instances, been studied more in the closet than in the sick chamber.

In every case of genuine fever, there is not one, but several, organs affected; the affection, in the first instance at least, is functional, however soon this functional disturbance may pass into vascular excitement, and afterwards into inflammation.

Every one who has attentively studied the order of invasion of the symptoms, and more particularly those who have had personal experience of fever, must be satisfied that the brain and nervous system are early and primarily engaged in the febrile action; the disturbance in the brain is, in the beginning, simply functional, though it may, sooner or later, according to particular circumstances, assume an inflammatory character.

The circulation next partakes in the disorder; there is generally, though not invariably, quick pulse and heat of skin, to which, as a consequence of the previous condition of the sensorium, succeeds a vitiated state of the secretions. Hence the furred tongue, thirst, depraved taste, and turbid urine, observed in fever.

It is evident, that in this state of febrile excitement, to which the term simple fever may with strict propriety be applied, there is no preponderance of action in any organ; all parts of the system partake equally in the general disturbance. This may continue for an uncertain period, probably for a few days, when it is either brought to

a termination by proper measures, or subsides spontaneously.

When once the torch is lighted, when the circulation is quickened, and the blood consequently impelled with greater velocity through organs whose functions are already disordered, the transition from excitement to inflammation is often rapid. When there is a predisposition to disease in any part, the febrile action is most likely to prey on the organ so predisposed, and the period of the fever at which the inflammation comes on, as well as its intensity, will depend on a variety of concurrent circumstances in each individual case.

In one instance, we shall find the local affection in the brain; in a second, in the organs of respiration; in a third, in some of the abdominal viscera, most frequently in typhus fever, in the mucous membrane of the intestines; and it not unfrequently happens that more than one of those organs is simultaneously inflamed.

The inflammation which supervenes in the progress of fever, however, is of a less intense kind than in the ordinary phlegmasiæ. I do not pretend to explain satisfactorily to what this modifying circumstance in fever is attributable, but I am sure that the principle is correct; and he who treats complicated fever with the same activity as

he would treat any of the phlegmasiæ, is utterly ignorant of one of the most important principles on which the treatment should be conducted.

Fever is not inflammation,—it is, therefore, not cured by remedies that effectually remove the latter, though its violence may be mitigated, and its duration shortened, by the judicious, modified application of the same measures.

I regard fever, therefore, as primarily a general disease, which, however, in by far the largest proportion of cases becomes, in its progress, complicated with some local inflammation. The nature and intensity of these local affections we shall find to be exceedingly various. The danger of the patient is always in proportion to the severity of the inflammation; to the importance of the organ implicated; and to the nature and early application of efficient measures.

From the frequency of some form of complications in fever, ingenious speculators have attempted to ascribe the whole phenomena to one or other of these local affections, thus reducing fever to a mere symptomatic affection. The nervous, vascular, and gastric systems have all had their partisans; but it augurs ill for the localists, that they have not been able to fix on the same individual organs, as the invariable source of the febrile disturbance. Such speculations, however, have had

a beneficial effect in bringing more fully under review the comparative frequency and importance of the several local affections; this has been followed by improvement in the general principles of treatment, and the more minute application of such measures as are calculated to subdue any local organic diseases which may supervene.

CHAPTER II.

Origin of Fever Hospitals—of the London Fever Hospital—Object of the present Treatise—Table of the Numbers admitted into the Fever Hospital since its Establishment in 1802—*Statistical Account of the Fever in London.*

1. For the benefits which have resulted from the establishment of Fever Hospitals in this country, not only to the sick poor, but to every class of the community, the public are indebted to the exertions of the late venerable Dr. Haygarth, of Bath, who first demonstrated not only the facility with which the prevalence of fever might be suppressed, but pointed out the means by which this important object might be effected. He confirmed, by his own observations, the truth of the remarks in the writings of Dr. Lind, Sir John Pringle, and others, that fever commits the most extensive ravages in close places, while, in the open air, and in well-ventilated rooms, the febrile poison becomes comparatively inert and harmless.

This principle led to the idea of establishing separate wards for the reception of fever patients, which were accordingly, first opened in the year 1784, in the Infirmary at Chester, under Dr. Haygarth's directions.

This measure was followed by a marked diminution of the number of cases of fever, and gave also an opportunity of having the apartments, from which the sick were removed, purified by white washing and fumigation, while the furniture and clothing were, at the same time, thoroughly cleansed.

The success of these measures in abating the prevalence of fever in Chester, induced the Governors of the Liverpool Infirmary to accede to the suggestion of the late Dr. Currie, of opening fever wards under his superintendence.

Hitherto no separate building had been erected for the exclusive reception of fever patients. The first institution of this kind was established in Manchester, in the year 1796, under the name of Fever House, which was afterwards changed for that of House of Recovery. The advantages of such an institution in a large manufacturing town, such as Manchester, which is densely inhabited by artisans, were apparent from the following fact, that the number of fever patients, in the pile of

buildings in the neighbourhood of the House of Recovery, for the two preceding years and eight months, were 1256, something more than an average of 400 a year; while in the same district, from July 1796 (a period commencing two months after the establishment of the House of Recovery), to July 1797, being twelve months, there were only twenty-six.

The utility of such institutions being universally admitted, they have been established in the principal towns of Great Britain and Ireland. From the reports of the various hospitals, much information on the subject of fever has been derived, and thus an important acquisition to the pathology of this disease has been made.

2. The London Fever Hospital was established on a small scale in 1802. The building originally appropriated for this purpose, was capable of accommodating sixteen patients only; but the necessity for such an institution on an enlarged scale becoming more apparent, the present hospital was provided in 1816. It contains between sixty and seventy beds, which, of late years, especially in the summer and autumn, have been almost constantly filled. Indeed, in the autumn months, applications for admission are frequently rejected for want of room.

Notwithstanding the advantages which this hospital affords for the treatment of fever, and the anxiety of the Treasurers and Committee, that every thing should be done for the relief of the patients, the physicians frequently deplore the hopeless circumstances under which the cases are sent in, which is proved by a reference to the numbers who are yearly reported to have died within forty-eight hours after their reception. This arises too often from the late period of the disease when application is made for admission. The propriety of recommending the removal of cases of fever in its early stages, must be admitted by every candid practitioner; for although the treatment adopted, may be in every respect proper, yet, under the circumstances observed in the dwellings of the poor, the best directed measures for their relief are too often frustrated.

I embrace the first public opportunity afforded me, of acknowledging the liberality of the Committee of Management, in readily complying with every suggestion which can tend to promote the recovery and comfort of the patients; and I have no hesitation in asserting, that I do not know any institution which effects more positive good with the same limited means. They have also shown the most laudable desire, that the opportunity of investigating a disease, so confessedly obscure, should

not be restricted to their physicians, but have permitted, under proper regulations, the daily treatment of the patients to be witnessed by pupils, thus combining the important advantages of clinical instruction, with the more exalted benevolence of relieving their fellow creatures from a contagious disease.

3. The more immediate object of this treatise, is to give a brief statistical account of fever as it has appeared in London for the last ten years, and afterwards to illustrate the pathology of the disease, by giving a clinical report of the cases treated at the Fever Hospital for one year.

In order to show the comparative prevalence of fever, I have drawn up the following table, which contains the numbers admitted since the establishment of the Hospital in 1802.

It should however be observed, that from this table, a correct estimate cannot be formed of the prevalence of fever in this metropolis, for the whole period it embraces, since previous to the year 1816, the original House of Recovery contained only sixteen beds.

This circumstance, and the repugnance among the lower orders to accept the benefits of a new institution, will account for the apparently small numbers admitted from 1802 to 1815.

Years.	Admitted.		Total.	Mortality.	
1802	of continued fever		164	Died.....	13
1803	....		176	.....	17
1804	....		80	.....	8
1805	....		66	.....	6
1806	....		93	.....	14
1807	....		63	.....	5
1808	....		69	.....	11
1809	....		29	.....	8
1810	....		52	.....	8
1811	....		43	.....	6
1812	....		61	.....	11
1813	....		85	.....	13
1814	....		59	.....	7
1815	....		80	.....	14
1816	Continued fever Scarlet fever ..	118 6	124	Continued fever ..	10
1817	Continued fever Scarlet fever ..	760 21	781	Continued fever ..	62
1818	Continued fever Scarlet fever....	599 9	608	Continued fever ..	104
1819	Continued fever Scarlet fever .. Improper cases	524 13 5	542	Continued fever ..	78
1820	Continued fever Scarlet fever .. Improper cases	437 24 16	477	Continued fever 44 Improper cases 16	60
1821	Continued fever Scarlet fever .. Improper cases	232 75 16	323	Continued fever ..	46
1822	Continued fever Scarlet fever .. Improper cases	346 80 18	444	Continued fever	56
1823	Continued fever Scarlet fever .. Improper cases	283 56 14	353	Continued fever	46

Years.	Admitted.		Total.	Mortality.		
1824	Continued fever	444	551	Continued fever	69	74
	Scarlet fever ..	87		Scarlet fever ..	5	
	Improper cases	20				
1825	Continued fever	503	588	Continued fever	99	104
	Scarlet fever ..	65		Scarlet fever ..	5	
	Improper cases	20				
1826	Continued fever	582	676	Continued fever	109	112
	Scarlet fever ..	87		Scarlet fever ..	3	
	Improper cases	7				
1827	Continued fever	611	718	Continued fever	85	86
	Scarlet fever ..	90		Scarlet fever ..	1	
	Improper cases	17				
1828	Continued fever	534	597	Continued fever	74	79
	Scarlet fever ..	55		Scarlet fever ..	5	
	Improper cases	8				

4. The epidemic, of which my predecessor, Dr. Bateman,* has given so admirable an account, commenced in London about the end of March 1817, and continued nearly the whole of 1818. The admissions into the Fever Hospital show, that for the succeeding ten years, the disease prevailed most extensively in 1826 and 1827; and not only were the numbers admitted during these two years greater, but the fever was of an unusually severe character.

The admissions of 1826 exceeded those of the former year by upwards of one hundred; and had it been possible to accommodate all who applied

* A succinct Account of the Contagious Fever of this Country, by Thomas Bateman, M.T.L.S., 1818.

in 1826, it is certain that more would have been admitted, than in any one year since the establishment of the Hospital: for, in the report of 1817 (the year in which the largest numbers were received), it is stated, "that on one or two occasions only it has happened, that patients have been temporarily excluded for want of room."

In the months of June, July, August, and September 1826 however, fever was so prevalent in London, that the applications greatly exceeded the numbers admitted. In September alone the applications were in the ratio of three to one of the admissions, and this proportion continued the whole month of October. During this pressure for admission, there were at one time forty applications on the list for the first vacant bed, and no fewer than twenty of these occurred in the course of one day. In the months of November and December, the fever had sensibly declined, yet, from the severity of the cases rendering convalescence tedious, applications were often necessarily refused.

The total number of cases rejected in 1826, for want of accommodation in the Hospital, was upwards of seven hundred.

In the early part of the succeeding year (1827), a severe frost set in, and lasted an unusually long time. The prevalence of fever was consequently at once checked, and the number of monthly ad-

missions decreased from seventy and eighty, to thirty and forty. In the spring months it again became more prevalent, and as the summer advanced, the wards were constantly full. In the months of August, September, and October of that year, upwards of two hundred cases were admitted, and many names were always on the list, which could not possibly be received.

In 1827, the total number of cases treated in the Fever Hospital, was above seven hundred; and though it exceeded that of 1826, there was less delay in the admission of patients, in consequence of the more mild character and less protracted duration of the fever, and the more steady and rapid convalescence of the patients.

In 1828, fever had sensibly declined, five hundred and ninety-seven cases only having been sent into the Hospital. No individual was refused admission, nor was any application delayed, which formed a striking contrast with what occurred in the two preceding years.

For the four first months of 1828, the ordinary monthly average of cases was admitted. In the summer, the weather was mild but not very warm, and accompanied with a good deal of rain, so that the prevalence of fever was considerably lessened, compared with the admissions in the same months in the preceding year, while the fever was still of

a mild character. It increased as the autumn approached, and in the months of August, September, and October, one hundred and ninety-five cases were admitted; but the character of the fever still continued mild, and of shorter duration than is generally observed at this season. On this account, there was not any unusual pressure for admission, every applicant being at once received into the Hospital.

The class of patients generally admitted, is composed of domestic servants of subscribers, of the inmates of parish work-houses, artisans, and the various orders of the labouring poor and their families.

These are admitted in every period of the disease, though very often in the more advanced, and consequently, hopeless stages.

It is important also to remark, that many of the patients had been, for a long period previous to the attack of fever, the subjects of incurable organic diseases, upon which fever had supervened. This description of patients are often received from the work-houses; and when death takes place, it is not in consequence of the fever, but generally of the organic disease with which it has been complicated.

Such class of cases tend very much to swell the

mortality of our own, as well as other fever hospitals, and is an evil not easily prevented.

There is another description of cases which are not unfrequently received, viz., cases of neglected inflammation of some important organ, of which the fever is merely symptomatic. These cases are by no means easily discriminated from idiopathic fever, during the progress of which some organ has become inflamed; the obscurity arises from the impossibility in most instances of obtaining a correct history of the early symptoms; the difficulty in all cases of complicated fever, being to trace out and determine, whether the fever is primary, or symptomatic of some local affection.

The medical certificate, on the production of which a patient is received into the Fever Hospital, simply requires the attestation of a medical practitioner that the disease of the applicant is fever, and therefore, there is no protection against the admission of improper cases; and when those patients are once admitted, it is often impracticable to transfer them either to their former dwellings, or to a general hospital.

CHAPTER III.

Period selected for the present Report—Table of the Monthly Admissions, and Mortality of the Cases—Table of the Comparative Ages, and Mortality of Fever—Classification of Fever—Of the Cases of Simple Fever—Of Complicated Fever—Affections of the Brain in Fever—Affections of the Organs of Respiration in Fever—Abdominal Inflammation in Fever—Of the State of the Spleen in Fever.

The period selected for the present report, embraces one year, ending 1st September 1829.

The following table shows the monthly admissions, and the mortality of the cases admitted in each month.

Admitted of continued Fever, during the year ending 1st September, 1829		521
Of the above there were cured	445	
Sent to the Small-Pox Hospital	3	
Died	73	521

TABLE of the Monthly Admissions and Mortality.

September.....	32 males 28 females	60, of whom died	4 males 8 females	12
October	12 males 32 females	44, of whom died	2 males 4 females	6
November	8 males 16 females	24, of whom died	3 males 2 females	5
December.....	24 males 28 females	52, of whom died	2 males	2
January	30 males 37 females	67, of whom died	5 males 3 females	8
February	23 males 26 females	49, of whom died	3 males 3 females	6
March	19 males 22 females	41, of whom died	1 male 4 females	5
April.....	9 males 19 females	28, of whom died	2 females	2
May	24 males 32 females	56, of whom died	5 males 4 females	9
June	18 males 23 females	41, of whom died	3 males 5 females	8
July.....	16 males 20 females	36, of whom died	2 males 5 females	7
August	12 males 11 females	23, of whom died	2 males 1 female	3

Admitted	227 males 294 females	Mortality	32 males 41 females
Total....	521	Total....	73

With the view of ascertaining the comparative frequency and mortality of fever at different ages, I have drawn up the table, which follows :

TABLE of the Comparative Ages, and Mortality of continued Fever.

Of 521 Cases there were—

Years.				
Under 10	males..10 females 10	20, of whom died	1 male 2 females	3
From 10 to 15..	males..12 females 34	46, of whom died	6 females	6
15 to 20..	males..64 females 53	117, of whom died	7 males 2 females	9
20 to 25..	males..39 females 58	97, of whom died	5 males.. 10 females	15
25 to 30..	males..27 females 44	71, of whom died	4 males 2 females	6
30 to 35..	males..20 females 21	41, of whom died	3 males 4 females	7
35 to 40..	males..21 females 28	49, of whom died	1 male 6 females	7
40 to 45..	males.. 9 females 12	21, of whom died	2 females	2
45 to 50..	males.. 7 females 14	21, of whom died	2 males	2
50 to 55..	males.. 9 females 6	15, of whom died	5 males 1 female	6
55 to 60..	males.. 5 females 7	12, of whom died	2 males 1 female	3
60 to 65..	males.. 3 females 2	5, of whom died	1 male 2 females	3
65 to 70..	males.. 1 females 2	3, of whom died	1 male 1 female	2
73..	female 1....	1, of whom died		1
74..	female 1....	1, who died.....		1
80..	female 1....	1		
				73

Total Admitted.		Total Mortality.	
227 males	521	32 males	73
294 females		41 females	

Though the period of infancy and childhood is peculiarly predisposed from a variety of causes to febrile disorders, idiopathic fever is less frequently observed in children than in adults. The rules of the Hospital prohibit the admission of children under six years of age, and of the whole number admitted (521), only 20 were from the ages of six to ten.

It appears from the above table, that the period of life most liable to fever is, between 15 and 20, and the next, between 20 and 25; so that of 521 cases, 214 occurred between the ages of 15 and 25; as we advance in the scale of human existence, it would seem that the susceptibility to fever diminishes.

To account for the marked susceptibility to fever between the ages of 15 and 25, it should be recollected, that many young persons come for the first time to the metropolis, about this age; most of them having exchanged the pure atmosphere and the regular habits of the country, for the more confined and pernicious mode of life of this overgrown metropolis.

Many opportunities occurred to show that privation of various kinds, scanty and improper food, insufficient clothing, want of fuel in the inclement season of the year, render the system peculiarly liable to be influenced by the exciting causes of fever, to which the poorer classes of society are

especially exposed in the crowded districts of London and its vicinity.

Classification of Fever. The different forms of fever which are met with in this and other temperate countries, as well as those of hot climates, may be included under the three divisions of continued, periodical, and eruptive; each of which may be again subdivided according to the following classification:

Continued,
- *a* Simple.
- *b* Complicated.
- *c* Typhus.

Periodical,
- *a* Intermittents, } and their
- *b* Remittents, } varieties.

Exanthemela or Eruptive, comprehending
- *a* Variola.
- *b* Rubeola.
- *c* Scarlatina.

The varieties of continued fever forming principally the class of cases treated at the Fever Hospital, I shall confine my observations to them; the periodical fevers being of a less acute character, and comparatively rare occurrence, are seldom received.

Of the eruptive fevers, cases of scarlatina alone are, by the regulations of the Hospital, admissible.

1. *Of the Cases of Simple Fever.* I am aware that many distinguished pathologists not only doubt, but positively deny the existence of what has been termed simple fever, that is, fever without evident symptoms of local inflammation. On this point, I may state that I have daily opportunities of observing cases, which correspond with the description of the simple fever of many writers, in which there is no preponderance of action in any organ that can be detected by symptoms; but when we recollect how often organic disease steals on, undetected by diagnostic signs, how much we are at times deceived by latent local diseases, the condition of the organs in what is termed simple fever, requires minute diagnostic investigation.

Of the whole number of cases which occurred at the Hospital within the period of this report, more than 100 came under the description of simple fever, that is, the disturbance in the system was general; there was no evidence by symptoms of affection, either in the head, chest, or belly.

The character of this class of cases was, increased heat, accelerated pulse, thirst, and general functional disorder.

The danger in such instances was comparatively trifling, and the mortality small; if danger arose, it was always to be traced to some local mischief, which had supervened in the course of the disease.

In some instances, though the first onset was mild, a more formidable train of symptoms gradually came on, and finally destroyed the patient. Hence the necessity of watching carefully, from day to day, every case of fever, however slight, that the first threatening of any local inflammation may be promptly arrested.

2. *Of the Cases of Complicated Fever.* In complicated fever, the local disturbance may be in one or other of the organs of the head, chest, or belly, and in general constitutes the chief source of danger.

The same observation applies to cases of typhus fever, by which term I wish to denote those more severe forms, in which, from the commencement, there is more considerable disturbance in the brain and nervous system, great prostration of the muscular power, with affection of the mucous membranes, and not unfrequently of the cutaneous and glandular systems. We find that this form of fever is often attended also with inflammatory complications, requiring local and sometimes even general abstraction of blood.

Affections of the Brain in Fever. The primary action of the various exciting causes of fever, and of those external agents, whether they be vegetable or animal poisons, is evidently on the brain

and nervous system. Hence, the tottering and half-drunken gait, and the more or less complete muscular prostration, observed in the first stage of the disease. At this period there is no inflammatory action, though in the progress of the fever, inflammation of the brain and its membranes, is the most common as well as dangerous complication.

Of the 521 cases, 114 had well-marked symptoms of severe cerebral affection, indicated by one or more of the following symptoms, pain, giddiness, sense of weight or fullness, watchfulness; and, in the advanced stages, delirium, coma, spasms, or more rarely convulsions. This latter symptom was observed in four patients only, and of these, two had been previously subject to occasional attacks of epilepsy. One or more of these symptoms showed that the brain was seriously involved in the febrile action. The danger of the case depended on the extent of the inflammation, the treatment which had been adopted, and its effects on the disease; for when the proper stage for active treatment had been allowed to pass over, the hopeless signs of neglected cerebral inflammation left little to be done, but to pronounce the fatal issue of the disease.

In a large proportion of the cases, the condition of the brain constituted only part of the danger, other organs being at the same time inflamed; for example, in 26 the head and chest, in 30 the

head and belly, and in 14 the head, chest, and abdomen, were simultaneously affected.

It thus appears, that in 184 the brain was seriously involved in the febrile action; and on referring to the table I have drawn up of the morbid appearances observed in the fatal cases, it will be seen, that in 37 out of 54 (the whole number examined) the brain showed evident marks of the existence of previous inflammation.

In 14 of the fatal cases, there were no traces of any disease in the brain or its membranes. In these, destructive inflammation of some other organ, which had supervened in the course of the fever, was the immediate cause of death.

From this account, we have evidence that the brain and nervous system is very generally, if not universally, involved in the febrile action. This condition of the brain, however, is not to be regarded as the primary cause, but one of the secondary effects of fever. The principle I have so often adverted to, it is important to bear in mind—that the brain being so frequently implicated in fever, the most vigilant measures should be at once adopted, on the very first warning of the approach of inflammation, to prevent those changes of structure which so speedily take place, and render the situation of the patient almost hopeless.

Fever shows a tendency to assume a particular

form, not only in certain epidemics, but at particular seasons; hence it was observed, that the cases admitted in May, June, and July, showed a tendency to the cephalic form; of 133 admitted in this quarter, 55 had inflammation of the brain, of whom 48 required copious depletion to subdue the symptoms.

The brain affection may be so severe as to be the sole cause of death in fever. It is, however, rare to find this organ alone so severely affected; for in only four cases did it seem to be the immediate cause of the fatal issue. In these I do not, of course, include that of Angel Solomon, who was admitted in the second stage of hydrocephalus, and died seven days after his admission.

It was only, however, when the cases were admitted in the early stages, that free depletion was resorted to. When the symptoms had existed so long as to render it doubtful, that those vigorous measures, which are of so much service in the commencement, could be adopted with safety and advantage, small local bleedings, blisters, and cold lotions, were resorted to.

Such cases often required much consideration in the treatment, on the one hand, to subdue the low degree of inflammation in the brain, and on the other, to husband the powers of the system for a probably protracted disease.

There is another point connected with the state of the brain in fever, to which I wish to call more particularly the attention of those whose opportunities of treating the disease are limited; viz., that when some other organ becomes inflamed in the course of the febrile action, the symptoms are more or less obscured by the cerebral affection.

It is in this way that symptoms in the chest, for example, may be entirely overlooked, and in the absence of cough, and of any disorder in the respiration, there is nothing to lead even to the suspicion that there is mischief going on. The condition of the brain is the cause of this obscurity, and it is in such cases of latent pulmonary disease, that the stethoscope is of unquestionable diagnostic value. I shall allude to this subject more particularly when I come to mention the state of the lungs in fever.

From the frequent occurrence of symptomatic inflammation of the brain in the more acute, as well as chronic forms, I have been often surprised that palsy so rarely follows.

I have only seen it in one instance among the cases which form the subject of this report. This occurred in a man who suddenly lost the use of the right arm, after the more urgent symptoms in the brain had disappeared; he gradually recovered,

and completely regained the use of the arm before he left the Hospital.

Retention of urine may be ranked among the paralytic affections, depending on the condition of the brain in fever. It is a matter of common observation, that in some diseases of the head the bowels are with difficulty stimulated by ordinary aperients, and therefore, the more active kinds are required.

From an inactive state of the muscles concerned in the expulsion of the urine, accumulation in the bladder often takes place; so that in all cases of severe sensorial disturbance, the region of the bladder should be examined at each visit, as I have often seen great additional irritation arise from this cause. I have known a practitioner thrown off his guard completely, by the patient passing small quantities of urine unconsciously, which not unfrequently happens when the bladder is over distended. Appropriate measures should be adopted before such an accumulation takes place, as it not only proves a source of distress, but the sudden removal of so large a quantity by the catheter, in the advanced stages of fever, is sometimes followed by an alarming collapse, from which it is not easy to rouse the patient.

When tympanitic distention of the belly occurs, it is very difficult, if not impossible, to detect this state of the bladder. The quantity of urine voided should therefore, in all such cases, be daily ascertained, and whenever there is any doubt, the catheter should be passed.

I have had occasion to observe in some instances, that there seemed to be diminished secretion of urine, so that, on the introduction of the catheter, a very small quanity only escaped.

The suspension of the urinary secretion was met with only, when there was much affection of the brain, and was therefore to be regarded as the effect of the condition of this organ.

I have already stated, that general convulsions were only observed in two of these cases. Partial convulsions, in the form of starting of the tendons, irregular involuntary movements of the extremities, or general muscular tremors, were, however, frequently observed. These partial convulsions probably depend on an extension of the disease in the brain to the spinal marrow.

Affections of the organs of respiration in fever. Inflammatory affections of the lungs constitute a very common, as well as severe form of complicated fever. This appears from the number of cases in which the pulmonary symptoms were ob-

served, and from which the principal source of danger arose.

In 103 cases, the lungs were more or less severely affected, of whom about one-third died, which shows the extreme severity of this form of complication.

In the four months of October, November, December, and January, acute affections of the lungs were very prevalent. Of 187 patients admitted in these months, 61 had some form of chest affection, of whom 53 were bled generally; the average quantity of blood taken from each being about 14 ounces.

In the spring months the symptoms in the chest were less frequent; but it was observed, that in May, which was unusually cold, pulmonary affections again prevailed; of 56 cases admitted in the course of this month, 14 had severe symptoms of inflammation in the chest.

Only two cases of croupy inflammation were noticed, but these were comparatively slight, and yielded to local bleeding, blistering, and mercury.

When patients are recovering from fever, especially if the temperature of the ward or apartment be not properly regulated, inflammation of the throat is by no means uncommon. In many the affection assumes the form of cynanche tonsillaris, in others the inflammation commences

in the mucous membrane of the larynx, and spreads along the trachea.

The inflammation, however, is confined to this membrane, and does not extend to the subjacent cellular tissue, so as to produce œdematous swelling of the glottis, which constitutes the danger of true cynanche laryngea.

Since my appointment to the Fever Hospital, I have seen four individuals die from cynanche laryngea, two of these were convalescents from scarlet fever; and from what I observed in these cases, I am satisfied, that when the larynx is attacked with acute inflammation, which generally terminates rapidly in œdematous swelling of the glottis, and the subsequent death of the patient by strangulation, the only chance of saving the unfortunate sufferer is, by having immediate recourse to the operation of laryngotomy.

This is more especially imperative when the disease occurs in connexion with fever, because, although the cases I have seen in the Hospital came on during the period of convalescence, yet the powers of the patient were not sufficiently recruited to admit of the active treatment, a disease so truly alarming instantly demands.

This suggestion ought certainly to have been adopted in the following case, which came under my notice some time ago.

A girl, 13 years of age, after a smart attack of scarlet fever, in which the inflammation in the throat had been very severe, was suddenly seized with symptoms of laryngitis; the breathing was very laborious, and attended with stridulous noise, and frequent attempts to cough, which effort produced the most intense distress. Her deglutition was exceedingly painful, so that she dreaded every attempt to swallow even a little food. The uvula and tonsils were red, but not much swollen; the pulse 140; the skin cool. Leeches had been applied to the throat before I visited her, but with very little relief.

I proposed that an opening should be made into the windpipe, but this was objected to. Blood was therefore directed to be taken from the arm; a blister to be applied to the throat; and doses of calomel to be taken at intervals. She died however eight hours after I saw her, having derived only temporary benefit from those measures.

On examination of the body, the tonsils were swollen, and from the enlarged mucous ducts a small quantity of bloody puriform fluid escaped; the mucous membrane covering the epiglottis, and the upper portion of the membrane of the larynx, were inflamed and œdematous; but the inflammation not having extended below the rima glottidis, this portion of the tube retained its pale

healthy appearance; the parotid, sublingual, and submaxillary glands were enlarged.

This case affords an instructive lesson; the blood-letting and other measures evidently hastened the death of the child; and from the healthy condition of the organs below the seat of disease, it is probable that the operation would have saved her life.

Though the preceding, as well as the following case, occurred previous to the period included in this report, yet they bear so directly on the present point, that I trust I shall be pardoned for the digression. In the one I am about to detail, death was occasioned by an abscess in the soft palate, the pressure of which on the epiglottis, produced all the symptoms of laryngitis, and finally destroyed the patient.

A man, somewhat advanced in life, after passing through a mild form of fever, was so far recovered as to be able to walk in the ward, when he was suddenly seized with severe sore-throat, most acute pain referred to the larynx, and great difficulty of breathing; active depletion and other measures were resorted to, but without effect: the symptoms increased; the breathing became exceedingly distressing and laborious, accompanied with great anxiety of countenance; and he died a few hours after.

On dissection, the cause of the mischief was detected; a large abscess was discovered in the soft palate, which had presssed on the epiglottis, and thus produced suffocation.

Had the existence of such a collection of matter been ascertained before death, an incision made into the abscess, or even the operation of laryngotomy, might possibly have averted the fatal issue.

Erysipelatous inflammation of the throat was sometimes observed when erysipelas was prevalent in the wards. The fauces appeared of a dusky-red colour, but there was no swelling. If leeches or a blister were applied in the neighbourhood, erysipelas generally appeared around the punctures in the skin made by the leeches, or at the margin of the blistered surface.

In some cases it spread along the eustachian tube to the internal ear, and produced considerable pain and general irritation. It then appeared externally, involving successively the external ear, face, and scalp.

The brain usually sympathized, and the slow insidious cerebral inflammation ended in effusion and death.

Inflammation of the bronchial membrane was frequently observed. At some periods of the year, and in particular epidemics, this symptom forms its principal characteristic of fever, and gave origin

to the term catarrhal fever, employed by the older authors. I frequently traced it in persons who were subject to winter cough, an affection very common among the lower orders, who are constantly exposed to the vicissitudes of this climate; when such individuals are attacked with fever, in the winter and spring months, they almost invariably have this complication, which adds much to the distress, and not a little to the danger, of the patient.

In the more severe forms of symptomatic bronchitis, and especially when the patient has suffered repeatedly from it before the attack of fever, the enlarged air-cells become clogged with viscid mucus, and serous effusion into the parenchyma of the lungs rapidly follows. A very dangerous consequence of this is, the imperfect arterialization of the blood, which is known by the blue colour of the lips, the dusky leaden hue of the face and upper extremities, while the functions of the brain become more or less embarrassed according to the severity of the bronchial affection. The patient becomes first delirious, then insensible; the pulse soft and feeble; the tongue covered with deep-brown or almost black crust, while the temperature of the skin, more especially of those parts at a distance from the centre of the circulation, falls below the natural standard.

These symptoms indicate great danger, for although some individuals recover from this state, in whom it is probable that the blood has been deprived of a small portion of its oxygen only, yet the majority die from the destructive effect of unoxygenated blood on the brain and nervous system.

In many instances, the inflammation had extended from the bronchial membrane to the substance of the lungs, so that when the disease proved fatal, besides the traces of inflammation in this membrane, portions of the structure of the lung were found hepatized. These changes were in most instances recent, though sometimes from the resistance made to the knife, when the diseased parts of the lung were cut into, they were evidently of long standing; in some of these cases, small tubercles were found in different states of softening.

How far these were produced by the previous inflammatory action, I am unable to determine, though, from the researches of some recent writers, and more lately from those of Professor Alison, of Edinburgh, there is a strong presumption, that those bodies are in many instances the product of inflammation.

The occurrence of expectoration was almost uniformly observed to be followed by marked relief, particularly in recent cases: in the more chronic form, however, the secretion from the in-

flamed membrane was often so abundant, that it added much to the general distress, by increasing the dyspnœa, and ultimately exhausting the patient. When from the failure of the general powers, the cough and expectoration became suppressed, the issue of the case was exceedingly doubtful; as it showed that, while the affection in the chest was going on, the patient's strength was declining; and that death by asphyxia would in all probability be the result.

In a few instances the fits of coughing were accompanied by vomiting, by which effort a quantity of bilious fluid was brought up. In these cases I was inclined to suspect that the inflammation was not confined to the bronchial membrane, but had extended to the mucous membrane of the intestines.

Several opportunities occurred of observing an insidious form of bronchitis, to which the French writers have given the term *latent;* there is scarcely any cough or expectoration, nor is the alteration in the breathing so great as to attract attention, till the bronchial inflammation has made considerable progress.

The application of the stethoscope does not, even to a practised ear, assist our diagnosis, because, as Laennec has justly observed, the state of parts in this disease is extremely unfavourable for

perceiving every kind of sound originating in the lungs. In the first place, the greater number of the air-cells are habitually distended by the air, so that the pulmonary substance is rendered less dense, and thereby less fitted for the transmission of sound; and in the second place, many of the bronchial tubes, even those of considerable size, are habitually obstructed either by the swelling of the inner membrane, or by the glutinous matter secreted by it.

The latent bronchitis very often tends to increase the danger of fever, not more from the difficulty of treating it, than from its being apt to be entirely overlooked, more especially when there is any other local affection of more prominent urgency to arrest the attention of the practitioner.

Inflammation of the substance of the lungs, or true pneumonia, occurred in a considerable proportion of cases complicated with chest symptoms. Pneumonia was particularly prevalent in the fevers of December and January, so that the lancet was much employed in those months, and the benefit resulting from early and copious depletion was most decided and satisfactory, even when the symptoms had existed for some time before the admission of the patients into the Hospital. I do not recollect any instance in which depletion was at all admissible that was not

decidedly improved by a moderate bleeding from the arm; though many cases were admitted in such an advanced stage of pulmonic inflammation, that it was doubtful how far even local blood-letting was advisable. Such cases were sometimes treated by calomel and opium, with or without the addition of digitalis and counter irritation.

The remedy, however, in which I placed most confidence, in inflammation of the lungs, but more particularly in bronchitis, either as an auxiliary to bleeding, or when this operation was not justifiable, from the length of time the local symptoms had existed, was the tartar emetic, in doses of one or two grains every second, third, or fourth hour, according to circumstances.

In general it produced severe vomiting at first, the violence of which was very often lessened by the addition of a few drops of laudanum to each draught; but when the *tolerance* was established, it was most satisfactory to witness the gradual decline of the more urgent symptoms in the chest, and the conviction in the mind of the patient, though much suffering had been endured from the vomiting, when the medicine was first administered, that their amendment was to be ascribed to the remedy.

Several individuals certainly owed their recovery

to this mode of treatment; indeed their situation was often nearly hopeless, the protracted stage of the fever, and the state of the pulse, forbidding any form of depletion, while the symptoms in the chest too plainly discovered the extent of the pulmonary disease.

The tartar emetic was not always trusted to alone, but was in many instances employed in conjunction with general and local blood-letting, and certainly in this way the powers of the individual were saved, for had blood been abstracted to the extent requisite to subdue the symptoms in the chest, the recovery of the patient would have been doubtful, and the convalescence rendered tedious and imperfect.

In a few instances, the remedy produced neither vomiting nor purging, in others, it induced abundant perspiration, but its power in controlling the disease, was apparently altogether independent of any sensible evacuation.

I have often observed the tedious convalescence and emaciation of those patients, to whom calomel and opium were prescribed for internal inflammation; but no such unpleasant consequence resulted from the judicious administration of the tartar emetic; I would therefore, from my experience of its efficacy, add my own testimony in its favour, to that of our Continental brethren, who

have had more extensive opportunities of proving its excellence.

From the symptoms during life, and the appearances found on dissection, it was evident that in many instances inflammation of the pleura had taken place. In some of the cases there were adhesions, more or less firm and extensive, between the pleura pulmonalis and costalis; in others there was a layer of coagulable lymph covering the inflamed pleura; and in several there was effusion of serum, or of a sero-purulent fluid, in one or both cavities of the chest.

Though in a few of the cases, the inflammatory action did not extend beyond the pleura, still, in the greater proportion, it had evidently spread to the substance of the lung, producing œdema or hepatization.

The pain, cough, and hurried breathing in general, readily pointed out the disease when it occurred.

In a number of instances, however, the symptoms in the chest had been entirely overlooked before the patient was admitted. While in others, the disease assumed a slow insidious form, without any very well-marked symptoms, except a little acceleration in the breathing, and a slight increase of the fever: when there had been much disturbance in the nervous system, it was very often so obscure as to be entirely overlooked.

It is well known, that in latent pleurisy, unconnected with idiopathic fever, there are often few or none of the ordinary symptoms to point out its existence; and when it occurs in fever, with much cerebral disorder, it is evident how much this condition of the brain must tend to conceal, still more, the symptoms in the chest.

The application of the stethoscope is, in such cases, the only sure method of detecting the state of the lungs; and under such circumstances its utility is unquestionable. It is to be regretted, that a knowledge of its distinctive sounds is not more easily attained.

Of abdominal affections in Fever. Of the 523 cases forming the subject of this report, 71 had prominent symptoms of abdominal inflammation. And on reviewing the morbid appearances observed on dissection of the cases, it will be found, that in five there was peritonitis, with effusion of lymph: in one, slight inflammation of the peritoneum; in one, invagination of the jejunum.

In 13 cases there was no disease in any part of the intestinal canal, or of any of the abdominal viscera.

I shall treat of the various changes that were observed in the mucous membrane when I come to treat of typhus fever. I shall only state, in this

place, that I conceive the morbid condition of the intestinal mucous membrane, to be one of the specific effects of typhus.

Of the changes in the spleen in fever. In a large proportion of the bodies examined after death, a remarkable softness of the spleen was observed, accompanied with considerable enlargement of this organ. Its texture was often so loose that it broke down from the slightest pressure.

As we are still in complete ignorance of the use of the spleen, no conclusions can be formed from any alteration in its structure. It seems, however, to undergo very marked changes in fever. We find, in intermittents, that it becomes very much enlarged, while, at the same time, its structure is exceedingly firm; and from its extreme softness in diseases of putrescency, as in some forms of scurvy, it would appear, that a morbid condition of the fluids has a material effect on the structure of this organ.

In one case, (that of Hardy,) a small circumscribed abscess was found in that portion of the spleen which is connected with the diaphragm. In this instance, symptoms of pleurisy of the left side arose in the progress of the fever, which did not yield to the ordinary treatment. She eventually died; and on dissection, the cause of the

pleuritic symptoms was very apparent. On raising the left lung, a small tumour, of the size of an egg, was observed in the centre of the diaphragm, which gave at first the idea of diaphragmatic hernia.

On more close inspection, it was discovered to be an abscess in the spleen, which had formed an attachment to the diaphragm, through which it had so far penetrated, as to be covered only by the thin transparent pleura. It appeared just about to burst into the left side of the chest. The general structure and size of the organ were otherwise healthy.

CHAPTER IV.

Of Typhus Fever—Simple Typhus—Various Complications—in the Brain—in the Lungs—in the Intestines—State of the Mucous Membrane of the Intestines—Intestinal Ulceration—Intestinal Perforation—Of Affections of the Cutaneous System—Petechiæ—Erysipelas—Gangrene—Affections of the Glandular System.

THERE is no form of fever about which there are so many vague notions as that to which the term *Typhus* has been given. So great has been the confusion among medical writers and practitioners, as to the precise nature of this kind of fever, that the severity of the symptoms, and the consequent danger of the patient, seem to be the only idea they have of the disease.

This term is of Greek origin, and implies stupor; and certainly this striking character of the fever shows its intimate connexion with disorder in the brain and nervous system. I should be inclined to include under this term only, those fevers in which the brain and nervous system are early and severely affected, accompanied with symptoms denoting a morbid condition of the mucous membrane and skin, and a tendency to what is known by the term putrescency. This

tendency is indicated by the condition of the blood, especially in the advanced stages; the crassamentum of which, instead of forming a firm coagulum, is loose, small in proportion to the quantity of serum, and so soft, that it breaks readily on attempting to raise it, resembling, in consistence, half-boiled currant jelly. In some instances, I have observed, that when blood has been abstracted late in the disease, it scarcely coagulated at all.*

Not only is the condition of the blood changed in typhus fever, but as a consequence of this morbid state of the blood, the secretions are more or less vitiated. Hence the clammy, disagreeable condition of the mouth—the depraved taste—the dry sordes on the teeth and lips—the brown or black incrustation of the tongue—the peculiar smell from the body, which is easily recognised by those who have much experience in fever, while the excretions are much more fetid than in any other disease of a febrile nature.

These morbid changes are evidently produced by the action of the febrific poison on the brain and nervous system, and not by its primary operation on the fluids; in this view alone are the

* See the Lecture of Dr. Clanny of Sunderland, containing an account of some interesting experiments on the blood in fever.

principles of the humoral pathology at all applicable to the phenomena of fever in general.

Simple Typhus. The symptoms in the commencement of typhus fever being all referable to functional, rather than to vascular, disturbance in the brain, I think the term simple typhus, which corresponds precisely with the adynamic fever described by Pinel, and other French writers, is peculiarly applicable. It is not very common in Britain, though certain epidemics have assumed more or less this character; or a few cases are occasionally met with, when the prevailing fever has a very different type.

Dr. Burne, who has published a very good description of this form of fever, has certainly given an impression, that the simple typhus, or adynamic fever, is the general character of the common continued, or epidemic fever of London. In this I most decidedly differ with him, and appeal to an examination of the cases admitted into the London Fever Hospital, and to the experience of the physicians of general hospitals, as well as to those who have an opportunity of treating fever, on a large scale, in private practice, for the validity of the grounds of my dissent. This point it is my duty to endeavour to impress, however much I feel reluctant to differ from my friend, for whose talents and acquirements I entertain great

respect; because, on a proper view of the nature of fever, the kind and extent of the measures to be adopted in the treatment, must necessarily depend. If the term adynamic fever, which, to borrow Dr. Burne's own definition, "means a state of debility, from a depression or prostration of the powers of the nervous and muscular systems, not ordinary debility, as from loss of blood, or from wasting of the physical powers," be intended to include the putrid, malignant fever of Sydenham; the slow, nervous fever of Huxham; the nervous fever of common language; the synochus, typhus mitior, and gravior of Cullen; the jail and hospital fever; the *fievres essentielles* of the French; the epidemic of the Irish writers; the contagious of Bateman; the typhus of Dr. Armstrong; and the proper idiopathic, a common fever of Dr. Clutterbuck, the description of fever, which he has given, should have included all those various and opposite forms, which are in many respects, very different in their nature, and require each an appropriate, and in some measure, opposite mode of treatment. But when a description of the symptoms of all these varieties is blended, with the view of showing that the adynamic form is the prevailing character of the fever of this metropolis, I feel it my duty to state, that, however well Dr. Burne has described one variety, his

description by no means applies to the ordinary fever of London.

I have treated several cases of adynamic, or simple typhus fever, both in public and private practice, within the last 12 months; but certainly, the proportion of these cases has been small compared with the more acute forms of fever which have come under my care.

I was called into consultation, by my able friend Dr. Marshall Hall, a short time ago, in a case precisely of this description; indeed it was an excellent illustration of its general character—great prostration of the muscular and nervous powers, delirium, hemorrhage from the bowels, a few scattered petechiæ, soft fluent pulse, while the state of the skin, as to heat and moisture, deviated little from the natural state.

I attended another case, with Mr. Duffin, about the same period. In this patient, the description of fever was purely adynamic; the most remarkable features were, the greatest muscular prostration, with nocturnal delirium, so that she lay sunk in the bed, passing her stools involuntarily without the slightest pain, or any symptoms of local disturbance. It was necessary, in the very first stage of the disease, to administer wine and stimuli very freely; under which treatment she slowly, though eventually, recovered; but her con-

valescence was retarded by that peculiar swelling of the lower extremity which I have described.* This lady certainly was saved by liberal doses of wine; and so great was the "tendency to death," that for 48 hours it was necessary to sit by her bedside with the finger on the pulse, and to administer stimuli whenever it appeared to become soft and compressible; in fact, the heart's action seemed to be completely under the control of diffusible stimuli.

If such treatment were applied to cases of epidemic fever in general, I need not anticipate the result; or, had antiphlogistic measures been adopted in the case of this patient, I can safely say, that the abstraction of a few ounces of blood, or even a brisk purgative, would have been instantly fatal. The necessity, therefore, for discrimination in the treatment of fever, is evident; for although much information and assistance may be obtained from the prevailing character of the disease, yet every individual case must be treated *per se;* with due reference to its particular and individual circumstances.

Of the various complications in Typhus Fever. Typhus fever may, as I have observed, be simple,

* See my paper in the Edin. Med. and Surg. Journal, October, 1828.

that is, uncomplicated with inflammation in any of the organs; like the more common varieties of epidemic fever, however, it very often, in its progress, becomes complicated with some local congestion or inflammation, either in the brain, chest, or belly.

(a) *In the brain.* When inflammation occurs in the brain in such cases, it is of a low character, and is indicated by the flushing, suffusion of the eyes, and more constant delirium, while the pulse is soft, small, and rapid. General bloodletting, under such circumstances, is seldom admissible, unless in very robust subjects, and in the very early stages; the local abstraction of blood is the more safe and efficacious mode of treatment. I have seen, that when even this has been carried too far, the powers of the patient have never rallied, and he has sunk rapidly under the depletion.

(b) *In the Lungs.* Though I regard affection of the bronchial and intestinal mucous membranes as essential constituents of typhus fever, the lungs in certain seasons become more severely affected; the inflammation being confined, in a majority of instances, to the bronchial membrane. Typhus fever, with intense bronchitis, is, perhaps, the most hopeless of all the forms: the symptoms in the chest are often very obscure, and therefore very

generally overlooked at first; and when the bronchial membrane becomes swollen, and the air-cells filled with secretion, the blood, as I formerly pointed out, becomes deprived of its due proportion of oxygen, and thus all the effects of unoxygenated blood on the brain take place: such cases generally prove fatal.

(c) *In the Intestines.* There is much greater tendency to affection of the intestinal mucous membrane in the progress of typhus than in any other form of fever; indeed, this is the most usual abdominal complication.

Since the period that Rœderer and Wagler first called the attention of the profession to the state of the mucous membrane of the intestines, in the epidemic fever, which many years ago prevailed at Goettingen, many eminent pathologists have investigated, with great zeal, the various morbid changes which this membrane undergoes in the progress of fever.

Of late years some writers, but more particularly Broussais, from the frequent lesion observed in this membrane after death in cases of fever, have been led to the conclusion, that inflammation of some portion of the mucous membrane of the alimentary canal, is the proximate cause of fever.

According to this doctrine, the various forms of

idiopathic or essential fevers, are all to be regarded as originating in gastro-enteritis, with particular complications; in other words, the whole phenomena of fever are the result of an organic inflammation.

Should any particular symptoms, as, for instance, inflammation in any part, arise during the progress of the fever, the disease is still to be regarded as gastro-enteritis, with inflammation of the organ specially affected.

Now, did we find this membrane so universally inflamed as has been affirmed, this theory would have probably a better chance of being generally adopted than any which the localists have yet proposed; but when we recollect how many cases of pure fever have been examined by good anatomists, in this and other countries, and even in the very place from which the notion first emanated, and no unhealthy appearance discovered, I confess I am inclined to regard this condition of the mucous membrane, as one of the many complications of this inscrutable disease. At the same time, every one must admit, that great praise is due to Broussais, for the zeal and ability with which he has prosecuted this department of pathology, and for having been the first to call the attention of the profession, more particularly to this important and very general complication.

Though affections of the bowels are very often observed in the fevers of Britain, especially in certain epidemics, and at particular seasons, yet, from the statements of Broussais, Andral, Louis, and many other continental writers, gastric irritation is more uniformly met with in the fevers of France than in this country; from which it may be inferred, that there is in this respect some peculiarity, which may possibly depend on the specific action of the febrile poison on the mucous membrane of the bowels. This also will account for the almost total proscription of purgatives by continental practitioners, while they form such an essential part of the treatment of the fevers of Britain.

It is only by accurate observation of the morbid appearances in the mucous membrane, of a large number of cases, that a proper conclusion can be formed as to the frequency of gastric inflammation in fever.

It will be seen, on referring to the tabular view of the morbid appearances, that of 54 cases, in eight there was inflammation of the mucous membrane alone: in sixteen, inflammation with ulceration, in two of which, the inflammation had perforated the coats of the bowels.

From this statement it appears, that in 24 cases, there were lesions of the mucous membrane, of greater or less extent, which may be regarded as

peculiar to fever; the instances of peritoneal inflammation, formerly noticed, are to be considered as only accidental complications.

It would be very important, in a practical point of view, if we had any diagnostic signs to indicate the existence of gastro-enteritis in fever.

Unfortunately, however, there are no symptoms on which we can depend.

If we expect to find in the colour and condition of the tongue, an indication of the state of the mucous membrane, we shall be often deceived; and I have occasionally been surprised at the precision with which some physicians have spoken of its existence from the red colour of the tongue alone. That this condition of the tongue has been often remarked in cases in which this membrane has been found inflamed after death, accords with my own experience, as well as that of the best-informed writers; but, on the other hand, I must state, that I have met with this vermilion colour when no such morbid appearance was discovered after death. In fact, I am disposed to believe that, in many instances, the injection of the tongue is entirely a local affection, and not at all a certain index of the existence of gastro-enteritis.

The general absence of pain is another circumstance deserving notice. This may be accounted

for by the pressure not being applied directly over the inflamed portion of the bowel, or from the impossibility of bringing the opposing surfaces of the inflamed intestine in direct contact. Sometimes, however, the inflammation extends through the whole coats of the bowel, and then the ordinary symptoms of peritonitis supervene. This was observed in a few of the cases.

Neither do the evacuations from the bowels, either as to number or appearance, indicate this affection, as they do not assume the same character in all cases. In some, there is diarrhœa, the stools consisting of fluid fecal matter; sometimes there is blood mixed with the stools; in other instances, the motions are thin and watery, and contain little feculent matter; and occasionally, I have observed constipation alternating with diarrhœa.

In many instances, however, there is no diarrhœa, the bowels requiring the occasional exhibition of aperients for their regulation; and this may continue through the whole course of the disease, even to the fatal termination.

When the mucous membrane of the colon is inflamed, the symptoms have more the character of dysentery; the discharges being frequent, small, and bloody, and their evacuation from the bowels being accompanied with much pain.

Though the signs of gastro-enteritis are very obscure during life, it leaves, after death, evident traces of its existence. The appearances vary according to the duration and intensity of the previous disease. In some instances there was simple redness, or injection, in patches of various extent, the colour varying from a bright scarlet to a deep cherry red, or almost brown colour: this latter shade denoted a more intense degree of inflammatory action, with commencing disorganization of the membrane; and when there had been bloody diarrhœa, the membrane appeared, in several places, swollen, or ecchymosed, and its vessels loaded with blood.

Sometimes a remarkable softness of the mucous membrane was observed, so that it could be easily scraped off. This state of softening, I apprehend, frequently passes into ulceration.

Ulceration. A frequent consequence of inflammation of mucous membranes is ulceration: this process takes place more frequently in the bowels than in any of the other structures of the body which are covered with this membrane.

It occurred in a large proportion of the cases examined at the Fever Hospital last year; for of the 54 dissections, in 16, ulceration of some portion of the intestines was observed; so that of the

whole number of cases, (24,) in which inflammation of the mucous membrane had taken place, it had passed into ulceration in two-thirds.

From the following table, their comparative frequency, in different portions of the bowels, will be seen :—

Ulceration of the ileum occurred in	- -	8
— ileum and cœcum	- -	2
— cœcum	- - - - -	1
— ileum, cœcum, and colon		1
— ileum and colon	- -	4
		16

In many of these cases, the mesenteric glands were found more or less enlarged; some of them were of the size of a walnut, and, on being cut into contained a small quantity of pus.

It thus appears, that in fever, ulceration is most common at the termination of the ileum near the ileo-cœcal valve.

The ulcerations varied both in size and depth, in some instances, they were not larger than a small seed, the largest was about the size of the present half-crown piece.

Their depth depended on the number of the coats which had been successively destroyed by the process of ulceration. Sometimes the mucous membrane only was removed, in others the mus-

cular coat was destroyed; so that the thin transparent peritoneum alone formed the foundation of the excavation, and it was by no means uncommon to find in the same portion of intestine, these different stages of ulceration; the intervening portions of mucous membrane being more or less injected. Sometimes bright red granulations covered the floors of the ulcer, and in one case especially, there were two or three small ulcers which evidently showed a tendency to cicatrize. That this process does take place in the intestines I have no doubt, though I have never seen an instance of unequivocal cicatrix.

It is well known, that in the colon of persons who have had dysentery, but who have died of other diseases, ulcerations which have evidently cicatrized have been met with; the inference therefore is, that notwithstanding the reparative powers in fever are feeble, these ulcerations do occasionally heal, though the mucous membrane is never regenerated.

In the Journal Generale de Medicine, M. Troillet has given some interesting examples, in which he found this process evidently going on up to the period of death.

Dr. Latham gives similar instances in his account of the Penitentiary disease; and it is stated that the illustrious Beclard had a chronic ulcer of

the stomach, which, after death, was found nearly, if not wholly, cicatrized.

Ulcerations of the mucous membrane are produced in two different modes:

1st. They succeed, in some instances, to softening and destruction of the membrane from previous inflammation.

2d. In other cases, the mucous glands about the extremity of the ileum become enlarged, the ducts or follicles then become irritated, and inflamed, and finally destroyed by ulceration. From these glands being very numerous, and situated close to each other, about the termination of the ileum, these folliculous ulcers frequently become confluent; and hence the extent of the patches observed in some of the cases.

Andral mentions, that intestinal ulcers often succeed to pustules of the mucous membrane; and intimates, that there is a great analogy between the mode in which those ulcerations are produced, and the development of the ulcers which succeed to aphthæ of the mouth.

With all the respect and deference to which such an enlightened pathologist is entitled, I must venture to differ with him on this point. I have carefully looked for such pustulation of the mucous membrane in the dissection of patients at the Fever Hospital, but have never seen a single

example. It is well known, too, that in small-pox, no pustules are traced beyond the pharynx and larynx even in the most severe cases, when the mouth and tongue are thickly covered with the eruption; and I apprehend that this exemption of the mucous intestinal membrane from pustulation, shows that this process can only take place in structures which are covered with cuticle.

It is probable, however, that this distinguished anatomist may have mistaken the softening and destruction of inflamed mucous glands for pustulation of the membrane.

Intestinal Perforation. In two instances, perforation of the intestine from progressive erosion of its coats occurred, which afford an illustration of the rapid and fatal peritonitis which succeeds. In the case of Kennie, symptoms of obscure abdominal inflammation had existed, from the commencement of the attack of fever; and it is probable, that the mucous membrane had become inflamed early in the disease, and had afterwards ulcerated. The early treatment of this patient had been entirely neglected. He was suddenly attacked with severe pain in the belly, a few hours before he was sent into the hospital; perforation of the bowel was prognosticated, from the seat and intensity of the pain, and the peculiar characteristic alteration of

the countenance. He died a few hours afterwards, and on dissection, a perforation, large enough to admit a full-sized catheter, was found in the centre of an ulcer of the ileum, through which the contents of the bowels had escaped. This was no doubt the cause of the fatal attack of abdominal inflammation.

In the case of Piggot, complete erosion of the coats of the ileum had taken place; but the adhesion of the edges of the ulcer to an adjoining portion of bowel, prevented the escape of the intestinal secretions.

The adhesion of the perforated portion of bowel to some adjoining viscus, according to my experience, frequently takes place. I have seen seven cases of perforation within the last five years, and in four, adhesion of the edges of the ulcer in this manner had taken place. In one case a bit of omentum plugged up the aperture.

The symptoms produced by the escape of the intestinal contents into the peritoneal cavity, are sudden and intense pain, with distention in the belly; small, wiry, rapid pulse; great restlessness and anxiety; the countenance becomes altered; the features very soon assume the Hippocratic sharpness, and death speedily ensues, generally within forty-eight hours.

When the edges of the perforation form an

adhesion to the adjoining portion of intestine, the symptoms are more slow in their progress; so that the case assumes more the appearance of ordinary peritonitis, and the fatal issue is more or less protracted, according to the gradual or more rapid progress of the peritoneal inflammation.

Although the peritonitis, which succeeds to intestinal perforation, is generally attended with most acute pain, yet, when the sensibility is diminished from sensorial affection during fever, the patient is not always alive to the pain even of inflammation of a serous membrane. Andral states, that he has seen intestinal perforation occur under such circumstances, without the patient acknowledging pain, even when the abdomen is firmly pressed, and adds, in these cases the sudden alteration of the features, the unusual tension of the belly, the change in the pulse, which becomes all at once small and compressed, may give rise to the suspicion of peritoneal inflammation. He quotes a case from Stobl, of a young man who, after being subject to vomiting and diarrhœa for six months, was seized with violent pain in the belly after exposure to cold. For twelve days after, he was able to come some distance to the hospital, for his medicines. On the 12th day, he made his appearance, as usual, on foot. The belly was tense

and painful to the touch; his appearance was dejected and emaciated; the pulse frequent and small. He died during the night, a short time after giving the preceding account. The peritoneum contained a bloody, mucous fluid, mixed with liquid fecal matter. In the ileum, not far from the cœcum, a hole large enough to admit a filbert was discovered, and the general tract of the bowels showed evident marks of inflammation.

For the history of the following case, I am indebted to my friend Mr. John Wood, pupil of Mr. Lawrence.

A man, thirty-six years of age, well formed, but slender, was sent into Bridewell prison, in the early part of the present year. For a week previous to his admission, he had lain exposed in the streets, when the weather was wet and cold, nearly deprived of the necessary means of existence. When first visited, he seemed more in want of food and comforts, than any kind of medicine, and nothing was ordered for him. After a few days' nursing, he felt much better, and was able to perform some of the minor work of the prison, such as sweeping the rooms and washing the stairs, but was not considered strong enough to work upon the tread-mill. About a fortnight after his coming into the prison, he said he was still better, and only complained that his bowels were confined.

He was accordingly directed to take one of the common opening pills, which are kept in the prison. Nothing was observed in the state of this man any time during the day previous to his death, to account for his sudden dissolution in the course of the night. When the keeper opened the door of his cell in the morning, he was discovered dead, and the body cold. None of the prisoners, in the adjoining cells, had heard him make any noise during the night, though he must have died in great agony.

On opening the abdomen, which was tense and swollen, a considerable quantity of turbid yellow fluid was found among the intestines, which were more or less inflamed in various parts. On tracing the bowels, an ulcerated aperture was discovered in the ileum, near the cœcum, through which the intestinal contents had escaped. Several ulcers were found in the neighbourhood of this aperture. The mesenteric glands were enlarged, and the general appearance of the coats of the intestines, resembled very much that observed in persons who die of idiopathic fever.

The following case is given by Dr. Abercrombie, in his valuable work on the diseases of the stomach and other abdominal viscera:—

A stout man, aged thirty-six, who had previously enjoyed good health, was suddenly seized, while en-

gaged at his usual employment, with violent pain in the abdomen, and vomiting; the pulse was not affected; bloodletting and other remedies had been employed, by Mr. William Wood. The symptoms continued, the pain extending over the whole abdomen; the pulse became quick and feeble, with rapid sinking of the vital powers, and he died in eighteen hours.

On dissection, nothing could be discovered in the cavity of the abdomen, except a considerable quantity of thin feculent fluid; and it was only after a long examination, that a perforation was discovered in the lower part of the duodenum, capable of transmitting a large quill. It had its origin in an ulcer of the mucous membrane, which was considerably larger than the perforation.

In the following case, also given by Dr. Abercrombie, the ulceration proved fatal by hemorrhage, but there were no previous symptoms in the bowels. The patient had only suffered from symptoms of the mildest form of continued fever for a few days. His bowels were easily moved, and the stools were quite natural. A few days after, he got up to go to stool, and passed a large quantity of fluid blood, which flowed from his bowels in such quantities, as to penetrate the mattress and carpet. In spite of various remedies, he died four hours afterwards.

On dissection, a small portion of the lower end of the ileum appeared of a very dark colour, and much thickened; in this portion, there was a deep ulcer of the size of a shilling, and a similar one in the caput coli.

For an account of some interesting cases of perforation of the intestines in acute diseases, I beg to refer to a paper of M. Louis, in the Archives Générales de Médecine for January, 1823, an abstract of which is given in the Edinburgh Medical and Surgical Journal, vol. xxi, page 239.

I have already stated, that there are no very decided symptoms characteristic of inflammation of the mucous membrane, and still less, as has been shown, of ulceration in the intestines.

The injected appearance of the tongue was observed in nine of the cases; of sixteen cases of inflammation with ulceration, ten had diarrhœa, and in three of these, the stools contained blood. In none of these cases, therefore, were there such conclusive symptoms, as would have led me to predict decidedly, that the intestines were ulcerated. I have generally prognosticated ulceration of the bowels, when the fever has run on for a lengthened period, and has produced great emaciation, accompanied with peculiar harsh, dry, or shrivelled appearance of the skin, black sordes on the teeth, with sympathetic disturbance in the brain; with

such symptoms, ulceration of the mucous membrane may be confidently anticipated. In those cases in which the colon was found inflamed and ulcerated, diarrhœa, and tenesmus, and sometimes bloody stools, had always formed prominent symptoms in the previous history.

In some severe cases, the three cavities were involved in the inflammatory action, forming a hopeless combination of symptoms, which, it is almost unnecessary to observe, almost invariably proved fatal.

Of the 523 cases, treated at the Fever Hospital, last year, 42 were typhoid; of these, 18 were illustrations of the simple typhus; in 12 there was inflammation in the brain; five had pulmonic symptoms (these occurred in the winter and spring months); in four, the head and chest, and in three, the head, chest, and belly, were simultaneously affected.

In severe cases of typhus fever, besides the sensorial affection and disease of the mucous membranes, both the cutaneous and glandular systems become affected. Hence petechiæ, gangrene, glandular swellings, or erysipelatous inflammation of the skin, were observed in this class of fevers.

Petechiæ. Petechiæ occurred in 15 cases, but though these spots are often regarded as unfa-

vourable, only four of those in whom they were noticed, died. It is also somewhat singular that these four cases occurred in the same month (February), and formed four of the six fatal cases which occurred in that month.

In the others, the general symptoms were certainly of a more severe character than usual, but in none was the petechial eruption accompanied by hemorrhage from the mucous membranes, though the intimate connexion between petechiæ and the hemorrhagic tendency, has been often remarked, not only in petechial fever, but in the idiopathic purpura hemorrhagica.

I should not regard the occurrence of petechiæ, as alone indicative of a dangerous form of fever. The danger and probable issue of the case will depend on other circumstances, taken in conjunction with this eruption. I have seen the florid petechiæ speedily disappear, after the patient had been removed to a pure atmosphere, and the administration of a few doses of aperients.

The dark purple petechiæ indicate a more dangerous disease; they are the consequence of the transudation of dissolved blood through the weakened capillary vessels, and generally occur in combination with other symptoms usually referred to putrescency.

Erysipelas. I had several opportunities of re-

marking, in cases of typhus fever, in which there was considerable disturbance in the brain and nervous system, a great susceptibility of the skin to erysipelatous inflammation. In some of the wards of the Fever Hospital, erysipelas is almost constantly prevalent. I have seen it spreading from bed to bed, at certain seasons; but those who had fever of the typhoid character, were more generally the subjects of it than the others. A very trifling exciting cause was often sufficient to induce it; if leeches or a blister had been applied, erysipelas very frequently appeared on those portions of the skin to which these applications had been made. When it affected the integuments of the face and head, the brain readily sympathized; and in the reduced state of the powers of the patient, it was impossible to pursue any modification of antiphlogistic measures, nor was the administration of quinine, which has been reported to be of so much practical value in such cases, at all beneficial. Some of the patients eventually struggled through, which was to be attributed to the *vis medicatrix naturæ*, rather than to the remedies employed. In others, rapid effusion of the brain took place, and seemed to be the more immediate cause of death.

5. *Gangrene.* The skin is very apt, in the advanced stages of typhus fever, to lose its vitality;

more especially in those situations of the body, at a distance from the centre of circulation, which are subjected to pressure.

Gangrene was therefore most generally observed at the sacrum and hips; and I remarked, that the subsequent sloughing contributed much to the irritation, and often to the increase, of the febrile symptoms. In one case, a large deep slough on the back, seemed to be the immediate cause of the patient's death.

Sloughing phagadena is occasionally observed in fever; and, from the rapidity with which it extends, both in extent and in depth, it is very generally fatal. It occurred in two instances last year, one in a male, the other in a female. The former had gonorrhœa, with phymosis, which he concealed for some time, till the offensive smell of the discharge led me to examine the genitals. I found the prepuce enormously swollen, and on the integuments covering the glans penis, a small slough was discovered. A poultice was applied, and next day the whole prepuce sloughed off, and exposed a sore of frightful aspect and extent. My friend, Mr. Lawrence, kindly consented to take him into St. Bartholomew's Hospital, and under his judicious care he soon got well.

In the case of the female, there was no reason to suspect that the sloughing phagedena was the

consequence of the venereal virus. The fetor, as in the former instance, led me to suspect that a sore of a bad character existed; and, on examination, a large, foul, deep slough was discovered between the nates.

The concentrated nitric acid was freely applied to the surface of the slough, and a wash, containing the chloruret of lime, ordered to be frequently used. By these external applications, the aspect of the sore was immediately improved; this patient was also removed to St. Bartholomew's Hospital, under the care of Mr. Lawrence, and she was eventually discharged cured.

In former years, I have seen several such instances, but they all proved fatal, though the nitric acid was freely applied; not, perhaps, in consequence of the sore alone, but from the increased disturbance which this form of ulcer produced.

Affections of the Glandular System. Glandular swellings were not often observed. The cervical glands were enlarged towards the termination of the fever in three cases, but they did not appear to be critical. In two of the instances, matter formed in the cellular tissue, in which the gland is embedded, and was discharged by puncture. Enlargement of the parotids was observed in three cases only.

CHAPTER V.

OF THE CAUSES OF FEVER.

Connexion of Fever with Scarcity and Privation—Influence of the Atmosphere on the Prevalence of Fever—Local Causes of Fever—Impure Air—Of Malaria—Of Contagion.

Though it was not easy always to trace the causes of fever in the patients admitted into the Fever Hospital; many of the cases evidently arose from some common cause, such as cold, intemperance, fatigue, long-continued watching, &c.; but from the large numbers received from certain districts of the metropolis, which are seldom exempt from the visitation of fever for any length of time, it is to be presumed that some local cause existed in such situations.

These local causes operate most effectually in the crowded and filthy abodes of the poor; and a predispositon to fever is undoubtedly established from the excesses and irregularities to which the lower classes of large towns are habitually addicted.

It is, however, an admitted fact, that fever is

much less prevalent and less malignant in this metropolis than formerly.

In the 17th century, dysentery, and fevers of the intermittent and remittent type, were very common and extremely fatal in the autumn months. In later times, these forms of disease have been rarely observed, which is certainly to be ascribed to the greater attention that is now paid to cleansing the streets, courts, and alleys, to the formation of larger drains and sewers, and to the more abundant supply of water which is every where furnished to the inhabitants of London. I wish I could add, as an additional reason, the improved condition of the working classes as to their morals and habits.

Connexion of Fever with Scarcity and Privation. The investigation of the origin and various modes of propagation of fever, is an exceedingly important department of medical police. The difficulty and obscurity of the subject may, in some measure, account for the conflicting opinions entertained by medical practitioners on these points. It is an undeniable fact, founded on the experience of many epidemics, that there are certain circumstances, which render the system peculiarly predisposed to the action of febrific causes; and the connexion of scarcity and priva-

tion with the occurrence of fever, among the lower classes of the community, has been so often verified by the experience of epidemics, as now to be received as a general axiom. This was well illustrated during the last visitation of epidemic fever in 1816, when it raged in almost every district in Great Britain and Ireland. Since that period, fever has not prevailed generally in Great Britain, though in some particular seasons and places it may have been more common than in others.

A due proportion of animal food is necessary to keep the system in due vigour; and it is a singular circumstance, that though almost every description of mechanics has been, at some period or other, admitted last year into the Fever Hospital, I do not recollect a single instance of a butcher being sent into the establishment. The exemption of this class of people from the plague, when it last visited London, is mentioned by those writers who described this pestilence; and this immunity goes far to prove, that famine is a powerful predisposing cause.

In whatever way this predisposition is engendered, whether by the scanty supply or unwholesome nature of the food, or by any of those circumstances which are well known to render the body peculiarly susceptible to the operation of the

common causes of fever, its importance, in our endeavours to ascertain the origin of the disease, is unquestionable.

Influence of the atmosphere on the prevalence of Fever. Though fever can scarcely be said to have prevailed extensively, or, to adopt the common phrase, to have been epidemic, in London, since 1820, yet the diminution of autumnal fevers, for the last two seasons, proves decidedly, how much some unknown condition of the atmosphere influences its prevalence.

This condition is intimately connected with the combined effects of heat and moisture; hence, cold and wet summers are always remarked to be comparatively healthy, while disorders of the bowels in such seasons are seldom observed.

The number of patients admitted into the Fever Hospital, in the autumn months of the last three years, establish this principle. In August, September, and October, 1827, there were admitted 205; in the same months of 1828, the numbers were 170; in the autumn of 1829, only 94 were received.

The cause of this progressive diminution is undoubtedly to be traced to the cold, wet summers of the last two seasons. The same scarcity of fever cases, has been generally observed by those

who are conversant with the diseases of the poor; and the immunity of the middling and higher orders of people has been equally remarkable.

To this epidemic constitution, this hitherto unexplained condition of the atmosphere, the sudden appearance and disappearance of fevers, and even of contagious eruptive diseases, is generally, and with great probability, ascribed.

We know that particular diseases prevail at certain seasons; thus, cases of small-pox are observed to be more numerous at some periods than at others; measles are generally epidemic in the spring; scarlet fever is most common in the autumn; and though common continued, and typhus fever prevail at all seasons, we know that towards the end of summer and in the autumn, the cases are so numerous, that its propagation is evidently influenced by atmospheric causes.

We find these diseases, (small-pox, measles, and scarlet fever,) about the contagious character of which the most rigid non-contagionists are agreed, commence in particular districts, and spread far and near among the inhabitants; and although the communication of the disease from person to person may, in a few instances, be traced, it cannot be doubted, from the extent of the district over which it prevails, besides the impossibility of tracing actual contact, or even proximity with infected

persons, that diseases strictly and unquestionably contagious, do originate, and spread, in consequence of a peculiar condition of the atmosphere.

Impure Air. A local impure atmosphere is certainly a most common cause of fever in large cities, and more especially in London, in many districts of which, the poorer classes are densely congregated in small, ill-ventilated chambers. When fever once appears in such situations, the rapidity with which it spreads is appalling; it spares neither the young nor the old, male nor female; all who are exposed to this source, being alike obnoxious to its influence. It is under such circumstances that it commits such extensive ravages among the poor, while in the dwellings of the higher classes, the propagation of fever is scarcely ever observed.

The fact, that the effluvia or exhalations, from the human body, not only in disease, but in a state of health, may by concentration, become so virulent as to produce fever, should be strongly impressed not only on the minds of medical practitioners, but on all those who are more immediately interested in improving the condition of the poor.

Sir John Pringle states, that he has observed the hospitals of an army, not only when crowded

with sick, but at any time when the air is confined, and especially in hot weather, produce fever of a peculiar kind, which is often mortal; and he remarked, that the same thing arose in full and crowded barracks, and in transport ships, when filled beyond a due number, and detained long by contrary winds, or when the men had been long kept at sea under close hatches, in stormy weather. Similar illustrations are to be found in the writings of army and navy physicians.

The late Mr. John Pearson, who took great interest in establishing and promoting the interests of the Fever Hospital, told me, that when he was surgeon of the Lock Hospital, he uniformly observed, when more than a certain number of patients were placed in any of the wards, fever became prevalent in the establishment; and that from repeated observation of this fact, he was induced to restrict the number of beds in each ward, and never afterwards witnessed the recurrence of fever in the house.

Malaria. Another source of fever is a peculiar, invisible, and hitherto unexplained exhalation from the ground, supposed to be the consequence of either animal or vegetable putrefaction. To this terrestrial poison the term *malaria* (bad air) has been given; and when there is any peculiar suscep-

tibility, or predisposition to fever, it is a powerful agent in its production. It has been frequently observed by army physicians, that when troops have been encamped on a particular spot, fever has become prevalent; but that it almost immediately disappeared, on removing the encampment a very short distance from the original spot.

If future observations confirm as a fact, what has sometimes been only conjectured, that periodic fevers arise from vegetable malaria, and the continued forms, from the malaria from animal putrefaction, a very important point, in the etiology of fever, will be gained.

This doctrine is well worth minute experimental inquiry, and certainly gains apparent confirmation, from the prevalence of periodic fevers in some situations, where vegetable malaria abound; while the continued form is frequently observed in places where the sources of animal putrefaction are known to exist.

It is in some respects to be regretted, that this invisible febrific agent (malaria) has been too indiscriminately brought forward to explain the origin of fever in this country.

It has been a most fortunate loop-hole for some who affect to disbelieve the doctrine of contagion, as one of the many sources of fever. I have been told, that the existence of malaria can be pointed

out in particular streets, and in particular houses, which from their situation, ventilation, and construction as to drainage, render such a supposed cause of fever extremely improbable. I have known individuals, on whom such an assumed cause of the disease has had such an impression, that they have absolutely thrown up their houses, and retired from London

Our knowledge of the production and locality of malaria, is too limited to warrant any opinion being expressed, in decided terms, on its existence in a large district, much less to circumvallate or confine it to a particular spot or dwelling. If the term were restricted to express the vitiated, impure, or contaminative atmosphere of close, crowded places, it would apply to a very common source of fever; but when it is employed to denote a local exhalation or effluvium, either within or exterior to our dwelling, I confess my scepticism as to its being so frequent a cause of fever as many have been inclined to believe.

Contagion. Though fever originates from a variety of causes, the facts which are almost daily presented to our notice of the propagation of the disease, by the intercourse of healthy persons with those affected with it, lead to the irresistible conclusion, that fever is contagious.

The general belief which till lately prevailed among medical men, and the community at large, that fever originated almost exclusively in contagion, has, in some measure, retarded our knowledge of its other causes, and furnished those who are disposed to question the doctrine of contagion, with powerful arguments. Contagion, however, is only one of its many causes, and may be a powerful source or not, according to various circumstances.

Even the dispute about the terms contagion and infection, which have been, and are now, employed as synonymous terms, has tended to render the subject more complex and obscure.

I apprehend, that although many attach a distinct meaning to each of those terms, there can be no objection to both being retained, if by either be understood, the operation of the poison, or the communication of the disease.

I have no hesitation, after an impartial inquiry into the subject, and ample means of investigation, to affirm my decided conviction, that fever will spread by contagion; but that the probability of its extension depends very much on cleanliness, the proper ventilation of the sick chamber, and the purity of the surrounding atmosphere. If a sporadic or solitary case of fever occur in a large, well-aired house, and the patient be placed in a cool

chamber, I would apprehend little danger, under such circumstances, of the disease being communicated to the other inmates. Should, however, a solitary case occur, in a crowded, filthy room, in which a number of persons are huddled together, and where no attention is or can be paid to ventilation and cleanliness, I would almost predict, that a large proportion, if not every one, exposed to this contaminated air, would become affected with the disease. In short, I believe that the contagious principle may be so diluted by pure air, as to be entirely innocuous, just as a mineral acid may, by free dilution, be deprived of its caustic properties.

It is of little use to urge, as arguments in favour of contagion, the number of persons who are simultaneously, or successively attacked with fever; of its invading every room, and every inmate of a large dwelling. These occurrences may be explained on the supposition, that all those who have been attacked, were exposed to the same exciting cause.

I am disposed to hazard the proof of the question, on the number of persons connected with fever hospitals, who have, in the performance of their duties, been attacked with the disease.

The London Fever Hospital is placed in an open space, situate in the vicinity of the metropolis,

close to the Small-Pox Hospital. Both these establishments stand in the centre of a large field, where the production of malaria is extremely improbable. I can state, from the most authentic sources, that every physician, with one exception, (the late Dr. Bateman) who has been connected with the Fever Hospital, has been attacked with fever during his attendance, and that three out of eight physicians have died.

The resident medical officers, matrons, porters, laundresses, and domestic servants not connected with the wards, and every female who has ever performed the duties of a nurse, have one and all invariably been the subjects of fever; and to show that the disease may be engendered by fomites in clothing, the laundresses, whose duty it is to wash the patients' clothes, are so invariably and frequently attacked with fever, that few women will undertake this loathsome, and frequently disgusting, duty.

Last summer, a most convincing illustration of contagion occurred. The present resident medical officer was attacked with fever, and it was necessary, in consequence, to appoint some one to perform his duties during his illness.

The first person who officiated for him, resided constantly in the house during the day, but took the precaution of sleeping at home. He was, of

course, very much exposed in the wards, in the performance of his duties. These, however, were soon interrupted by an attack of fever, which confined him for a considerable time.

The duties were then undertaken by a medical pupil, who had completed his education, and entered the hospital in the most robust health. He had been taught, and did implicitly believe in, the non-contagious nature of fever, and ridiculed the idea of any personal danger from residing in the hospital. He performed the duty of house-surgeon for ten days only, when symptoms of a severe fever appeared. Unwilling to believe that he had caught the disease, he ascribed his illness to the effects of common cold, till the febrile prostration, and severe determination to the head, obliged him to resign his duties. He was, within 24 hours, seized with most severe symptoms of cerebral fever, which required the abstraction of nearly 100 ounces of blood, before they were subdued. He passed through a most dangerous attack of fever, and remained in the hospital five weeks, before he could with safety be removed; though I fear this almost fatal personal illustration has not convinced him of the contagious nature of fever.

The Fever Hospital is asserted (by a few who deny the doctrine of contagion, but who cannot

get over these facts, by any thing like plausible reasoning) to be surrounded by malaria, to which is ascribed the prevalence of the disease among the medical attendants and domestics; but here again they are met by an unanswerable argument. The Small-Pox Hospital adjoins the Fever Hospital, in fact, is situated within a few yards of it. If malaria prevailed around the Fever Hospital, it is to be presumed this invisible agent would also produce fever in the medical officers and domestics of the adjoining hospital, both buildings being built on the same lawn. But, on inquiry, I am informed by Dr. Gregory, physician to the Small-Pox Hospital, that no case of genuine fever has occurred among the medical officers or domestics of that institution for the last eight years, the period of his appointment. From repeated inquiries I can state, cases of fever among the nurses of other large general hospitals in London are scarcely ever observed; and I can assert, that the nurses of the Fever Hospital are not exposed to more severe duty than those filling similar situations in other hospitals. The frequent occurrence of fever among the residents of the Fever Hospital, cannot, therefore, be ascribed to over-exertion in the discharge of their duties, but to exposure to the effluvia from patients labouring under fever. One of the nurses, while examining

the evacuations of a patient in the Fever Hospital, immediately sickened, and passed through a most severe form of fever. Such an occurrence does not happen when the discharges of patients labouring under other diseases are examined; and shows that there is something peculiar in the secretions of fever patients, which is capable of producing this disease. Dr. Bateman stated, that one of the nurses in the Fever Hospital was attacked, from imprudently sleeping in a bed just quitted by a convalescent, without changing the bed linen.

I well remember, while I was physician's assistant at the Edinburgh Infirmary, that many students, in their attendance on the medical practice, were attacked with fever; while those who attended the surgical wards invariably escaped.

Owing to the prevalence of fever at Edinburgh, in 1817, it was necessary to apply to Government to permit Queensbury House to be employed as a Fever Hospital. In the immediate neighbourhood of this extensive building, fever was decidedly less prevalent than in any other quarter of the town. All those, however, who resided in the hospital, including the resident house-surgeon, clerks, apothecary, and nurses, were successively attacked. The testimony of my friend, Professor Alison, in his very able clinical report on fever, is exceed-

ingly important on this subject. I cannot do better than quote his own words.

When Queensbury House was formerly occupied by fever patients, every resident clerk, and every nurse, in the house were successively affected with the disease; and since it was re-opened, in December last, (1826,) the resident physician, two of the clerks, (who have not been resident, but have been several hours a day in the house,) the apothecary, several servants, and all the nurses except two, in all above 40 individuals, who had necessarily close intercourse with the sick there, have had fever. If this be the effect of a malaria, it must be a very virulent and effective one, and it is reasonable to expect, that some record of similar visitations, in the former history of the building, would be found. But Queensbury House has existed for about a century; it was long occupied as a private dwelling-house, by the noble family of that name; afterwards it was occupied by a number of families, and afterwards as a soldiers' barrack; and yet no record can be found of its having been, during these changes, the seat of an epidemic fever. If a malaria has existed, therefore, in that house, it must, on both occasions, have sprung up exclusively at the times when fever patients were removed thither, and lasted only during their stay.

During the present epidemic (1827-1828,) as

well as that of (1817-1819,) many of the clerks and nurses employed in the Royal Infirmary have taken fever. Since November last, six of the clerks employed in the clinical ward only, four of those employed in the ordinary wards, and twenty-five nurses or servants have taken fever. All these persons had necessary and close intercourse with the fever patients in the house, having been employed more or less constantly in the fever wards, excepting only four of the servants. Of these four, two had been employed in the laundry, where the linen from the fever wards was washed. One was a porter employed at the gate, who would, of course, have communication with the fever patients at their entrance and dismissal, as well as with their relations coming to visit them; and one was a nurse employed in the servants' ward, but who was in the habit of visiting the fever wards.

Now, (Dr. Alison adds,) it is not only notorious, that many years have often elapsed without any clerk, servant, or nurse living in the Infirmary, or any of the students attending it, being seized with fever, but it is also certain, that in this very season, those of its inhabitants who have not had intercourse with fever patients, have almost uniformly escaped the disease. Of the inhabitants of the ground-floor of the house, (including the patients

in the back ward,) none but those already mentioned as having washed the linen from the fever wards, and the barber who shaved the heads of the fever patients, have taken the disease; yet in the case of a malaria, it is the ground-floor of a house that is generally found the most dangerous. No one of the nurses, whose duty has confined them to the medical or surgical wards, where no fever patients were admitted, has taken fever, with the single exception of the woman in the servants' ward above-mentioned; and of the numerous patients in these ordinary wards, the only one who has taken fever, within my knowledge, during the present year, was a patient in the men's general clinical ward, who lay in the bed next the door that communicates with the clinical fever ward. If there be a malaria in this house, therefore, it would seem to restrict itself, in point of space, as at Queensberry House, in point of time, to the immediate vicinity of the fever patients.*

Though few physicians of the present day have had the opportunity of witnessing the most severe form of fever, the plague, yet, from the testimony of those who have, in the course of their public duties, been called upon to treat this disease in hospitals, I think every one who is not determined

* Edin. Med. and Surg. Journal, vol. xxviii.

to shut his eyes against well-authenticated facts, must admit, that the proof of the spread of plague by contagion is established from the numbers of medical attendants, and those employed about the persons of the sick, who have fallen a sacrifice to their humane exertions.

Dr. Bancroft states, that when he took charge of the pest-houses, at Aboukir, in 1801, his predecessor, and every other medical officer employed in that dangerous service, had already caught the disease, and of these (twelve in number) seven had died, besides a considerable number of nurses and other attendants, though he states, the situation of these pest-houses was peculiarly eligible, and exempt from the operation of marsh miasmata.

The medical officers of the French army had previously experienced the effects of infection to a much greater extent, having lost about eighty medical officers in one year. It was therefore deemed expedient to employ Turkish barbers, to dress buboes, carbuncles, and blisters, as well as to bleed, and perform any minor operations, under the direction of the physicians. By this change in the duty, only twelve medical officers died in twice the former space of time; while more than one half of the Turks, who were thus employed to assist the French surgeons, took the plague, which in several instances proved fatal.

We have instances recorded of persons who could not be convinced of the contagious nature of plague, falling a victim to their temerity, by inoculating their own bodies with the matter from plague sores. The fatal example of Dr. White cannot be soon forgotten.

But while I advocate the possibility of the spread of plague by contagion, I am satisfied that its sudden appearance and decline are to be ascribed in some measure to atmospheric causes ; while its more rapid extension and fatality, in the crowded and filthy parts of such cities and places, as have been visited by this scourge in former times, show how much its propagation is influenced by poverty and impure air.

If we contrast the constant occurrence of fever, in the hospitals appropriated for its treatment, with what takes place in general hospitals, or even in hospitals into which patients with yellow fever are received, the evidence is so striking, that any unprejudiced mind must be convinced of the contagious nature of the continued fever of this country. I have already alluded to the total absence of fever in the Small-Pox Hospital, which is situated within a few yards of the London Fever Hospital. Dr. Alison has shown, most satisfactorily, that in the season 1827, those of the inhabitants of the Edinburgh Infirmary, who had no in-

tercourse with fever patients, almost uniformly escaped the disease; while six clinical clerks, four employed in the general wards, and twenty-five nurses and servants, who had necessary and close intercourse with the fever patients in the house, took fever. In Queensberry Fever Hospital alone, during nine months, when fever was prevalent, no fewer than forty individuals, including the resident physician, two clerks, the apothecary, several servants, and all the nurses except two, all of whom had necessarily close intercourse with the sick, were seized with fever. No statement more conclusive, as to the contagious nature of fever, need be adduced; and if such facts will not lead to conviction, the mind of such a sceptic must be strangely constructed indeed.

Though I am not called upon to prove the non-contagious nature of yellow fever, yet the evidence of what has been adduced by writers of unquestionable veracity, who have been eye-witnesses of the facts they adduce, is so strong, and bear so pointedly on this important subject, that I hope I shall be pardoned for apparently digressing from my subject. I am aware that the most conflicting testimony has been adduced as to whether the yellow fever be contagious or not. It is well known, that it is peculiar to certain districts of America and the West Indies; that it bears a strong analogy to intermittent and remittent fevers,

arising from marsh miasmata; and, like epidemic fevers, its severity is always aggravated by heat, and mitigated by cold. Between the tropics it prevails simultaneously with intermittent and remittent fevers; and when it appears in the early part of summer, it is often preceded by fevers of the latter type, into which it not unfrequently passes. It has been observed, too, that strangers, on their arrival at the time yellow fever most generally prevails, are often seized with the disease, while the natives suffer only from mild periodic fevers. When it has been deemed necessary to remove individuals with yellow fever from the districts in which it rages, the disease is not communicated by them to the inhabitants.

Again, during the epidemic season, the hospitals are exceedingly crowded with yellow fever patients, and the united testimony of those who have visited and practised in those hospitals, is, that none of the medical officers, nurses, attendants, or inmates of the establishment, are ever attacked with the disease; and the more credit is due to the opinion of those who have made these statements, since they are firmly convinced of the contagious nature of plague, and the various forms of the continued fever of temperate countries.*

These facts, of themselves, are certainly suffi-

* See Bancroft on the Yellow Fever.

cient to prove the local or endemic origin of yellow fever, and that it does not spread by contagion. The admission of Dr. Rush, at one period of his professional life, is amply confirmatory of this opinion. He stated, Philadelphia must admit the unwelcome truth, sooner or later, that the yellow fever is engendered in her own bowels, or she must renounce her character for knowledge and policy; and, perhaps, with it, her existence as a commercial city.

CHAPTER VI.

MORTALITY OF FEVER.

THERE is great difference in the ratio of mortality of fever, not only in different places, but in different epidemics.

I have before shown, in one of the tables, the annual mortality in the London Fever Hospital, since its establishment in 1802, by which it will be seen, that it has varied even under the same physician, (the late Dr. Bateman, whose knowledge and judgment were admitted by all who knew him,) between one in three and five-eights, and one in twelve.

The variation in the annual mortality, therefore, cannot be imputed to any difference in the mode of treatment, but to the severity of the fever at different times; and more especially to the very late period of the disease at which patients are often sent in.

In confirmation of the statement, that fever is more fatal at some seasons than at others, it will be seen, on reference to the report of the Select Committee of the House of Commons, that of 50 patients received into Guy's Hospital, from May

1816 to April 1817, thirteen died, being about one in four; but from May 1817 to April 1818, 258 were admitted, of whom sixteen died, or nearly one in fifteen.

According to Dr. Yelloly, the average annual number of fever patients admitted into the London Hospital, from 1812 to 1817, was 30—the average mortality of whom was one in five; but in the year 1817, 97 patients were admitted, of whom thirteen died, or about one in seven and a half.

In the Westminster Hospital, it was stated by Dr. Tuthill, that the average mortality from fever was about one in ten. In the year 1818, however, of 38 patients, only two died, being in the proportion of one in nineteen.

In the Manchester House of Recovery, a still greater variation in the annual mortality has been observed.

In	1796 it was	1 in 9
	1797	1 in 20
	1798	1 in 14
	1799	1 in 9
	1801	1 in 12
	1803	1 in $7\frac{1}{2}$
	1804	1 in $5\frac{1}{4}$
	And in later years it was	1 in 13

It thus appears, then, in the Manchester House

of Recovery, the annual mortality has fluctuated between one in five and a quarter and one in twenty.

From a statement with which I have been favoured, of the ratio of mortality in the above establishment, for the last ten years, it appears, that

In 1818 it was	.....	1 in 11¾
1819	.....	1 in 9½
1820	.....	1 in 8¼
1821	.....	1 in 8
1822	.....	1 in 7
1823	.....	1 in 6⅓
1824	.....	1 in 6⅚
1825	.....	1 in 6⅖
1826	.....	1 in 6⅔
1827	.....	1 in 9⅙
1828	.....	1 in 10¼

It should, however, be stated, that as fever patients only are transferred to the House of Recovery from the General Infirmary, any doubtful cases, of course, are retained in the general medical wards.

This gives an evident advantage over a Fever Hospital, where such an opportunity of previous examination is not afforded.

Since the time of Dr. Bateman's retirement from the Fever Hospital, the annual mortality under the different physicians, has varied from one in five to one in nine and a half.

The mortality of the year included in this report, is about one in seven one-sevenths; but it is proper to state, that of the 73 fatal cases, there died,

Within 24 hours after admission	5
30	5
36	9
48	3
3 days	8
4	3
5	10
6	5
7	3
Beyond this period	22
	73

It appears, therefore, that no fewer than 19 patients died within 36 hours after they were received into the hospital, and were therefore quite hopeless when admitted; indeed, some of the cases were moribund, and actually died a few hours after they were placed in bed.

On referring to the history of the cases which immediately follow, it will be seen that one died of hydrocephalus, three of erysipelas of the head, which came on at the termination of the fever, and was evidently the destroying cause; in seven there were tubercles in the lungs, in various stages

of progress towards softening; in four there was pleuritic effusion of considerable extent; one died evidently of pneumonia; six of intense peritonitis; two from intestinal perforation; and one from invagination of the jejunum.

If the cases, therefore, which died within 36 hours after admission, and those in whom the symptomatic fever was the consequence of such extensive organic disease as to render the recovery next to impossible, be deducted, a much more just conclusion, as to the average mortality of fever, will be formed.

Besides, every one knows, that the success of the treatment depends very much on the early period at which the patient is seen. Of the 73 fatal cases, only seven were admitted before the seventh day of the fever; twenty-four in the second week; eleven in the third; six in the fourth; and twenty-two beyond that period.

Under all those combined circumstances, and the knowledge, that much irreparable injury is effected, when violent febrile excitement is allowed to go on unarrested, even for a few days, the apparently large proportion of fatal cases is satisfactorily explained.

With respect to the mortality of continued fever at different ages, it appears, from the tables I have already given, to be as follows:

Under 10 years of age	1 in $6\frac{2}{3}$
10 to 20	1 in $10\frac{6}{7}$
20 to 30	1 in 8
30 to 40	1 in $6\frac{3}{7}$
40 to 50	1 in $10\frac{1}{2}$
50 to 60	1 in 3
60 to 70	1 in $1\frac{3}{5}$
70 to 80	1 in $1\frac{1}{2}$

As the average of one year may be deemed too limited to admit of any conclusions to be drawn with regard to the mortality of fever at different ages, I selected 500 fatal cases, and find the following results:

Under 10	14
10 to 15	40
15 to 20	118
20 to 25	84
25 to 30	73
30 to 35	25
35 to 40	39
40 to 45	30
45 to 50	29
50 to 55	14
55 to 60	12
60 to 65	6
65 to 70	9
70 to 75	5
75 to 80	2
	500

CHAPTER VII.

History and Treatment of the Fatal Cases—Morbid Appearances observed on Dissection.

I HAVE drawn up, in this Chapter, the history of each fatal case. The dissections were performed by Mr. John Wood, to whom I am under great obligations, for the assistance he has rendered me in this department.

There is still some prejudice against the examination of the bodies of patients who die in the Fever Hospital, which will account for the omission of 19 dissections. These were, in many instances, overcome by an appeal to the importance of such investigations; and I am now happy to observe, that there is daily less repugnance to *post-mortem* examinations evinced by even the most ignorant persons, so that, in a very short time, I trust this most important and only satisfactory method of investigating disease, will be adopted in all public institutions, with the concurring approbation of relatives.

With the object of making this report more complete, I have reduced, to a tabular form, the morbid appearances observed in the 54 cases which were examined.

CASES.

CASE I.—Ann Boon, ætat. 23, admitted 1st Sept. 1828. Her illness commenced ten days before her admission, with the ordinary symptoms of fever, for which aperient medicines and the warm-bath had been employed.

When admitted she complained much of her head, the seat of pain being chiefly in the occiput; her skin was warm; tongue dry and red; teeth covered with sordes; pulse 120.

Fiat V. S. ad ℥viij.: *Pulv. aper. mit.; Ol. ric.* ʒij. *mane; Lot. gel. cap. raso.*

2. Pulse 108; blood slightly buffed; some delirium; pain of head still continues; eyes heavy and suffused; tongue dry, red, and glazed; much thirst; three stools.

Rep. V. S. ad ʒvj.; *Cont. pulv.: ol. ric. et lot. gel.*

3. Headach much relieved, though not gone; pulse 120, strong and full; no delirium; blood with pretty firm buff; three stools; tongue of same character; skin hot. *Cont. med.*

App. cuc. cruent. temp. et effluant sang. ʒvj.

4. Slept well; pain of head, and suffusion of eyes, gone; tongue the same; three stools; pulse 120. *Cont. med.*

5. Pulse 120; no stool; tongue less dry; slept well.

Haust. pung. statim et rep. alia.

8. There has been little change during the last three days.

9. Eyes dull, heavy, and suffused, but no pain in the head; skin hot; tongue dry; two stools; pulse 120.

Hirud. vj. *temp.; Rep. med.*

10. Pulse 108; skin cool; bowels open. She is very restless and fretful. *Cont. omnia.*

11. Passed a bad night with delirium; scalp hot; face flushed; eyes dull and heavy; gives indistinct answers to questions, so that

it is impossible to ascertain whether or not she feels pain in her head. Pulse 118, strong and full.

Hirud. viij. *temp.*; *Cont. med.*

12. Pulse 108; asleep; reported to have had much delirium; three stools; flushing gone. *Cont. med.*

13. Pulse 108; frequent rolling motion of the head on the pillow; pupils dilated; passed a very restless, noisy night; four involuntary stools; tongue is protruded with difficulty; teeth and lips covered with sordes.

App. Emp. lyttæ nuchæ; *Cont. alia.*

14. Pulse 120; slept ill; great restlessness, and noisy delirium; skin warm; pupils less dilated; three involuntary stools; tongue more easily protruded, quite clean and moist. *Cont.*

15. Pulse 120; tongue the same; four involuntary stools; pupils more dilated; eyes heavy; face flushed. *Cont.*

16. Asleep; four stools. *Pil. cal. c. opio, 4ta. q. q. hora.*

18. Pulse 112; occasional hiccup; more tranquil; less motion of the head; two stools, partly in bed; tongue less dry. *Cont. med.*

19. Pulse 117; eyes staring and vacant; urine abundant; two involuntary stools; sensible when spoken to; swallows with difficulty. *Cont.*

20. Pulse 120; skin, in different parts of the body, covered with vesicles, containing an ichorous fluid; two stools in bed. Died during the night.

Dissection.—Serous effusion had taken place beneath the arachnoid, and to the extent of three ounces in the ventricles of the brain. On removing the brain, which was very vascular, especially at its basis, a considerable quantity of watery secretion escaped from the theca vertebralis. The pericardium contained about two ounces of limpid serum. The lungs and abdominal viscera were healthy, excepting the mesenteric glands, which were enlarged, and partially affected with suppurations of a scrofulous character.

CASE II.—John Baldwin, ætat. 20, admitted 3d Sept. 1828. His illness was of three weeks duration, and commenced with symptoms of considerable affection of the head and chest; the former was much relieved by epistaxis. He complained chiefly of pain

in the occiput, with uneasiness in the lower part of the chest, and in the abdomen; the two latter were increased on inspiration or coughing. The skin was warm; the tongue dry and brown, with red edges; the pulse 120, soft.

Next day he became very confused; his breathing became more hurried and oppressed; the pulse irregular; and he passed his urine and stools in bed.

He died 36 hours after. The body was not examined.

CASE III.—Elizabeth Cocker, ætat. 74, admitted 3d September, 1828. This poor woman was so exceedingly deaf that no account could be obtained from her. She had been ill for three weeks, and appeared exceedingly exhausted. The pulse was 140, feeble and irregular; her tongue was coated with dark brown fur, and fissured; the general surface was of comfortable warmth, but the extremities were rather cold. She was ordered a small quantity of wine, and the bowels were kept open by aperients. Her powers, however, gradually sunk, and she died seven days after her admission. Body not examined.

CASE IV.—William Wilan, ætat. 28, (labourer,) admitted 5th September. The symptoms of fever, in this case, had existed for twelve days. Aperient medicines had been given.

On admission, he complained much of pain in the head, and in the chest on full inspiration; breathing oppressed; the skin was warm; tongue dry and brown; pulse 90, of good strength.

Mitt. sang. e brachio ℥xij.: *Haust. sennæ. sal.*; *Bibat. mist. acid oxymur. pro potu.*

6. Pulse 110, soft; blood with tender buffy coat; pain of head gone; still complains of some pain of chest, and slight cough; tongue dry and brown; one scanty stool.

Pulv. aper. statim.; *Rep. haust. mane.*

7. Pulse 90, firm, yet soft; two stools; slept better; skin cool; no pain; little cough; tongue the same. *Cont.*

8. Pulse 108; he has lain in a state of stupor since last night; at present unable to speak; skin warm, and freely perspiring; tongue cannot be protruded; three stools, one passed in bed.

Vini. albi. ℥iv.; *Julep. camphor. fort.* 6*ta. q. q. h.*

9. Pulse 120; quite insensible, and lies prostrate on his back;

profuse perspiration; two stools, passed in bed; is able to swallow his wine.

Cont. vinum et pulv. ℞ *Inf. cascar.* ʒiss.; *Acid. acet. fort.* ʒss. *4ta. q. q. hora.*

10. Pulse 138; profuse perspiration continues; lays quite prostrate and powerless; unable to protrude his tongue; still able to swallow; some black spots, discharging an ichorous humour, have appeared on the neck and back.

Aug. vinum. ad ʒviij.; *et cont. alia.*

11. Died at 4, A.M. Body not examined.

CASE V.—ELIZABETH GREGOR, ætat. 73, admitted 10th September. This woman had been ill for four weeks before her admission.

The symptoms were headach; deafness; occasional rambling; cough; considerable tenderness of the abdomen, with constipation; pulse 105.

Hirud. xvj. *abdomen: Fotus abdominis: Ol. ricini,* ʒvj.

11. Great prostration; pulse 118; very irregular; bowels freely purged; skin cool and clammy; tongue dry and black.

Mist. carb. ammon; Catap. sinap. pedibus; Vini. rubri. ʒvj.

13. Sinking rapidly.

14. Died last evening. Body not examined.

CASE VI.—THOMAS BRYAN, ætat. 18, admitted 19th September, 1828, stated that his illness had commenced about a week before. The symptoms, on admission, were quick pulse; short, dry, cough; dyspnœa; pain in the side, corresponding with the inferior portion of the right lung; tenderness of the belly on pressure, with frequent offensive stools; intolerance of light, but no headach.

His skin was hot and dry; the tongue covered with white fur; and he had slight thirst.

He was bled from the arm; leeches were applied to the abdomen, and a blister to the chest; and he took preparations of antimony and ipecacuan. From these measures he apparently derived considerable benefit. The pain in the chest and belly was removed, and he appeared better for some days. The general febrile symp-

toms, however, did not abate, but soon assumed the hectic character. He passed restless nights, with delirium; his cough and difficulty of breathing increased; the tongue became dry and brown, and he began to vomit his food; the bowels were alternately constipated and relaxed; and notwithstanding a variety of remedies judiciously prescribed, in my absence, by Doctor Foote, the assistant physician, he died eighteen days after his admission.

Dissection. — There was inflammation of the brain and its membranes, with increased secretion in the cerebral cavities and spinal canal. The substance of the right lung, at its upper portion, was remarkably consolidated, and studded with ordinary tubercles. The posterior part of the left lung was the seat of several tubercles, around which puriform matter was infiltrated into the pulmonary tissue. The small intestines were extensively ulcerated. No further disease was observed in the abdomen.

CASE VII.—Mary Macgowan, ætat. 18, (servant,) admitted 20th Sept. 1828. The symptoms in this case had existed for ten days. She complained much of pain in her head, which was little relieved by the application of leeches and purgatives. The face was deeply flushed; the countenance dull; the teeth and lips were partially covered with black sordes; pulse 116, feeble.

App. cuc. cr. nuchæ. et abstrah. sang. ʒviij.: *Lot. gel. cap. raso: Pulv. aper. mit.; Ol. ric.* ʒij. *mane.*

22. The headach much better, though not gone; she passed a very restless night; no delirium; pulse 132, weak and compressible.

Rep. pulv. et ol.

24. Headach quite gone; in other respects much the same. *Cont.*

25. Left parotid inflamed; delirium and restlessness; no sleep; four stools; pulse 126, still feeble.

Cont. med.; Haust. anod. vespere.

27. The swelling in the left parotid has nearly subsided; the right has become inflamed; breathing noisy and laborious; extremities becoming livid; tongue dry and furred; no delirium; great prostration.

28. Moribund.

29. Death. Body not examined.

CASE VIII.—Mary Sullivan, ætat. 36, (married,) admitted 2d Oct. 1828. She had been ill upwards of a fortnight before admission, with general symptoms of fever, for which she had undergone no medical treatment.

She complained much of headach and general pains, especially of the limbs; pain in the right side, under the mamma, increased on inspiration or attempting to lay on that side, with tenderness of abdomen; pulse 80, soft; skin cool; tongue furred; much thirst; bowels confined.

Ol. ric. ℥j.; *et vesperem versus, si dolor capitis perstiterit, Mit. sang.* ℥xij.; *Sumat etiam. pulv. aper. mit. h. s.*

3. Pain of head unrelieved; that in the side, abdomen, and limbs, still complained of; tongue foul; three stools; pulse 70, pretty strong; blood slightly sizy.

Lotio frigida capill. raso.: Rep. pulv. et oleum.

4. Pulse 70, full and strong, but easily compressed; skin warm and perspiring; still complains very much of headach; tongue unchanged; three stools.

Hirud. viij. *temp., cont. alia.*

5. Pain of head much relieved; tongue little changed; three stools; slept well; pulse 66, full. *Cont.*

6. Slept ill; pain of head returned, and is very severe, principally over the forehead; tongue loaded; three stools; pulse 66, full, and incompressible.

App. c. c. tempor. et educant. sang. ℥xij.: *Cont. pulvis et oleum.*

7. Pulse 76, more soft; slept well; pain of head gone; countenance more natural; tongue more clean; two stools.

Rep. pulvis. et oleum.

8. No pain of head; two stools; tongue cleaning; pulse 60, soft and full. *Cont.*

9. Pulse 60, strong; mind confused; some pain of head; tongue more loaded; two stools; pulse 60, strong, and full.

App. cuc. cruentæ nuchæ ad ℥viij.: *Cont. alia.*

10. Pulse 60, of good strength; mind more confused; but states that she has no headach; one stool. *Cont.*

11. Slept ill; less confusion; slight pain of head; no stool; tongue very foul; pulse 76, much softer.

Haust. sennæ. sal. statim.; et rep. c. m. si opus sit.

12. Asleep ; one stool. *Rep. med.*

13. Much prostration ; delirium continues ; states that she has no pain ; occasional retching, with tenderness of the epigastrium on pressure.

Hirud. vj.*epig.* : *Mist. camphoræ,* ℥i. ; *Nit. potass.* gr. x. ; *Tinct. hyos.* ℥ss. 4*ta. q. q. hora.* : *Cont. pulv. aper. mist. h. s., et haust. c. m.*

14. Pulse 76, round ; much emaciation ; countenance indicates distress ; great restlessness ; three stools in bed ; pain of epigastrium gone ; no delirium. *Cont.*

15. Pulse 120, of good power ; quite insensible ; stools passed in bed ; swallows with difficulty.

16. Moribund.

17. Died at 4, A.M.

Dissection.—Slight increase of vascularity of the brain, which contained about three ounces of water in the ventricles. Coagulable lymph was effused between the membranes of the brain at its basis. There were several adhesions of the pleura. The lungs were thickly beset with small strumous tubercles ; the liver was partially indurated ; the other viscera were healthy.

CASE IX.—ELIZABETH RALPH, ætat. 65, (widow,) was admitted on the evening of the 22d Sep. 1828. She had been ill for a week, with symptoms of inflammation in the bowels, for which she had taken some aperient medicines only. The abdomen was very painful on the least pressure ; and she had headach, with confusion of mind ; flushing, heat of skin, and dry, furred tongue ; bowels much relaxed ; pulse 105

Next day, pulse 108, sharp ; she had passed six or seven stools ; the abdominal tenderness, notwithstanding the application of leeches, was unrelieved ; no delirium.

Fiat v. s. ad ℥x. : *Mist. Mucil. c. tinct hyos.* ℥i. 6*ta. q. q. hora* : *Lot. gelid. capill. raso.*

24. Blood exceedingly buffy and cupped ; pain in the belly not relieved ; pulse 108, sharp and incompressible.

Rep. v. s. ad ℥viij. : *Capiat pil. cal. cum. opio.* 4*ta. q. q. hora.*

25. Pulse 124 ; blood slightly sizy ; buffy coat tender ; has passed seven stools ; pain of abdomen still very severe ; tongue covered with dry fur.

Hirud. viij. *abdomini, et cont. alia.*

26. Pulse 125, weak; abdomen round and distended; pain continues, and is still much increased on pressure; tongue unchanged; seven scanty stools.

Cont. pilula 4tis. horis.

27. Symptoms of sinking, and she died on the 28th.

Dissection.—There were several irregular points of ossification of the dura mater covering the top of the hemispheres, and some of larger size in the falx cerebri. The brain was more vascular, and contained more fluid in the ventricles than natural. Some old adhesions existed between the pleuræ. There was slight serous infiltration into the parenchyma of the lungs, which appeared remarkably black, though healthy in other respects. In the cavity of the abdomen several ounces of a sero-puriform fluid were found; and the peritoneum, especially that part of the membrane attached to the liver, was covered with layers of coagulable lymph. Numerous adhesions had formed between the omentum and other parts of the peritoneum. All the coats of the intestines were inflamed, particularly those of the colon, which were separated from each other, and torn with great facility.

CASE X.—Elizabeth Gore, ætat. 24, (servant,) admitted 22d September, 1828, in the fourth week of fever. She made little complaint, but of pain of her loins; her hearing was impaired; the lips and teeth covered with black sordes; the point and edges of the tongue were red; the body and root being covered with dark fur. Her pulse was 120, and soft. In a day or two after, the symptoms in the head became more urgent; she became very restless; the countenance had a wild expression; she complained of pain in the head, and was delirious in the evening.

On pressing the abdomen firmly, she felt pain, but the bowels required the exbibition of mild aperients, which brought away dark, offensive stools. Two days after, she voided her stools involuntarily, and lay sunk in the bed without the power of changing her posture; the pulse became very feeble and rapid; the extremities cold, and she died on the fifth day after her admission into the hospital.

The treatment consisted in the application of a cold wash and blisters to the scalp; sinapisms to the feet; occasional doses of calomel and rhubarb with castor oil; and four to six ounces of wine daily.

Dissection.—Head. The membranes and substance of the brain exhibited nothing unusual. In the ventricles, and in the base of the brain, there was a considerable quantity of fluid. In the chest, the viscera were quite sound.—Abdomen. The only morbid appearances were in the mesenteric glands, which were very considerably enlarged, and in the mucous membrane of the ileum, which presented patches of ulceration.

CASE XI.—Thomas Lewis, ætat. 51, (tailor,) was admitted into the hospital on the 25th September, 1828. He stated, that seven days previously he became affected with cough, difficulty of breathing, nausea and vomiting, for which aperient medicines, and a blister to the chest, had been prescribed.

The symptoms, on admission, were urgent cough, exciting pain in the head and in the chest, with copious expectoration of green viscid mucus. Pulse 126, rather weak; tongue much loaded and dry; face pale; skin cool.

Emp. lyttæ sterno: R. *Mist. mucil.* ʒi.; *Tinct. hyosc.* ʒi.; *Syr. papav.* ʒss., 4*ta q.q. h.: Pulv. aper. mit. h. s.: Ol. ric.* ʒij. *c. m.*

12. Died this morning.

Dissection.—The dura mater was found to be firmly attached to the cranium, and its vessels, as well as those of the other membranes of the brain, were large and numerous. The brain was also more vascular than usual. A thin layer of lymph was effused on the pleura of the right lung, which was universally consolidated, and totally disqualified for the purpose of respiration. Besides the effusion of coagulable lymph into the parenchyma of the lung, constituting simple hepatization, portions of tubercular matter were deposited in different parts of the organ. The left lung contained an unusually large quantity of blood, but presented no morbid changes of structure. The liver was indurated, and had undergone the ordinary alteration which attends drunken habits. The substance of the kidneys was harder than natural. The other viscera were healthy.

CASE XII.—Mary Ford, ætat. 30, (married,) admitted 27th September, 1828. She had been ill for a considerable time, though confined to bed only for a week, before she was sent into the hos-

pital. She complained chiefly of debility; had no pain in any region; her pulse was 90; tongue red at the edges—coated in the middle; skin warm. She stated that the bowels had been exceedingly relaxed for four weeks, the stools being very offensive.

Pulv. ipecac. co. gr. vj. *6tis. horis.*

On the 28th, there was no material change. Pulse 90; two stools, very offensive; tongue the same; no local pain.

Cont. pulv. ipec. co., et sumat hydr. c. creta gr. v. *h. s.*

29. Pulse 105; skin cool; great prostration; delirium; involuntary stools; tongue dry and furred.

Pil. cal. c. opio, 4ta. q. q. hora.

30. Moribund.

31. Died in the evening.

Dissection.—Slight appearances of inflammation of the membranes of the brain, with increased serous effusion under the arachnoid, and also in the lateral ventricles. The chest was perfectly healthy. The mucous membrane of the small intestines was elevated in several places, either from deposition of new matter beneath it, or from inflammation and enlargement of the glandulæ agminatæ. Ulcers of various sizes had destroyed large portions of the membrane, which was more or less vascular in its whole extent.

CASE XIII.—Sarah Boatwright, 60 years of age, was admitted into the Fever Hospital on the 5th October, 1828. She had been confined with fever for six weeks, but the previous characters of her disease could not be ascertained.

Her symptoms, on admission, denoted that, besides those of protracted fever, she laboured under bronchitis of some severity; but whether it had existed prior to the attack of fever, or had supervened upon it, was not easily made out. Her powers were evidently exhausted; the pulse was quick and feeble; the lips were blue; the face of a lead colour; her breathing was anxious and laborious; and she sank the third day after her admission. The body was not examined.

The treatment was merely palliative: a blister was applied to the chest; and she took preparations of antimony, opiates, and aperients.

CASE XIV.—Sarah Nash, ætat. 14, admitted 20th October, 1828. No further account of the previous history of this patient could be obtained, than that she had been ill for some weeks, and had been treated by the application of leeches to the temples, and aperient medicines. The symptoms on her admission were, stupor; dilatation of the pupils; rigidity of the muscles of the upper and lower extremities; dry, brown tongue; small, frequent pulse, and constipated bowels. A purging powder, followed by castor oil, was ordered; the head was shaved; a blister applied to the nape, and an anodyne draught, containing 60 drops of the sedative solution of opium, directed to be given at bedtime.

Under this plan, the spasmodic affection of the muscles subsided, but the symptoms continued, in other respects, much the same. Two days after she appeared to suffer intolerance of light; leeches were therefore applied to the temples, in addition to the other remedies.

The symptoms in the head being still unsubdued, she was put under the influence of mercury; but although this remedy was continued so as to affect the system, it was not followed by any beneficial result.

The pulse became more rapid and feeble; delirium, alternating with incessant restlessness, supervened; she passed her stools in bed. Wine and nourishment were now given, but she gradually sank, and died seventeen days after admission.

Dissection.—Increased vascularity of the brain, with an inflamed state of its membranes, and slight serous effusion beneath the arachnoid. The structure of the right lung was much condensed, apparently from chronic inflammation, and the left had undergone a similar change, though in this lung the hepatization was less advanced. A mixture of mucous and puriform matter was contained in the bronchial tubes. There was extensive ulceration of the mucous membrane of the ileum and cœcum. The spleen was particularly firm, and the seat of a solitary scrofulous tubercle.

CASE XV.—Jonathan Studd, ætat. 29, (porter,) admitted 26th October, 1828. The symptoms in this case had existed for four weeks before his admission into the hospital; and, at first, had assumed the appearance of what has been some times called ca-

tarrhal fever. A blister had been applied to the chest, and aperient medicines given.

On his admission he complained chiefly of sense of tightness in the chest, with cough, attended with expectoration of viscid mucus. He said he felt very weak, and lay sunk in the bed, with tremor of the muscles. His pulse was 108, soft, and easily compressed; the tongue coated with dry brown fur.

He was ordered six ounces of port wine, a blister to the chest, and a mixture, containing carbonate of ammonia and tincture of henbane.

On the 22d his pulse was 108, and firmer, but the bronchial affection was much the same; he was drowsy and incoherent, with increased prostration, and dull heavy countenance; half-closed eyelids; black sordes on the teeth and lips. He passed three stools, consisting almost entirely of blood.

Impon. emp. lyttæ capill. toti, et cont. medicamenta.

On the next day he was evidently weaker, and rambled a good deal; belly tympanitic; three bloody stools.

Aug. vin. rub. ad ℥viij.; R. *Camphoræ in pulv. triti* gr. v.; *Magnesiæ* gr. x.; *Aquæ* ℥x.; *Liq. opii sedat.* gtt. xx., *fiat haustus primo vespere sum.*

On the 24th he had slept well after his draught, and passed two stools with admixture of blood; tongue dry and brown; skin cool and damp; delirium, and tremors unabated; bronchitis much the same.

25. Pulse 104; less delirium, and he slept at intervals; abdomen distended; two stools, without blood.

Aug. vin. ad ℥x., *et rep. haustus.*

26. Symptoms the same; one stool; pulse 108.

28. No change.

30. No delirium; slept pretty well; tongue more clean; passed three good coloured motions, after half an ounce of castor oil.

Cont. omnia.

Nov. 1. Pulse 90; passed a comfortable night; two stools; mind distinct; tongue cleaning.

4. Since last report, no material alteration in the symptoms; stools without blood; progressive emaciation; slough on the sacrum and hips. *Cont.*

6. Continues much in the same state.

8. Gradually sinking.

9. Died last evening.

Dissection.—Substance of the brain healthy; a small quantity of fluid in the ventricles. In the left side of the chest the pleura costalis and pulmonalis adhered firmly, and similar adhesions were found in the right side, both evidently of long standing.

In the substance of the lungs there were small portions of hepatization. The mucous membrane was inflamed and thickened, and the bronchial ramifications contained a considerable quantity of muco-purulent fluid.

Abdomen.—The mucous membrane of the intestines, from the duodenum to the colon, was inflamed, and in several places had an appearance of ecchymosis. In the caput cœcum there were several small ulcers.

CASE XVI.—Anne Edwards, ætat. 21, (servant,) had been exposed to cold six days before admission, on the 21st October, 1828, which brought on well-marked symptoms of inflammation of the chest. When admitted into the hospital, she moaned much, as if suffering great internal uneasiness; she had no headach, but was occasionally incoherent. She had short, dry cough, with inability to lie on her right side; and any attempt at inspiration produced pain and sense of constriction over the right side of the chest. Her pulse was 120, strong, and bounding; the skin hot; tongue coated with white fur; and she had had no alvine evacuation for three days.

Mittaten sanguis e brachio ad ℥xvj. *statim: Enema purgant: Pil. cal. s. opio, 4tis horis.*

22. She was apparently relieved after the bloodletting, and slept for some time; the blood thickly buffed and cupped; coagulum very firm; two stools after the injection.

She remained tranquil till midnight, when she suddenly became very restless; the face soon after became livid, and she died at seven in the morning.

Dissection.—With the exception of chronic enlargement and induration of the right lobe of the liver, the disease under which this patient laboured was confined to the right side of the chest: a thick coating of coagulative lymph was deposited between and upon the pleura, forming a large sac, which separated the lung from the

ribs, and contained nearly a quart of serous fluid. The lung was much reduced in size, and condensed in structure, apparently from extension of the inflammation, which commenced in the pleura, and pressure of the effused fluid, and not from any disease originating in the substance of the organ itself.

CASE XVII.—Rebecca Barker, ætat. 60, (widow,) admitted 23d October, 1828. She had been ill three weeks, and had been bled and purged. The symptoms denoted extensive pulmonic disease; the respiration was rapid and laborious, accompanied with wheezing, but she had little cough, and no expectoration. She appeared drowsy and languid, and rambled occasionally, especially towards evening. Pulse 126, full, and incompressible; skin cool; tongue dry and red, slightly coated; much thirst.

Mittatur sanguis e brachio ad ℥x. : *Abrad. capillit: Haust. sennæ sal.*

On the 24th, breathing still rapid, and laborious; no cough nor expectoration; face pale; lips livid; skin covering the hands and feet of purplish colour; tongue dry and brown; pulse 116, soft; blood drawn not sizy; coagulum very soft, and in small quantity; serum abundant; two stools, consisting partly of blood.

Carb. ammoniæ, gr. v. *ex mist. camphoræ*, ℥ij., 4*ta. q. q. h.*; *Pil. cal. c. opio*, 6*tis horis*; *Jus. bovin*, lbj.

25. Died this morning. Body not examined.

CASE XVIII.—William Gander, ætat. 22, (servant,) admitted 30th October, 1828. He stated that he had been ill for a fortnight, but his mind was so confused, that no satisfactory information as to his previous history could be obtained.

When questioned, he admitted that he had headach and giddiness; pain in the lower part of his chest on inspiration, with fits of coughing. The belly was tender on firm pressure; pulse 100, of good strength, but compressible; skin warm; face a little flushed; expression of eyes wild; tongue coated at the root, apex and edges red; state of bowels unknown.

Appli. hirud. viij. *fronti: Impon. lot. gelida capill. raso: sumat ol. ricini,* ℥iss.

31. No sleep, almost constant noise, and violent delirium; skin

warm, and rather dry; face flushed; eyebrows contracted; eyes suffused; six stools; occasional retching; pulse 100, rather sharp, yet easily compressed; tongue the same.

Mittatur sang. e brachio ad ℥viii.: *Cont. lot. gelida: Bibat mist. acid pro potu; Pulv. aper. mit. h. s.*

November 1. Pulse 96, full, and round; violence of delirium has abated, though his mind is still confused; eyes heavy and suffused; face flushed; skin warm; several stools; slept at intervals.

App. cuc. cruentæ nuchæ et educantur sanguinis, ℥x.: *Cont. cætera.*

2. Pulse 108, firm; eyes still suffused, but flushing gone; no sleep; tongue protruded with difficulty; four stools. He had been so delirious as to require restraint.

Hirud. viij. *fronti, et cont. med.*

3. Pulse 112; violent delirium and flushing; muscular tremors and starting of the tendons; no sleep; one stool.

Ol. ricini, ℥ss *statim;* ℞. *Camphoræ,* ℈ij.; *Magnes.* ʒi.; *Aquæ,* ℥vj.; *tinct. hyos.* ʒij.; *Sit mist. cujus sumat,* ℥i., 8*va. q. q. hora.*

4. Pulse 140, feeble; features collapsed; stools passed in bed; no sleep: a small quantity of wine has been given.

5. Died this morning.

Dissection.—The sinuses of the brain, and the vessels of the membranes, were gorged with blood. About four ounces of water were found in the ventricles. The chest was healthy, with the exception of an inflamed appearance of the mucous lining of the trachea, bronchi, and minute air tubes. There were ulcerations of the ileum, of various sizes, from that of a lupin seed to a crown piece. The submucous cryptæ were enlarged, and presented points of incipient ulceration at their apices. The colon was affected in the same manner, but less extensively. The mesenteric glands were enlarged, and had a dark purply tinge. The spleen was remarkably lax and flabby, though of its usual size and healthy aspect.

CASE XIX.—John Macarthy, ætat. 22, admitted 1st Nov. 1828. He had been ill, with symptoms of fever, for three weeks, and from the application of a blister to the chest, it is probable that pectoral symptoms had appeared early in the disease.

When admitted there was neither pain of head nor delirium; he had urgent cough, but no pain in his chest, nor dyspnœa; the face was flushed; the eyes suffused; tongue dry and brown; bowels confined.

Emp. lyttæ sterno: Linctus c. scilla: Pulv. aper. mit.

3. Pulse 96; cough much abated; delirium towards evening; eyes suffused; skin warm; no sleep; three stools.

Abrad. capill. et imp. lot. gelid.; App. cuc. cruent. nuchæ et effluant sang. ʒx.: *Rep. pulv.*

4. Delirium unabated; no headach; teeth covered with sordes; cough gone; tongue unchanged; four stools.

Emp. lyttæ nuchæ: Catap. sinap. cruribus.

5. Constant delirium, with flushing and suffusion of eyes; one stool; urine passed in bed; pulse 104, feeble.

Vini albi, ʒiv.

6. Symptoms much as yesterday; increased prostration; urine and stools passed in bed.

7. Died at midnight.

Dissection.—The brain and its membranes were unusually vascular, and the ventricles contained more than the ordinary quantity of fluid. There were adhesions of the pleura, evidently of long standing, in the right side of the chest, which in other respects was perfectly sound. The mucous membrane of the intestines was extensively ulcerated, the ulcers being most numerous and large at the extremity of the ileum and first portion of the colon. The spleen, when grasped in the hand, appeared to be of the consistence of the pulp of a ripe medlar.

CASE XX.—Elizabeth Hammond, ætat. 50, (married,) admitted 4th November, 1828. The symptoms in this case had existed for a month before her admission, though at first they were not very urgent, as she had only been a few days confined strictly to bed.

She attributed her illness to the circumstance of having nursed her son anxiously in fever. She had taken merely some opening medicines.

The urgent symptoms, on admission, were frequent and distressing cough, with very little expectoration; pain of loins, thirst, heat of skin, and dry, red tongue; pulse 120, firm.

Mitt. e brachio sang. ℥xij.: *Ol. ricini,* ℥ss.; *Mist. acida, pro potu.*

5. Blood firmly buffed; pulse 110, weak; no local pain; cough is unabated; bowels freely open.

Emp. lyttæ sterno: Pulv. aper. mit. h. s.; Mist. mucil. cum tinct. hyosc.

6. Pulse 120, soft; transient delirium; less cough; tongue more clean, and moist; slept well. *Cont. med.*

7. Symptoms much the same; tongue brown, and dry in the middle.

8. Slept ill; delirium continues; cough still troublesome; tongue unchanged; two stools; pain, redness, swelling, and vesication of the left leg; pulse 120, weak.

℞ *Mist. camphoræ; Spir. vin. rect. a. a.* ℥iij.; *ft. lotio. cruri applic. Cont. alia.*

9. Pulse 120; tongue tremulous when protruded; one stool; swelling and redness of the leg much the same; delirium continues; cough less troublesome. *Cont.*

11. Slept ill; much talkative delirium; three stools; tongue unchanged; pulse 120, very weak. The affection of the leg is much the same; the vena saphena major can be traced hard, tense, and painful through its whole course.

Vini albi, ℥iv. *Cont. alia.*

12. Pulse 130, very feeble; a bad night; much rambling; two stools; tongue protruded with great difficulty.

Haust. c. sulph. quin. gr. ij. *6ta q. q. hora; Vin. alb.* ℥viij.; *Cont. lotio cruri.*

14. Pulse 130, extremely weak; muttering delirium and subsultus tendinum; tongue little changed; skin cool.

Aug. vinum ad ℥x. *Cont. alia.*

17. There has been no material change since the last report; convulsive twitching of the muscles of the face and extremities; pulse 120.

Cont. vinum ad ℥xij., *et alia, a. a.*

18. No delirium; slept well; every appearance of sinking; redness and swelling of the leg increased; the saphena vein is more enlarged, and in the middle of the thigh there is a large varix; lymphatics enlarged; integuments over the femoral ves-

sels are thickened and hard, and of a dusky red colour, but not painful.

Aug. vinum ad lbj.; *Cont. alia.*

19. Symptoms much the same.

20. Died this morning.

Dissection.—Nothing unusual was found in the head. There were a few adhesions of the pleuræ; and the pericardium was attached closely to the diaphragm. No traces of disease were observed in the abdominal and pelvic viscera, excepting ulceration of the ileum, cœcum, and sigmoid flexure of the colon. There was œdematous swelling of the left leg and thigh. The saphena, popliteal, and femoral veins were more or less diseased, and the cellular tissue surrounding these vessels was condensed and intimately connected with them. The inner coats of the saphena vein were lined by a layer of coagulable lymph, having a fringed appearance; and the calibre of the tube was so much diminished, as to render questionable the transmission of blood through this vessel. The same kind of disease was manifest in the popliteal and lower portion of the femoral vein, and also in the vein which accompanies the profunda artery; of which vessels the inner surfaces presented here and there roughnesses from partial effusion of coagulable lymph. The iliac and inferior cava veins were not diseased.

CASE XXI.—David Lake, ætat. 30, (servant,) admitted on the 8th November, 1828.

This patient was sent into the hospital in a dying state. He was unable to give any account of himself; nor could anything of his previous history be ascertained. His pulse was 124, exceedingly tremulous and soft; breathing hurried, and countenance anxious; skin cold and clammy; tongue dry and covered with brown fur; teeth and lips covered with black sordes.

Wine and ammonia were given to him, but he died during the night.

Dissection.—The vessels of the dura mater and pia mater were large and very numerous; and a great number of red spots were exposed by incisions through the substance of the brain, which had the appearance of having been stained with port wine. On the

left side of the chest, there was about a pint of watery fluid, mixed with portions of firm lymph. The pleura of the lung, and likewise that part of the membrane attached to the ribs and diaphragm, were more or less extensively covered by depositions of coagulable lymph. Considerable hepatization of the lung had taken place, with diminution of the size of the organ. The right side of the chest, and the abdominal viscera, were healthy.

CASE XXII.—Thomas Conolly, ætat. 58, (labourer,) admitted on the 18th November, 1828. The symptoms in this case came on a week before admission, but he had not received any medical treatment. He complained of headach; his breathing was oppressed, and he had urgent cough; his skin was warm; face flushed; tongue covered with dry, brown fur; no alvine evacuation for four days. Pulse 90, soft, and feeble.

Leeches were applied to the forehead; a blister to the chest, and aperients prescribed.

Next day, he still complained of his head, attended with occasional incoherence, and tremor of the muscles, but his cough and oppressed breathing were relieved; he passed several dark, offensive stools. Pulse 112; a blister was ordered to the nape, and a cold wash to the scalp.

On the following day all his symptoms were aggravated; pulse became very feeble; his countenance livid; and his breathing exceedingly hurried; the cough was suppressed; he passed his stools in bed; and he died soon after midnight.

Dissection.—The blood vessels of the membranes of the brain were very large and numerous. The arachnoid was thickened, and opaque, and slightly elevated at the top of the hemisphere, from effusion of a soft, jelly-like substance beneath it. The brain itself was also considerably inflamed, and felt heavier, and perhaps firmer, than usual. There was scarcely any fluid in the ventricles, but an ounce or more of clear, limpid serum might have been collected from the base of the skull. A few old adhesions were found between the pleura of the lungs and ribs. An unusual quantity of blood escaped on cutting into the substance of the lungs, which were slightly condensed in a few parts. Both the liver and spleen broke down with remarkable facility, under pressure between the fingers, although nothing uncommon was observ-

able in the external appearance of these organs. The other viscera of the abdomen were healthy.

CASE XXIII.—Sarah Peach, ætat. 23, (married,) admitted on the 24th November, 1828. Symptoms of fever had come on nearly three weeks before her admission. Her pulse was 108, and feeble; the face of a dusky colour, and the lips were livid; the respiration was laborious, attended with occasional, though not very frequent, cough: she had slight pain in her head, and was observed to ramble at times; the skin was hot; the tongue very red, perfectly clean, and moist; the bowels were reported to be regular.

Abrad. capill.; impon. emp. lyttæ sterno: Ol. ric. ʒij.;
Mist. acid. pro potu.

25 Pulse 116, small; not much cough; breathing hurried; face of a pale livid hue; occasional rambling; teeth covered with sordes; tongue dry and brown; one stool in bed.

Vini albi ℥iv.: *Rep. ol. ric.*

26. Swallows with difficulty; pulse more rapid and feeble; skin cold and livid.

Aug. vinum ad ℥viij.; *Bibat jus. bov. ad libitum.*

27. Died this morning.

Dissection.—The membranes of the brain were highly vascular, but not altered in structure. Numerous bloody points were exhibited, on sections being made through the substance of the brain, which appeared healthy in other respects. The spinal cord was healthy, but its membranes were more vascular than usual. In the lungs, miliary tubercles were found in great abundance. The mucous membrane of the air passages, from the glottis to the minute ramifications, was inflamed, and covered with an unusual quantity of mucous secretion. Patches of inflammation of different extent, were observed in the mucous membrane of the small intestines. The spleen contained a group of tubercles, similar in appearance to, though somewhat larger than, those of the lungs.

CASE XXIV.—Maurice Roche, ætat. 32, (labourer,) admitted on the 2d December, 1828. This patient was evidently the subject of a purely chest affection. He complained of general uneasiness; pain in the chest on inspiration; incessant cough, with purulent expectoration; breath extremely fetid; sleep much dis-

turbed by the cough; profuse nocturnal sweats; pulse rapid; bowels loose.

The treatment adopted consisted in the application of leeches, and a blister to the chest; opiates, with digitalis, mineral acids, and mild nourishment.

No alleviation of the symptoms, however, followed; he emaciated progressively; and died ten days after admission.

Dissection.—An abscess was found in the centre of the left lung, containing about three ounces of foul, purulent matter, mixed with blood. This cavity was lined by a distinct membrane; and the branches of the bronchial tubes crossing it were covered by depositions of lymph. The body appeared healthy in other respects.

CASE XXV.—Charles Tyler, ætat. 54, (chocolate maker,) was admitted on the 15th Dec. 1828. His wife and two daughters were at the same time in the hospital. He had been ill for several days, but his symptoms did not assume any alarming character. When admitted, he had no pain of head or chest, and complained only of epigastric uneasiness, and pain of loins; his skin was hot; his tongue dry and furred; his bowels had been relaxed from the commencement; pulse 96, full and tense.

Mitt. sang. ad ℥xx.; *Hydr. cum. creta.* gr. v. *h. s.*

16. He had slept well; blood with firm buff; pain of loins nearly gone; three stools; tongue loaded; pulse 102, full, and sharp; skin hot.

Rep. v. s. ad ℥xij., *et cont. pulv.*

17. Skin less hot; blood with thick and firm buff; pulse 102, of same character; slight pain of abdomen and epigastrium. *Cont. pulv.*

18. Pulse 104; tongue cleaning, still brown and dry in the middle; four stools; skin cool. *Cont.*

19. Slept ill; much restlessness and delirium; skin cool and damp; respiration hurried; says he has no pain of head, or any part; tongue much the same; three stools; pulse very indistinct; muscular tremor.

Pil. hyos. cum. camphora, 6ta. q. q. h.; *Vini albi.* ℥vj.

20. Fell into a state of high delirium, after yesterday's visit; his breathing became more and more hurried, without pain or

cough; he passed, by the mouth, a considerable quantity of florid blood, and died at 5 o'clock, P.M.

Dissection of Tyler.—In this patient, who expectorated blood shortly before death, and had marked symptoms of pulmonary disease, nothing morbid was discovered out of the left side of chest. There were a few irregularities on the surface of the left lung, from extravasations of blood into the texture of the organ, immediately beneath the pleura. These slightly-elevated, discoloured portions, which varied in size from that of a sixpence to a half-crown, were found to be of rather firm consistence on passing the fingers over them. Similar extravasations had taken place in the interior parts of the lung, constituting what some writers have described as pulmonary apoplexy. The intervening portions of the lung were rather vascular; and the mucous membrane of the lower parts of the trachea, and of the bronchial tubes, was decidedly inflamed.

CASE XXVI.—WILLIAM TENNANT, ætat. 18, (tailor,) admitted on the 14th Jan. 1829, had been unwell with the usual symptoms of fever for eight days; no treatment had been adopted.

He complained, on admission, of epigastric tenderness; slight headach; thirst; pain of loins, and extremities; his skin was hot; his face flushed; and the tongue was coated at the root; red at the point and edges; pulse 100; state of bowels not ascertained.

Mittantur sanguinis e brachio. ℥x.: *Pulv. aper. mit. h. s.; Ol. ric.* ℥ss. *c. m.; Bibat mist. acid. pro potu: Abrad. capillit.*

15. Pulse 96; headach and flushing continue; skin hot; tongue unchanged; three stools.

C. c. nuchæ ad ℥x.: *Rep. pulvis et oleum.*

16. Pulse 92; slight pain of forehead only; skin less warm, but flushing continues; tongue dry, furred in the middle, edges clean and moist; three stools.

Impon., lotio. gelida, et rep. pulv. et oleum.

17. Pain of forehead gone; less flushing; tendency to coma, and rambling, from which he is easily aroused, and answers intelligibly when questioned. *Cont. med.*

18. Pulse 112; passed a restless night, without sleep, but was more delirious; sensible, at present, but lapses frequently into a

muttering dose; urine and stools passed in bed; tongue of same appearance.

Impon. emp. lyttæ nuchæ, et cont. lotio gelida capill. anteriori.

19. Pulse 120, soft, and regular, but very feeble; no sleep; muttering delirium unabated; tongue dry and brown.

Jus. bov. lbj., *et cont. lotio.*

20. Pulse 130, more feeble; breathes rapidly; skin becoming cold; lips livid; two stools.

Vini albi. ʒvj.: *Cont. jus. bov. et lotio gelida.*

21. Died last evening.

Dissection.—On sawing through the scull cap, a sudden gush of limpid fluid attracted attention; and on carefully removing it, and examining whence this fluid escaped, a considerable oblong depression was found in the middle lobe of the right hemisphere. On minute inspection, the fluid, which amounted to at least twelve ounces, had been contained in a cyst formed by the splitting of the arachnoid membrane, which had pressed on the middle lobe of the brain, and thus produced a corresponding depression. The membranes, and substance of the brain, (with the exception stated,) did not exhibit any morbid appearances.

The thoracic viscera were quite healthy. The abdominal viscera showed no traces of disease, except extensive ulceration of the ileum and cœcum.

This preparation is deposited in the Museum of the College of Surgeons of London.

CASE XXVII.—William Ashley, ætat. 65, (messenger,) was admitted into the hospital on the 19th January, 1829. He had laboured under well-marked symptoms of fever for four days, which he attributed to exposure to some persons who were ill of the disease. He made very little complaint, except of slight headach and thirst; his face was flushed; his pulse quiet, about 80; his tongue was covered with white fur; he had been freely purged by cathartics before admission.

For the first three days, aperients were prescribed: his symptoms were still of a very mild character; his headach was quite gone. On the 23d he became confused and talkative; and he passed his stools in bed; pulse was 102; his skin warm; next

day his pulse was 108; he was still confused; passing the greater part of his evacuations unconsciously. On the 25th his powers were evidently sunk; he had passed a very bad night; still confused, but, when questioned, he said he had no pain; stools passed in bed; head ordered to be shaved; a cold wash to be applied; a small quantity of brandy was ordered, and beef tea occasionally; next day he was nearly insensible; hiccup, with every appearance of sinking came on; and he died on the following morning.

Dissection.—There was nothing deserving notice in the examination of this patient beyond the state of the brain and its membranes, both of which were excessively inflamed. Indeed the vascularity of these parts was as great as is found in cases of acute phrenitis. The substance of the brain was very firm.

CASE XXVIII.—John Smith, ætat 50, was admitted from a parish work-house, on the 19th Jan. 1829.

He was a feeble subject, and had been for many years liable to a chronic affection of the lungs. The febrile symptoms were mild; but the incessant cough, wheezing, and other well-marked characters of bronchial inflammation, rendered the issue of the case doubtful. The treatment adopted consisted in the application of a blister to his chest, with the exhibition of antimony, squills, and aperient medicines. Three days afterwards, the tongue became dry and brown, protruded with difficulty, and tremulous. He rambled occasionally; his cough was suppressed; the temperature of the skin fell below the natural standard. Wine, ammonia, and nourishment were freely given, but he died about 36 hours after the first appearance of the unfavourable symptoms. Body not examined.

CASE XXIX.—Margaret Sheppard, ætat. 40, admitted on the 20th Jan. 1828, was brought from a parish workhouse, evidently in an advanced stage of fever, though she was so enfeebled and incoherent as to be unable to give any previous history of her illness. She complained little; her pulse was feeble; the skin, especially of the extremities, was cold, and the tongue was covered with dry fur. For the first three days she rather improved; on the fourth, however, she suddenly became exhausted; and, notwithstanding the employment of stimulants and cordials, she died eight days after admission.

Dissection.—The dura mater was firmly adherent to the scull-cap. There was considerable effusion into the ventricles of the brain, which was otherwise healthy. Nothing unusual was observed in the chest, except a few adhesions of the left pleura, and a large quantity of fat about the heart. The abdominal parietes, were much thickened, from excess of fat, which existed also in large masses within the cavity and in the omentum. The gall-bladder was much distended with bile, and contained a substance of the size of a nut, and of a waxen appearance.*

CASE XXX.—Benjamin Hilderness, ætat. 53, was admitted from the same workhouse, and at the same time, with John Smith. He complained chiefly of pain in his head; his pulse was 126, full; his skin hot; tongue furred at the root; his bowels had been kept open by aperients, since the commencement of his illness, seven days before admission. He was bled from the arm to sixteen ounces, which completely removed the pain in his head; and he took the oxymuriatic acid mixture, and castor oil, as an aperient. The blood was not inflamed; his pulse, however, still kept up; his tongue assumed a brown appearance, and was dry at the root and centre. The same medicines were continued.

Two days after, he suddenly became comatose; muscular tremors, involuntary stools, hurried breathing, and clammy skin, proved the approach of the sinking state, and he died on the 25th January, five days after admission.

Dissection.—The membranes of the brain appeared unusually vascular. There were adhesions between the pleuræ, at the upper part of each lung. The lungs were gorged with blood, but not altered in structure. The intestines, and other abdominal viscera, were healthy, except the spleen, which was softer than natural.

CASE XXXI.—Margaret Pennifold, ætat. 20, (servant,) was admitted on the 23d Jan. 1829. She had been ill for eight days, with symptoms of fever, for which aperients had been prescribed. When admitted, she rambled at times, and complained

* Haller, in his pathological observations, speaks of gall-stones, "inflammable like sealing-wax." I believe that this was an instance of the kind.

of sore throat; slight pain in the occiput; some pain on inspiration, or coughing; her pulse was 108; the skin warm; face flushed; tongue very red and chopped; teeth and lips crusted with black sordes; the bowels relaxed.

Imponatur, emp. lyttæ sterno.; Abrad. capill.

24. No delirium, and she slept at intervals; free from pain; voice hoarse, with sense of rawness in the chest after coughing.

Linctus cum scilla subinde.

26. No material change. *Cont. linctus.*

28. Pulse 116; cough; hoarseness, and flushing continued; bowels open; skin warm; tongue unchanged. *Cont.*

30. She has passed four stools, mixed with a large proportion of blood; no tenderness of belly under firm pressure; cough increased; tongue of same appearance; pulse 116.

Pil. calom. cum opio, 6ta. q. q. h.; Cont. linctus.

31. Two stools mixed with blood; chest symptoms much the same; pulse 116; tongue dry, but less red. *Cont.*

Feb. 1. Pulse 108; no pain any where; passed a good night; three stools without blood. *Cont.*

3. Much as last reported; three dark offensive stools, without blood.

Cap. pil. cal. c. opio, 4ta. horis, et cont. linctus cum scilla.

5. Symptoms evidently unfavourable; considerable prostration; breathing hurried; four stools in bed; pulse 120, feeble.

Vini albi ℥vj.; *Jus. bov. ad libitum.*

6. Pulse 120; passed a tolerable night; three dark fetid stools; vomited a quantity of yellow, bilious fluid; tongue dry, brown, and cracked.

Cont. vinum ad ℥x. *et alia.*

7. Pulse 120; skin cool; features sharp; mind confused; passed several highly fetid motions; vomiting of green fluid continues. *Cont.*

8. Moribund, and she died a few hours after the visit.

Dissection.—The brain and its membranes were perfectly healthy. The upper portion of the left lung was attached to the ribs, and when cut into, presented a mass of tubercles, which were just on the point of softening. The remaining part of the lung was firmer, and more vascular than is usual. The right lung ap-

peared to have undergone slight condensation from recent inflammation. In both lungs the mucous membrane of the bronchial tubes, which were loaded with mucus, was inflamed. The mucous membrane of the stomach, at its pyloric extremity, was more vascular than natural, as was also that of the greater part of the small intestines. There were portions of the jejunum and ileum excessively gorged with blood, of a very dark colour, and others in which ecchymosis had taken place. An immense quantity of small long ulcers occupied the ileum and colon, all of which had destroyed the mucous, and several of the muscular coats. The mesenteric glands were enlarged.

CASE XXXII.—Benjamin Flegg, ætat. 19, (ostler). This lad was admitted on the 26th Jan. 1829, but his mind was so confused that he could give no satisfactory account of his previous history. It was ascertained that symptoms of fever, complicated with inflammation in the brain and chest, had existed for twelve days. He had been bled generally and locally. A blister had been applied to the head and chest, and he had been freely purged. As far as it could be collected from his answers, he was apparently free from pain in his head; his eyes were suffused, the pupils dilated, and his countenance dull and heavy; the tongue clean, but red and chopped; pulse 120, soft.

Abrad. capil.: Imp. lot. gelida.: Pulv. aper. h. s.

28. Pulse 128; he lay sunk in the bed, in a comatose state; unconscious of surrounding objects; breathing hurried; no cough; belly tympanitic; two stools in bed; lips and teeth covered with sordes.

Pil. cum submur. hydr. gr. ij. 8*va. q. q. hora.*; *Cont. lotio.*

Next day he was much the same. On the 30th, he was less drowsy, and had passed, on the whole, a more quiet night; two stools passed in bed; tongue unchanged.

31. Died this morning.

Dissection.—There was inflammation of the cerebral membranes, and increased vascularity of the brain. A large quantity of serous secretion was contained in the lateral ventricles, and likewise in the membranes, at the base of the brain. The posterior parts of each lung were very much gorged with blood, and more solid than is usual, though it was doubtful whether this condition

of the organs was the effect of inflammation. About two inches of the mucous membrane, at the lower part of the ileum, were inflamed. The abdominal viscera were elsewhere healthy.

CASE XXXIII.—Sarah Agembar, ætat. 21, was admitted on the 27th Jan., in a dying state, and no previous history of her case was obtained. From the delirium, suffused and wild expression of her eyes, it was evident that the brain had suffered severely. Pulse was 130, feeble and indistinct; skin rather cold; lips and teeth covered with sordes; state of bowels unknown; leeches had been applied to the chest, and a blister to the nape. The head was ordered to be shaved; a cap blister applied; and she was directed to have the bowels opened by castor oil, and an anodyne at bedtime.

She died about 36 hours after admission.

Dissection.—There was great vascularity of the brain and its membranes, but no increased secretion. The right lung was adherent to the ribs near the clavicle, and this portion was more solid than is natural. The mesenteric glands were slightly enlarged, and very red, from the turgid state of the vessels. From the enlarged state of the uterus and mammæ, which contained milk, it would appear that this patient had been recently relieved from the state of pregnancy.

CASE XXXIV.—Thomas Kennie, ætat. 30, (labourer,) admitted on the 2d Feb. 1829. He had been confined for eight days before admission with symptoms of fever, during which there had been great tenderness of the belly, and other symptoms of abdominal inflammation, for which it appeared aperients only had been administered.

When received into the hospital, the abdomen was exceedingly tender, especially towards the right iliac region, corresponding with the situation of the caput coli; the pulse was 120, small and contracted; his face was flushed; the skin covered with petechiæ; tongue red, and coated with dry fur at the root; the state of his bowels reported to be open; his breathing was short and anxious, and he was delirious towards night. Next day, symptoms of sinking came on, and he died early on the morning of the 4th February.

Dissection.—The cerebral membranes, and the brain, were in-

flamed; the increased vascularity being most remarkable in the former. There was a small quantity of serous effusion in the ventricles. No disease was observed in the thorax. The peritoneum, generally, was more or less inflamed, and covered with patches of recently effused lymph. About a pint of puriform matter was contained in the cavity of the abdomen. The intestines, which were agglutinated, and highly injected, were easily separated, as the adhesions were not organized. The mucous membrane of the small intestines was excessively vascular, especially that of the ileum, in which several deep, oval ulcerations, with inflamed, irregular, and elevated margins, were discovered; one of which had perforated the peritoneal coat, and left an opening in the canal large enough to admit a catheter of the fullest size: so that the escape of fecal matter among the viscera was evidently the cause of the extensive peritonitis which hastened the dissolution of this patient.

CASE XXXV.—Thomas Watkins, ætat. 46, (plasterer,) was admitted on the 11th Feb. 1829. He had been ill for eight days, with fever, during which inflammation of the lungs had apparently supervened, but no active measures had been adopted; indeed he stated he had not been under medical treatment.

His symptoms on admission, were confusion of mind; suffusion of eyes, and intolerance of light; pain and sense of constriction in the chest, with frequent dry cough; pulse 116, soft and compressible; face flushed; tongue dry and loaded; bowels confined.

Emp. lyttæ sterno: Haust. sennæ sal. et post alvi plenam solut.: Pil. cal. c. opio. 6ta. q. q. hora.

12. Symptoms unabated; pulse 120; three stools, one passed in bed. *Cont.*

13. Pulse 130; no stool; urine passed involuntarily; cough less observed, but he still complained of pain in the chest.

Ol. ric. ℥ss. statim, et cont. pil.

14. Died this morning, at nine o'clock.

Dissection.—There was inflammation of all the cerebral membranes. Beneath the arachnoid, which was opaque, and of a milky colour, and in the texture of the pia mater, serous effusion had taken place. The brain itself was excessively vascular, and the floor of the lateral ventricles was covered with turgid blood-vessels.

The right lung was firmly united to the diaphragm. On cutting through the inferior lobe, the substance of the organ appeared very red and inflamed, and in the first stage of hepatization. The whole of this lung was inflamed, but in a less advanced degree. The left side of the chest and the heart were healthy. There was increased vascularity of the mucous membrane of the ileum and cœcum, with inflammation and enlargement of the sub-mucous glands, which would probably have been soon affected with ulceration, had life been prolonged.

CASE XXXVI.—Elizabeth Gossett, ætat. 22, (married,) admitted 17th Feb. 1829.

The symptoms, in this case, were referable to some obstruction in the intestines, rather than to any form of fever. She had been ill for a week; severe pain in the belly being the prominent symptom. When admitted, her pulse was about the healthy standard; her skin cool; the tongue was clean, but dry; she complained chiefly of epigastric tenderness extending over the belly, and slight thirst; she had no headach; no delirium; no vomiting; the bowels had not been opened for six days; an emollient glyster was administered, and she was directed to take a purgative draught every three hours. No feculent evacuation of the bowels was procured; and she died thirty hours after admission.

Dissection.—There was increased vascularity of the cerebral membranes. Near the termination of the jejunum, intussusception had taken place to a considerable extent, the invaginated portion of the canal being eight inches long. About an inch and a half of the contained part, at its farthest extremity, was mortified. The mucous membrane of the containing parts was excessively injected, and of a dark mulberry colour, slight ecchymosis having occurred. The alimentary canal, between the intussusception and the stomach, was greatly distended. The mucous membrane was swollen from œdema, and the valvulæ conniventes were much enlarged. The intestine, below the seat of obstruction to the anus, was, on the contrary, particularly small, more especially the colon, which was contracted to the size of the little finger.

CASE XXXVII.—Jane Macneil, ætat. 37, admitted on the

24th February, 1829. The symptoms in this case were of a very mild character when she was received into the hospital, and in a few days she was reported to be convalescent. She recovered her strength very slowly, but nothing could be discovered to which her slow improvement could be attributed. About three weeks afterwards, she was attacked with obscure symptoms of some latent affection of the chest, for which she was purged, and had a blister applied to the chest. General feverishness ensued, with muscular tremor, delirium, dry brown tongue, flushing, and considerable prostration, though the pulse did not exceed 110. A day or two after, she passed her evacuations in bed; could not protrude her tongue; lay sunk in the bed, taking little notice of surrounding objects. A few days before her death, her powers being much exhausted, a small quantity of wine was allowed. She died on the 9th April, a fortnight after the first symptoms of relapse.

Dissection.—The dura mater was exceedingly vascular, and had numerous spots of ecchymosis on its cerebral surface. A thickish yellow serum was effused beneath the arachnoid, which was opaque and thickened. There was a considerable quantity of water in the ventricles, and between the membranes at the base of the brain. The substance of the brain was firm, and presented numerous bloody points, on sections being made through it. The right lung, in its whole extent, was inflamed and consolidated, and its bronchi were filled with a viscid mucous secretion. The left lung had undergone the same change of structure at its posterior parts, where it was adherent to the pleura of the ribs. The intestines were rather more vascular than usual. The liver was of soft consistence, and had a mottled appearance. The rest of the abdominal organs were healthy.

CASE XXXVIII.—Bridget Egan, ætat. 40, (married,) admitted 28th February, 1829. She had been ill for ten days, with symptoms of mild fever, for which she had been bled and purged.

When admitted she complained chiefly of her head and chest, though the symptoms were not very urgent. The pulse was 100; the skin warm; face flushed; and her tongue dry and brown; bowels loose. She was observed to ramble towards evening.

Hydr. c. creta gr.v. *h. s.*: *Abrad. capill.*

Next day, her powers were observed to be declining rapidly; her pulse 110, feeble; four stools.

Vin. rub. ℥vj.

March 3. Pulse 120; three stools passed in bed; swallows with difficulty.

Aug. vinum ad ℥xij.

4. Great prostration; pulse 110, very weak; three stools in bed; much abdominal tenderness; tongue cannot be protruded.

Cont. vinum.

5. Evidently worse; skin covered with petechiæ; wine rejected by vomiting; pulse 108.

6. Died this morning.

Body not examined.

CASE XXXIX.—James Osmond, ætat. 30, when admitted into the hospital, on the 22d February, was moribund, and died a few hours after. His body was not examined.

CASE XL.—Emma Haynes, ætat. 15, (servant,) admitted on the 2d March, 1829. She stated that she had been ill for upwards of a fortnight, with symptoms of fever. From the account she gave of the commencement of her illness, the brain apparently had been principally affected; when admitted she still complained of headach, and rambled at intervals. Her bowels were purged; the tongue was covered with lemon-coloured fur at the root, and the teeth and lips with sordes; pulse 104, small, and easily compressed. The treatment consisted in the application of leeches to the temples; cold lotions to the scalp, and alterative mercurials. The purging however increasing, and her strength rapidly declining, occasional opiates were prescribed in addition.

In this enfeebled state, she began to exhibit symptoms of an obscure chest affection; her abdomen at the same time became tympanitic, and she passed her evacuations involuntarily; blisters, antimonials, calomel, and opium, were prescribed, but without producing any marked alleviation. Hectic symptoms supervened, and she slowly, but gradually, declined, and died on the 7th May.

Dissection.—About a quart of watery fluid was found in each side of the chest, which was the only part affected. Flakes of lymph were deposited upon the pleuræ, which were inflamed and

thickened. There was considerable hepatization of the right lung, with several scrofulous tubercles in its inferior lobe, two of which had become softened. The left lung had contracted an adhesion to the diaphragm, near which a few miliary tubercles were discovered, the rest of the organ being healthy.

CASE XLI.—Elizabeth Cughlan, ætat. 13, admitted on the 16th March, 1829. She stated that she had been unwell for ten days; the symptoms were headach, sore throat, with painful deglutition, and considerable pain in the bowels; hot skin, thirst, and general febrile symptoms. The treatment consisted in the application of leeches to the throat, and aperients.

The following were the symptoms on admission: anxious countenance; headach; occasional sickness and retching; severe pain in the abdomen, much increased by pressure; but she had neither cough, nor any uneasiness on respiration; her skin was warm; lips and teeth covered with sordes; tongue red at the margin and point, coated at the root; considerable thirst. Pulse 130, small and contracted; she had no delirium.

App. hirud. xv. *abdomini, et postea catap. emoll.: Haust sal. efferv.: Abrad. capilli.*

17. Pulse 132; abdomen still very tender; constant moaning; headach continues; no vomiting; tongue unchanged; no stool.

V. S. ad ℥viij. *Injiciatu enema emolliens, statim.*

18. Pulse 140; soft and feeble; blood sizy; pain of abdomen undiminished, accompanied with tension and fullness; occasional sickness, but no vomiting; headach, hot skin and thirst continue; three stools after the injection; no sleep; tongue the same; teeth covered with sordes.

Hirud. viij. *iterum abdomini: Cont. catap. emoll.:* R. *Subm. hydr. opii utriusque,* gr. j.; *Medulla panis q. s. fiat pilula 3ia q. q. hora sumenda.*

19. Died at noon.

Dissection.—No morbid appearances were observed in the head. Several ounces of thin, serous fluid were found in both cavities of the thorax; and the pleuræ were inflamed, thickened, and partially covered with layers of coagulable lymph. The injected and condensed state of both lungs indicated the existence of recent inflammation. There was a large quantity of sero-purulent secretion, mixed with portions of thickish lymph, in the abdominal cavity.

The peritoneum was universally inflamed, and coated with patches of effused lymph. Several adhesions had formed between the intestines, which were easily separated, the lymph not having become organized. The mucous membrane of the intestines was not diseased.

CASE XLII.—Thomas Shields, ætat. 35, (carpenter,) admitted 20th March, 1829. In this case the symptoms at the commencement, and during the progress, of the disease, did not betray any alarming feature. He had slight headach, and confusion of mind, hot skin, and dry, furred tongue; on the whole, he seemed to suffer little; leeches, and cold lotions to the head, and mild purgatives, were prescribed.

Two days after, he complained of sense of oppression about the cardiac region, with slow, oppressed breathing, and tenderness of the hypochondrium and abdomen.

His skin became deeply jaundiced; mercurial preparations, and a blister to the epigastrium, was ordered. Next day he was still more deeply jaundiced, though no untoward symptom was detected; his pulse was little above the natural standard; his evacuations were passed involuntarily. On the following day, his delirium increased; his tongue became dry, and almost black; his teeth and lips covered with sordes, and his pulse, though only 88, was so feeble as scarcely to be numbered. He died a few hours after midnight.

The body was not examined.

CASE XLIII.—Bridget Smith, ætat. 36, (married,) admitted on the 23d March, 1829. This woman, when brought to the hospital, was evidently in a dying state. No previous history was obtained; and from her incoherent state of mind, no reliance could be placed on her statements. The pulse was feeble and indistinct. She complained much when her abdomen was pressed; her breathing was very quick and noisy; her voice hoarse, but the cough was suppressed. Her stools were exceedingly offensive, and mixed with blood. She died 30 hours after admission.

Body not examined.

CASE XLIV.—Virginia Macmahon, ætat. 8, admitted on

the 25th March, 1829. This child had been the subject of fever for upwards of a fortnight, but the previous history and treatment were not ascertained, and she was so confused and restless when brought into the hospital, that no reliance could be placed on her statements.

Her pulse was 128; skin warm, dry, and desquamating; the epigastrium was tender when pressed; the tongue red and dry.

Abrad. capill.: Hirud. iv. *epig.: Ol. ric.* ʒij.

26. Slept ill: epigastric tenderness gone; skin the same; tongue unchanged; delirium and screaming through the night; four stools; pulse quick and feeble.

Impon. lotio gelida capill.

27. Symptoms much as yesterday; two stools.

28. Delirium increased; no sleep; pulse small, feeble, and rapid; tongue of same appearance. No stool.

Rep. ol. ric.

29. Died this morning.

Dissection.—There was opacity of the arachnoid membrane, and some watery effusion beneath it. The ventricles contained about two ounces of fluid, and the substance of the brain was softer than natural. The lining membrane of the trachea and bronchial tubes, which contained a considerable quantity of mucous secretion, was unusually vascular, and of a dark reddish hue. The chest was healthy in other respects. The mucous membrane of the small intestines presented portions of increased vascularity, but no ulceration. The glands of the mesentery were enlarged.

CASE XLV.—Mary Morris, ætat. 12, admitted 3d April, 1829. She had been ill for some days before her admission, but her symptoms and treatment, were not ascertained.

She complained chiefly of epigastric and abdominal tenderness, and though she had no pain of chest, her breathing was laborious, and she was inclined to drowsiness. Her pulse was rapid; the skin hot, tongue dry, and coated; leeches were applied to the epigastrium, and she was purged without relief. A few days after, her breathing became suddenly extremely quick (42 in the minute); her pulse very small and indistinct; the teeth and lips incrusted with black sordes, and the abdomen much distended.

A blister was applied to the chest, and mercurial purgatives administered, but she sank rapidly, and died on the 12th April.

Body not examined.

CASE XLVI.—JANE KENNEDY, ætat. 8, admitted on the 18th April, 1829. The symptoms in this child had existed twelve days before she was brought into the hospital, but no previous history was obtained. She had slight cough, without pain in the chest, or dyspnœa; no headach, nor delirium; but she was very fretful. Pulse 110: skin warm; tongue white; bowels had been opened by castor oil.

For the next two days, the symptoms did not assume any urgent character. On the following day, however, her cough increased, her breathing became hurried and oppressed, the pulse rapid and weak, and large purple spots appeared on the skin. She died soon after midnight.

Dissection.—The morbid appearances presented in this child were confined to the chest, which had been considered to be the seat of her disease. Hepatization of the lungs had taken place generally throughout their structure, and to a very unusual degree of hardness; so that portions, when placed in water, sank with as much rapidity as so many pieces of liver. A few tubercles of the miliary kind were found scattered throughout the substance of these organs.

CASE XLVII.—ANGEL SOLOMON, ætat. 25, (clothes dealer,) was admitted on the 6th May, 1829. He had been unwell for a fortnight before admission, with evident symptoms of severe disease in the brain, which he attributed to some previous events which had deeply impressed his mind. No treatment had been adopted.

When admitted into the hospital, his disease was evidently hydrocephalus in the second stage; his pulse was 60; he had strabismus and double vision, and complained of constant, deep-seated pain in the head, with flushing and intolerance of light. He was observed to ramble occasionally; sixteen ounces of blood were taken from his nape; his head was shaved and blistered, and he was put on a mercurial course. These measures had no effect on his disease: in a day or two, his pulse, from being slow, became very rapid; coma, wild delirium, obstinate constipation of the bowels,

dilatation of the pupils, and blindness, supervened, and he died seven days after admission.

Body not examined.

CASE XLVIII.—Jeremiah Ferry, ætat. 17, (moulder,) was admitted on the 17th May, 1829. His symptoms had existed for a fortnight; the whole treatment consisted in the application of a blister to the chest, and aperients. He complained, on admission, of headach; hurried breathing, with obscure uneasiness at the lower part of the sternum; flushing, and incessant cough; his pulse was 134, soft; tongue brown and dry in the middle, edges red; teeth and lips covered with sordes; and his mind was much confused. His bowels were opened with castor oil, and he was ordered to take calomel and opium every four hours. Next day, his symptoms were much the same, though he had less headach. The calomel and opium was continued; on the following morning his breathing was more quick (40 in the minute); cheeks were of a livid colour; his cough very urgent; pulse 130; he had passed three stools; no sleep.

He died during the night.

Dissection.—There was no disease within the scullcap. The right side of the chest contained a few ounces of serous effusion, and the pleura was generally inflamed, and coated with lymph. The lung of this side was healthy, with the exception of increased redness and injection of the bronchial tubes. The left lung was universally consolidated, being, in some parts, quite as firm as liver, and contained tubercles which had not suppurated. A few shreds of lymph adhered to the pleura. The bronchiæ were inflamed. The pericardium contained about half a pint of serum, mixed with small flakes of lymph, and its internal surface was coated with thin layers of coagulable lymph, as was also the membrane immediately investing the heart. A few red, inflammatory patches were observed on the peritoneal aspect of the intestines, which were otherwise healthy. The liver was enlarged, and of softer consistence than ordinarily.

CASE XLIX.—Mary Duggin, ætat. 11, admitted on 12th May, 1829, had been ill eight days, with symptoms of fever, for which no treatment had been adopted.

She complained chiefly of her head, and she had slight cough; the pulse was 106; skin warm; tongue loaded; leeches were repeatedly applied to the temples; cold lotions to the head; a blister to the nape, and the bowels were freely evacuated, which had the effect of removing the pain in her head: but delirium, during the night, which had appeared a day or two after admission, continued. With these symptoms, she was attacked three days before her death with erysipelas of the head. Coma, and other marks of increased cerebral disease came on, and she died on the 25th May.

Dissection.—Beneath the scalp, and throughout the cellular membrane connecting it to the scull, a large quantity of yellow serum was effused. The dura mater was healthy, but under the arachnoid membrane there was a quantity of milky serum. The substance presented numerous bloody points, on sections being made, but there was no unusual quantity of fluid in the ventricles. The viscera of the chest and abdomen were healthy.

CASE L.—William White, ætat. 15, was admitted on the 14th May, 1829. The symptoms were of only a few days' duration; and from the symptoms he detailed, the brain had, from the beginning, been the organ principally affected. No treatment had been pursued.

On admission, he still complained of acute pain in the head; pulse 126; skin hot; no delirium; tongue white; bowels had not been opened for a week; he was bled from the arm, and purgatives were prescribed. He died suddenly on the following morning.

Dissection.—The only circumstance remarkable in the examination of this patient, was a very unusual degree of firmness of the cerebral substance, which had all the appearance of health. The convolutions of the brain were flattened, and from the compressed appearance of the surface of the hemispheres, it seemed as though the organ was too ample for the membranes and cavity in which it had been placed. There was no increased secretion in the ventricles or membranes of the brain. The chest and abdomen were perfectly healthy. The dissection, in this instance, was performed on the third day after death.

CASE LI.—Isabella Baillie, ætat. 28, (married,) admitted

on the 15th May, 1829. The only account of her previous illness that could be obtained was, that she had been ill for six days. She was in a state of the most unmanageable delirium; talking loud and incessantly, but would not reply to questions. Her pulse was 112, soft and compressible; the tongue covered with white fur.

Haust. sennæ sal.: Hirud. xij. *temp.: Emp. lyttæ nuchæ.*

Next day she was much in the same state; she had not slept; her face was flushed, and her skin hot; she obstinately refused her medicines.

Rep.: Hirud. xij. *et cont. haust. 3ia. q. q. h. ad alvi plenam solut.*

On the 17th, she was more violent than on the preceding day, but her pulse, though extremely rapid, was weak and fluttering; no evacuation from the bowels; skin very hot; no sleep.

She died next day.

Body not examined.

CASE LII.—John Bates, ætat. 45, (tailor,) was admitted on the 15th May, 1829. He had been labouring under fever, with some pectoral symptoms, for ten days previously, for which no treatment had been pursued. On the day after his admission, the chest affection became more developed; his respiration was hurried, and he had pain under the sternum, with urgent cough; his pulse was 116, feeble; skin hot, and tongue furred; fifteen ounces of blood were taken from the arm; a blister applied to the chest, and a purging draught ordered. These measures removed the pain of his chest, but his cough continued undiminished. He slept little, and rambled a good deal. A pill, containing calomel, opium, and squill, was ordered to be taken every three hours.

He died on the following evening.

Dissection.—The upper part of each lung was occupied by scrofulous tubercles, of different size and consistence. Some of these were soft, others cheesy, and several quite hard, and of a dark colour. The intervening portions were consolidated, and the inferior lobes of the lungs were free from disease. There were a few adhesions of the pleura, on the left side of the chest. With the exception of the spleen, which was softened, the abdominal viscera were healthy.

CASE LIII.—Francis Hodgkinson, ætat. 15, (servant,) was admitted on the 19th May, 1829. He had been ill, for eight or ten days, with symptoms of fever, complicated with inflammation in the brain and chest General and local bloodletting, blisters and purgatives, had been employed before his admission.

When admitted into the hospital, he was incoherent at times; complained of deep-seated pain in the chest on inspiration or coughing; pulse 117, soft and compressible; tongue covered with yellow fur at the root; bowels had been freely evacuated; lips and teeth covered with black sordes.

Next day his powers were more sunk; he had passed his stools in bed; his skin was rather cool; his chest symptoms undiminished.

Infus. cascar. cum liq. acet. ammon., 4tis horis.

21. Much as last reported.

23. Pulse 110; breathing more oppressed; more frequent cough, with copious viscid expectoration; more confusion; skin covered with petechiæ; three stools.

Haust. c. tart. ant. gr. iss. *2dis horis.*

24. No vomiting after the draughts; pectoral symptoms undiminished; numerous petechiæ; four involuntary stools; much delirium. *Cont.*

25. Died this morning, at two o'clock.

Dissection.—The membranes of the brain were slightly inflamed, and the specks of blood, on incisions being made through the substance of the organ, were very abundant. Increased secretion was observed in the ventricles and membranes at the base of the brain. In both cavities of the thorax a small quantity of bloody serum was effused. The lower lobe of the left lung was rather condensed, and of a deep reddish colour, apparently resulting from recent inflammation. The other parts of the lungs were healthy. There was increased vascularity of all the membranes of the small intestines, which had a general, dark, reddish brown discolouration.

CASE LIV.—Eliza Gordon, ætat. 39, was admitted on the 28th May, 1829. This woman had laboured under evidently severe pulmonic symptoms for upwards of a fortnight, and for which some opening medicines only had been taken. She complained, on admission, of pain in the right side of the chest on in-

spiration, attended with severe cough; the cheeks were of a dusky red colour; the skin hot; tongue clean, but very red; her bowels were loose, and her mind was confused. Two grains of tartar emetic, dissolved in an ounce of mint water, ordered to be taken every three hours, and a blister to be applied to the side. The bowels being still purged, six drops of laudanum were next day added to her draught. For the next two days, there was little change in the symptoms. She retained the draughts. On the third day, she became suddenly insensible; passed her urine and stools in bed; her breathing was exceedingly rapid and laborious, and she died on the following morning.

Body not examined.

CASE LV.—Elizabeth Wood, ætat. 23, (servant,) admitted on 28th May, 1829. Had been ill four days, with pneumonic symptoms, which she attributed to having been drenched with rain, a day or two previously. No active treatment had been adopted. When admitted, she was evidently confused in her mind, and complained of headach. She had considerable pain in the chest on inspiration, but little or no cough; her skin was hot, and face flushed. Pulse 116, round and full.

V. S. ad ℥xvj. *vel amplius: Pulv. aper. h. s.: Ol. ric.* ℥ss. *c. m.*

29. Pulse 120, of same character; blood sizy; pain in the chest little relieved; headach gone; much delirium; no sleep; abdomen tender when pressed; four stools.

Rep. V. S. ad ℥xij., *emp. lyttæ sterno: Haust. c. tart. antim.* gr. ij., 3*ia q. q. hora.*

30. Pulse 108, more soft; blood with thick and firm buff; pain of chest much relieved; slight delirium; three stools; vomited only once. *Cont.*

31. Pulse 108; vomited several times; no pain or uneasiness of chest; much delirium; tongue red and dry; three stools. *Cont.*

June 1. No sleep, but constant noisy delirium; frequent vomiting; no cough.

Om. haust. tart. antim: et sumat Mist. camph. ℥j. *cum tinct. hyos.* ℥j. 4*tis horis.*

2. Died this morning.

Dissection.—There was no disease of the brain or its mem-

branes. On the left side of the chest a few ounces of thin, puriform secretion were found, and the pleura was coated with a few patches of lymph. The left lung was inflamed, and in the early stage of hepatization. In the right lung hepatization was more advanced. The heart was large, pale, and flaccid. The abdominal viscera did not present any unhealthy appearances.

CASE LVI.—Mary Brenock, ætat. 12, admitted 3d June, 1829. This child, after passing through a very mild form of fever, which lasted about twelve days, was attacked with scarlet fever during the period of her convalescence in the hospital.

From this she also recovered without any unpleasant symptom. Ten days after she was pronounced convalescent, symptoms of dropsical effusion were observed, accompanied with hurried breathing, and some febrile excitement. She was bled from the arm, and active purgatives given, under which treatment, the effusion was rapidly disappearing, when she was suddenly seized with most intense pain in the abdomen, with vomiting, great prostration, and small, wiry, rapid pulse. She was instantly bled, generally and locally, and a pill, containing calomel and opium, given every three hours. The pain was considerably relieved after the bleeding, and she slept for some hours; and on awaking the following morning, the abdomen was free from pain even under pressure. The bowels were twice opened. Towards mid-day, however, her powers began to sink; she became insensible, and died a few hours after, within thirty-six hours of the first appearance of the abdominal inflammation.

On dissection, nothing unusual was observed in the brain. The right cavity of the chest contained about eight ounces of limpid serum, but the pleura and lungs were perfectly healthy. The abdomen was the principal seat of disease. Ten ounces of seropurulent fluid were found in the pelvis; the intestines adhered firmly to each other, and in several places there were extensive patches of recently effused lymph, which were easily detached from the peritoneal covering of the bowels. The peritoneum covering the abdominal parieties was vascular in many places.

CASE LVII.—Anne Edwards, ætat. 38, was admittted on the 11th June, 1829. She had been ill for a week with symp-

toms of fever, to which peritoneal inflammation had succeeded. The abdomen was exceedingly tender on pressure; the bowels much purged ten stools having been passed within a few hours after her admission; tongue was thickly coated with white fur; pulse 120, full, and tense; had been bled from the arm twice, and twelve leeches applied to the belly.

Iterum ft. v. s. ad ℥xij.: *Pil. c. cal.* gr. ij. *et opii* gr. ss. *6tis horis sumenda.*

12. Pain, and tenderness of abdomen very severe indeed, the slightest pressure could not be borne, and every movement of the body produced pain; no vomiting; tongue very white; eight stools with severe pain; pulse 118, sharp.

V. s. ad ℥xij., *statim, et postea app. hirud.* xij. *abdomini: Ft. pil. cum cal. et opii aa.* gr. j. *4tis hor. sum.*

13. Pain of abdomen much better, though tenderness on pressure still great; three stools only; occasional retching; passed on the whole, a better night than the preceding.

App. iterum hirud. xij. *abdomini et postea catap. emoll.: Cont. pil. 4ta q. q. hora.*

14. Pulse 120, weak, though sharp; countenance pallid, and sunk; exceedingly restless; incessant moaning; complained much of pain in her back, but less of that of abdomen; no stool.

Capiat pil. cum cal. gr. j. *et opii* gr. ij. *4tis horis; ol. ric.* ℥ij. *statim, et rep. c. m. si opus sit.*

15. Asleep; less restlessness, and pain reported to be much diminished; pulse 130, very weak.

16. Died this afternoon.

Dissection.—The brain and contents of the chest were healthy, with the exception of slight adhesions of the pleura at the back part of the lungs. On an incision being made into the abdomen, which was as prominent as that of a woman six months advanced in pregnancy, a considerable quantity of thin, turbid fluid escaped. The peritoneum lining the abdominal parieties was highly injected, and presented a rough unequal surface, from depositions of lymph in patches of various sizes. The bladder was much distended with urine, so that its fundus reached as high as the umbilicus. On its posterior surface, which lay in contact with a large quantity of puriform fluid, interspersed with thick flakes of lymph, the

peritoneal membrane was much thickened, and covered with patches of apparently organised lymph. The omentum, which was of a reddish brown colour, much thickened, and altered from its natural structure, adhered to the intestines and posterior part of the bladder. The intestines were bound together, and to the walls of the abdomen in several parts, which made it difficult to trace the natural course of the canal. The peritoneum covering the liver, spleen, and gall bladder, was inflamed, though in an inferior degree. The mucous membrane of the jejunum and ileum was more vascular in some places than natural, but there were no appearances of ulceration.

The mucous membrane of the colon, nearly in its whole extent, was of the colour of raspberry jam; that of the rectum was of a similar, but somewhat less florid hue. The membrane was thickened generally, and to a considerable extent in some places, where traces of incipient ulceration were recognizable. The mesenteric glands were enlarged and vascular.

CASE LVIII.—John Homer, ætat. 8, was sent into the hospital on the 31st May, 1829, in a state of insensibility. No account was obtained of the history or progress of the case. His coma was alternated with fits of violent delirium; he passed his urine and stools in bed; his lips and teeth were covered with sordes; his pulse was not above 60, and exceedingly feeble. Wine and ammonia had no effect in restoring his powers, and he died twenty-eight hours after admission.

Body was not examined.

CASE LIX.—David Piggot, ætat. 19, (furrier,) was admitted on the 10th June, 1829. He had been confined with symptoms of fever for ten days, and when brought into the hospital, he complained principally of headach, and severe pain in the centre of the abdomen, much increased on pressure. His pulse was 108; his tongue dry, and brown in the middle; his skin warm; his eyes dull and suffused; his bowels confined.

Ten ounces of blood were taken from the arm, a blister applied to the belly, and half an ounce of castor oil given. These measures relieved the pain in the head and abdomen, and he passed three

stools. The blood was not sizy. Next day, he rambled a good deal, and passed one copious stool, consisting almost entirely of blood, but was free from pain on pressure; tongue dry and brown. On the succeeding day, he was much the same; two stools, with less admixture of blood. There was no blood in the motions next day, but his strength was much reduced. This was more evident on the 15th, and he expired on the following morning.

Dissection.—The membranes of the brain were vascular; the thoracic viscera were sound, with the exception of old adhesions between the pleura.

About a quart of sero-purulent fluid, of the consistence of gruel, was effused in the cavity of the belly. The intestines adhered partially by bands of recent lymph. The whole of the peritoneum was inflamed, but some portions more so than others. The mestenine glands were much enlarged; some as large as a walnut.

The mucous membrane of the small intestines was vascular, and discoloured through the greater portions of its extent. In some places it exhibited the grey, in others, the brown, discolouration of the French writers. The mucous membrane of the transverse arch of the colon, was highly injected.

Towards the extremity of the ileum, and in the commencement of the colon, numerous small ulcerations were found, one of which had perforated the ileum, forming an aperture of the size of a sixpence. Around the ulcer, coagulable lymph was effused, by which its edges were attached to a portion of small intestines, and thus the escape of the intestinal contents was prevented.

The inflammation had in many places extended through all the coats of the bowels.

CASE LX.—Mary Welch, ætat. 55, was admitted on the 13th June, 1829. Her symptoms of fever were of fifteen days' duration, but they were of a mild character from their first appearance; and by the employment of purgatives, in a few days she was rapidly verging towards convalescence. In a day or two after, however, her pulse quickened, and she began to ramble and to doze; her tongue became dry and brown; but she only complained of general pains. Two days after this relapse, she was attacked with erysipelas, which was at that time prevalent in the ward.

She became more and more comatose; muscular tremor, dry, black coating of the tongue, and involuntary evacuations, succeeded, and she died on the 3d July.

Dissection.—There was opacity of the arachnoid membrane, with slight effusion beneath it, and increased vascularity of the substance of the brain and spinal cord. Nearly a pint of sero-purulent secretion was found in each pleural cavity, where a few old adhesions existed. A small portion of the right lung was inflamed. The pericardium contained ten or twelve ounces of thin, puriform fluid, was generally inflamed, and had a coating of lymph on its internal surface. The substance of the organ and its cavities were natural. The liver was rather large, the only circumstance remarkable in the abdomen.

CASE LXI.—William Newing, ætat. 25, was admitted on the 18th June 1829. This young man was brought into the hospital in a dying state. His friends stated, that the complaint had existed upwards of three weeks, and that the principal seat of his disease was in his head. He rambled and talked incessantly; his face was flushed; his eyes dull and heavy; he passed his stools in bed.

His head was shaved, and cold lotions applied. Next day he was evidently moribund, and died a few hours after.

Body not examined.

CASE LXII.—Mary Watson, ætat. 32, admitted 20th June, 1829. After having passed through small-pox, from which she had been convalescent only a short time, she was attacked with fever, and four days before admission, she became noisy and incoherent. When admitted, she complained much of her head; her eyes were suffused, and her incoherent talking was incessant. Pulse 96, weak. She passed her evacuations in bed.

Calomel and opium, cold wash to the head, and four ounces of wine were ordered.

Two days after, erysipilas appeared on the scalp; her pulse became exceedingly weak and rapid (144); retention of urine, so as to require the catheter, came on, and she died three days after admission.

Body not examined.

CASE LXIII.—Harriet Algar, ætat. 20, (servant,) admitted on the 29th June, 1829. Symptoms of fever came on about fifteen days before she was admitted into the hospital. On admission, she complained of pain in her head and loins; her face was flushed; her skin warm; the bowels loose; tongue slightly coated at the root, edges and tip of a fiery red colour. Pulse 100.

V. S. ad ℥xij.; *Hydr. c.*; *creta* gr. v. *h. s. s.*

30. Headach, and pain of loins, much relieved; three stools; slight bronchitis.

R. *Hydr. c. creta*, gr. iij.; *pulv. ipecac.* gr. ss. *M. ft. pulvis* 6*ta. q. q. h. s.*

July 2. Symptoms much the same; three stools.

3. Pulse 96; tongue still of deep red, but less furred at the root; three stools; mercurial odour.

Cont. pulv. 8*va. q. q. h.*: *Hirud.* x. *abdomini.*

5. Pulse 100; skin warm; tongue unchanged; three stools; free from local pain, but her cough is increased.

Emp. lyttæ sterno.

7. Pulse 108; skin warm; cough continues, with expectoration of viscid, tenacious mucus; breathing hurried; two stools; tongue clean, and still red.

R. *Tart. antim.* gr. j.; *aq. menth.* ℥j.; *tinct. opii.* gtt. v. *Ft. haustus* 4*ta q. q. h. sum.*

8. Pulse feeble; extremities cold; features shrunk; evidently sinking.

Died shortly after the visit.

Dissection.—The diseased appearances were confined to the abdominal viscera.

The peritoneum was in some places injected, but no effusion had taken place. The mucous membrane of the stomach, duodenum, and first portion of the small intestine, was healthy, while the whole of the large intestine, the vermiform process, and from 12 to 18 inches of the termination of the ileum were inflamed, and presented numerous ulcerations, varying in size from a split pea to nearly that of a halfpenny. The majority, however, of these ulcers were small, and were situated in the first portion of the colon. The peritoneal covering of the gut, at the termination of the ileum, was separated with the greatest ease from the mucous coat, which was

destroyed by ulceration in five or six places. The glands of the mesentery were slightly enlarged; the spleen was softened, and broke under slight pressure.

CASE LXIV.—Elizabeth Rice, ætat. 38, (married,) admitted on the 9th July, 1829. She was attacked with symptoms of fever more than two weeks before. She had complained of headach and vertigo from the commencement, and soon after, some pectoral symptoms appeared. When admitted, the pain in her head, cough, and dyspnœa continued, and the belly was tender on firm pressure. Pulse 100; tongue furred at the root, membrane at the edges clean and red.

Hirud. viij. *abdom.: Emp. lyttæ sterno: Abrad. capill.*

11. Pulse 92; pain of belly gone; headach very much better; cough and dyspnœa abated; tongue unchanged; no stool to-day.

Mist. acet. am.; ol. ric. ʒss. *statim.*

12. Pulse 84; no pain in the head, chest, or belly; very slight cough; slept well: two stools. *Cont.*

14. Pulse 80; skin cool; two stools.

20. After gradual improvement, she was attacked with erysipelas of the head; no headach; skin warm; two stools.

Abrad. capill. iterum: Mist. potass nit.: Pulv. aper. mit. c. m.

21. Erysipelas extending; no delirium; slight tremors; skin warm; tongue white; three stools; slept ill. Pulse 96. *Cont.*

22. Pulse 104, feeble; three stools; says she "*feels worse all over,*" and complains much of debility; erysipelas stationary.

Mist carb. ammon.: Vini albi. ʒiv.

23. Pulse 100, more firm; two stools; wine relished; tongue the same coat.

24. Pulse 108; muscular tremors, with occasional rambling; erysipelas extending slowly; two stools; tongue slightly furred at the root.

Cont. mist et aug. vinum ad ʒviij.

25. Moribund; and died in the evening.

Dissection.—The membranes of the brain were slightly injected; a small quantity of milky fluid was deposited under the arachnoid membrane. The thoracic viscera were healthy. The

mucous membrane, towards the extremity of the ileum, was inflamed, and several small ulcerations were interspersed through this portion of intestine.

CASE LXV.—Mary Howes, ætat. 24, admitted on the 9th July, 1829. This young woman had passed through fever several months before; and though she recovered her strength, she had almost constant pain in the head, for which general and local bleeding, purging, cold lotions, mercurials, and a variety of measures were adopted, with only partial and temporary relief.

In this state she was attacked with fever, and, as might be expected, there was considerable determination to the brain, for which she had been bled generally and locally.

On admission, the symptoms were intense pain in the head and loins; flushing; tenderness of the belly; thirst; and loaded tongue; pulse 120. She was bled from the arm; cupped on the nape; cold water was repeatedly dashed on the head; and she was put under the influence of mercury. Under this treatment, the pain in the head and abdominal tenderness were removed, and the general febrile symptoms moderated.

On the 13th, however, erysipelas appeared on the back, around the incisions made by the cupping scarificator; it spread over the back and loins, round the abdomen, and upwards over the neck to the head and face. Her powers began soon after to sink; delirium and partial tremors appeared; her pulse became exceedingly feeble and rapid; universal muscular tremors and insensibility supervened, and she died on the 29th July.

Dissection.—There was increased vascularity of the arachnoid membrane of the brain, without thickening or opacity. The substance of the brain was very firm, and too full of blood. The right lung was adherent to the diaphragm and ribs, but no further disease was noticed in the chest. There was inflammation, with softening of the mucous membrane of the ileum, but no ulceration. The spleen and other viscera were healthy.

CASE LXVI.—Isaac Comber, ætat. 60, (silk weaver,) admitted on the 18th July, 1829. This man passed through a very mild form of fever, and was convalescent six days after his ad-

mission. After remaining a week longer in the hospital, during which he had regained his strength, he was preparing to return home in the course of a day or two. On the 30th July, however, he relapsed, though there was no organ specially implicated. He had frequent rigors; his pulse was 96; skin hot, and the tongue furred. His bowels not having been opened for 24 hours, a purging draught was administered, which he rejected by vomiting. Pills, containing calomel and cathartic extract, and a purgative glyster ordered. Next day, his pulse was 84; he had not slept, and seemed very restless and uneasy, tossing about in the bed, and moaning incessantly, yet when questioned, he said he was free from pain; he had no delirium; his bowels had been once freely moved. A purging mixture ordered; the glyster to be repeated in the evening.

He died early on the following morning.

Dissection.—The dura mater was healthy. Between the arachnoid and pia mater a quantity of thick yellowish lymph was deposited nearly over the whole surface of the brain and cerebellum. The cerebral substance was marked by numerous bloody points, and in some parts presented large discolourations, of a claret hue. At the basis of the lateral ventricles, which contained three ounces or more of clear serum, about a teaspoonful of puriform matter was found in each cavity. The membranes of the spinal canal were affected in the same way as those of the brain, but the cord appeared healthy. The right lung was very vascular, and partially hepatized. The left side of the chest was healthy. The spleen was soft, and the rest of the abdomen appeared natural.

CASE LXVII.—Jane Mead, ætat. 29, (widow,) admitted on the 20th July, 1829. She stated, that after the healing of an ulcer on the arm, which had existed nearly four months, her general health declined, and, at length, symptoms of continued fever supervened.

When admitted, she was in a state of extreme prostration; her skin was cold and shrunk; features collapsed; breathing hurried; tongue dry and brown; low muttering delirium; the pulse 124, very soft, and powerless.

Wine and beef-tea ordered.

21. She passed a restless night, with delirium; three stools, mixed with blood.

23. Increasing prostration; pulse more feeble; three bloody stools.

26. Died at three o'clock.

Dissection.—The arachnoid membrane of the brain was thickened and opaque, and elevated by large effusion of serum beneath it, and into the texture of the pia mater. The spinal cord and its membranes were healthy. Nothing unusual was observed in the thorax, excepting a few emphysematous elevations of the pleura covering the lungs. The spleen was softened, and loose in texture. The other parts of the abdomen were in a healthy state.

CASE LXVIII.—Sophia Gould, ætat. 23, (servant,) admitted on the 20th July. The symptoms, in this case, which had existed eight or ten days, commenced with headach, nausea, vomiting, and pain of abdomen. Leeches had been applied to the temples, and some remedies, with the nature of which she was unacquainted, had been administered.

When admitted, she complained chiefly of her head; her face was flushed; skin warm; her tongue was red at the margin, but furred at the root; her bowels relaxed; pulse 112, soft and compressible.

The treatment consisted in the repeated application of leeches to the temples and abdomen. Small doses of ipecacuan, with mercury, (*hyd. c. creta,*) which had the effect of removing the more urgent symptoms.

On the 4th August, when much reduced, she was attacked with erysipelas of the face, which extended rapidly over the scalp. Small doses of sulphate of quinine were prescribed. She gradually sunk, and died on the 10th August.

Dissection.—Beneath the integuments of the head and pericranium, a puriform fluid was effused. The arachnoid membrane of the brain was opaque, and there was a small quantity of serous fluid under it, and in the ventricles. The lower portion of the ileum was inflamed, and dark coloured, and several small ulcers occupied this portion of the bowel. There was no disease in the chest.

CASE LXIX.—Catharine Medlin, ætat. 31, (married,) admitted on the 23d July, 1829. This patient, after a tedious recovery from her confinement, was seized, ten days before admission, with the ordinary symptoms of fever, complicated with affection of the chest, for which she had been bled and purged.

When admitted, her pulse was 132, small and feeble; she had considerable dyspnœa, accompanied with cough, and præcordial oppression, and pain of limbs. Her skin was warm and sallow; her tongue red and dry; bowels open; a blister was applied to the chest; and some beef tea given. Next day the dyspnœa was somewhat relieved, but her cough, and other symptoms, were much the same. Pulse 128.

Mist. camph. c. tinct. hyos. 4ta horis.

On the 25th there was little change, and she died on the following morning.

Dissection.—There was great turgesence of all the vessels of the brain, with a natural state of the membranes. On the right side of the chest, the pleura of the lung had contracted a few adhesions to the ribs, and the lung itself was solid, condensed, and gorged with blood. The left side of the chest, and the cavity of the abdomen, presented no morbid appearances.

CASE LXX.—James Nicholls, ætat. 21, (servant,) admitted on the 29th July, 1829. Six days before admission, symptoms of fever, with abdominal inflammation, came on, for which aperients only were prescribed.

When brought into the hospital, he complained of headach, but chiefly of pain in the abdomen, and general pains. His tongue was covered with white fur at the root, the margin was clean and red; the skin warm; bowels reported regular; pulse 92, full. By general and local bloodletting, fomentations and aperients, the tenderness of the belly was subdued; his pulse did not exceed 86. On the 3d August, however, the pulse increased in frequency (110), the stroke being small and feeble; pain in the abdomen returned; his countenance became altered, and denoted much distress. A dozen of leeches were applied, and afterwards a blister. He died during the night.

Dissection.—The vessels of the cerebral membranes were full of blood, but nothing unusual was observed in the brain. The chest was healthy, excepting a few old adhesions of the right pleura. About a quart of sero-purulent matter was found in the abdominal cavity, and the peritoneum was very extensively inflamed. There were many points of adhesion between the viscera, which were easily separated. The liver was enlarged.

CASE LXXI.—Henry Elbow, ætat. 59, admitted on the 23d July. No particulars of the previous history of this case, or of the treatment adopted, was obtained. He was much reduced in flesh; coughed occasionally, and expectorated with difficulty. Pulse 104; skin cool; tongue covered with dry fur; some thirst; bowels regular; aperients, the oxymuriatic acid, and beef tea, ordered.

A few days afterwards, muscular tremor and delirium came on; the pulse rose, and he passed his stools unconsciously, but his cough disappeared. He was now allowed a small quantity of wine in addition to his other remedies.

He gradually became more and more exhausted; the delirium incessant, and he expired on the 7th August.

Dissection.—There was too much blood in the substance, and an increased secretion of the ventricles, of the brain, but no disease of the membranes. The superior lobes of the lungs were filled with small tubercles, and cavities containing soft and cheesy matter, the intervening structure being condensed, and, in some points, nearly of the hardness of cartilage. Several adhesions existed between the pleura on each side of the chest. The liver was indurated, and had an irregular granular surface. The rest of the abdomen was healthy.

CASE LXXII.—Eliza Hardy, ætat. 20, (servant,) was admitted on the 8th August, 1829, having been ill about a week previously. She had been bled from the arm, and taken aperient medicines.

She complained, on admission, chiefly of pain in the loins, thirst, and want of sleep. She had no headach; no pain in the chest, or abdomen; no cough; but her face was flushed, her tongue coated, the bowels relaxed, her pulse 130, compressible.

The combination of a mild mercurial with ipecacuan, (*Hyd. cum creta*, gr. ij.; *pulv. ipecac.* gr. ss.; *pulv. cretæ co.* gr. v.; *6tis horis*,) with the application of leeches to the parotids, which had become enlarged, was continued for some days, and appeared beneficial in moderating the diarrhœa. She was attacked, on the 16th, with pain on inspiration in the left side of the chest, corresponding with the inferior part of the left lung, and hurried breathing; she had no cough; the belly was slightly tender on pressure. Bleeding, blistering the side, calomel and opium, and tartar emetic, were prescribed in succession, with the effect of removing the pain in the chest; but her breathing still continued hurried; her pulse quick; and the general excitement, the distension and tenderness of abdomen, were unabated. At this period of her disease, she was attacked with erysipelas of the head and throat; delirium supervened; her powers, which were already much exhausted, gradually declined, and she died on the 15th September.

Dissection.—There was no disease in the brain or chest. On raising the left lung, a small tumour in the diaphragm appeared, which, at first, gave the impression of diaphragmatic hernia; on more close examination, however, it appeared to be an abscess, covered only by the pleura of the diaphragm. On tracing the origin of this abscess, it was discovered in the spleen, which adhered firmly to the diaphragm and cardiac orifice of the stomach. Two abscesses were formed in the spleen, one in its centre, and another at the point of its adhesion to the diaphragm, the peritoneal covering and fibres of which it had destroyed, and thus protruded into the left pleural cavity. In the ileum there were several small ulcers, one of which had the appearance of undergoing the process of healing, being covered with a thin film of lymph, while its edges had assumed the level of the centre of the ulcers.

CASE LXXIII.—Thomas Naper, ætat. 32, (gardener,) admitted on the 26th August, 1829. He appeared to have had symptoms of fever for upwards of a fortnight before admission. When received into the hospital, he made little complaint, except of anorexia, dryness of his throat, slight pain of his chest, short dry cough, and thirst. His pulse was 72; the tongue white; his face flushed.

The treatment consisted of the occasional exhibition of purgatives, mild mercurials, and the mineral acids.

Three days afterwards, he had epistaxis, but this was not preceded hy headach, or any cerebral symptom. No amendment followed the treatment pursued, and he gradually sunk and died on the 8th September.

On dissection, nothing morbid was detected, except slight milky effusion under the arachnoid.

The annexed Table shows the morbid appearances in the 54 fatal cases.

TABULAR VIEW OF THE MORBID APPEARANCES.

	HEAD.	CHEST.	ABDOMEN.
Anne Boon.....	Serous effusion under the arachnoid, and in the ventricles, and theca ventricles.	Two ounces of serum in pericardium.	Enlargement of mesenteric glands.
Thomas Bryan....	Membranes and substance of brain inflamed.	Tubercles in both lungs, softened in the left; right lung hepatized.	Extensive ulceration of small intestines.
Mary Sullivan	Three ounces of water in the ventricles, and effusion of lymph between the membranes.	Adhesions of pleura; tubercles in the lungs.	Liver partially indurated.
Elizabeth Ralph..	Brain rather vascular, and contained more fluid than natural; dura mater ossified.	Old adhesions; infiltration of serum into the substance of the lungs.	Inflammation and adhesion of the bowels; sero-purulent fluid in the abdomen.
Elizabeth Gore....	Serous effusion in the ventricles and base.	Healthy.	Ulceration of ileum, and mesenteric glands enlarged.
Thomas Lewis....	Brain and its membranes vascular.	Effusion of lymph on pleura; right lung consolidated; tubercular matter.	Liver indurated, as in drunkards.
Mary Ford.....	Membranes slightly inflamed; serum under the arachnoid, and in the ventricles.	Healthy.	Vascularity and ulceration of mucous membrane of the bowels.
Sarah Nash	Membranes and brain inflamed; serum under arachnoid.	Hepatization of both lungs, especially in the right; muco-purulent fluid in bronchia.	Ulceration of ileum and cœcum; one tubercle in the spleen.
Jonathan Studd...	A small quantity of fluid in the ventricles.	Pleura adhered on both sides; bronchia inflamed; small portions of structure of the lungs indurated.	Ulceration of cœcum, and vascularity of mucous membrane.
Ann Edwards.....	Healthy.	Sac, formed by coagulable lymph, containing a quart of serous fluid in the right side; parenchyma healthy.	Chronic enlargement of liver.
William Gander ..	Membranes and sinuses turgid; four ounces of serum in ventricles.	Bronchial lining vascular.	Ulceration of ileum and colon.
John Macarthy ...	Brain and membranes vascular, with slight effusion in the ventricles.	Old adhesions of the pleura.	Ulceration of ileum and colon; spleen soft.
Eliz. Hammond..	Healthy.	Adhesions of the pleura and diaphragm.	Ulceration of ileum, cœcum and colon.
David Lake.....	Membranes and substance of the brain vascular.	Left lung hepatized; lymph on pleura, pint of sero-purulent fluid in left thoracic cavity.	Healthy.
Thomas Conolly ..	Brain firm and vascular; vessels of the membranes large and numerous; lymph under arachnoid, which was thick and opaque.	Old adhesions; lungs condensed.	Liver and spleen soft.
Maurice Roche....	Healthy.	Abscess in left lung.	Healthy.
Sarah Peach.....	Membranes and substance of the brain highly vascular; membranes of spinal cord also vascular.	Bronchi inflamed; miliary tubercles.	Mucous membrane of small bowels; inflamed tubercles in the spleen.
Charles Tyler	Healthy.	Bronchi inflamed; pulmonary apoplexy.	Healthy.
William Tennant..	Large effusion of fluid between the layers of the arachnoid; vascularity of the brain.	Healthy.	Ulceration of ileum and cœcum.
William Ashley...	Inflammation of brain and membranes to great degree.	Healthy.	Healthy.
Margaret Sheppard	Effusion in the ventricles.	Adhesions of pleura.	Healthy.
Benjamin Hilldness	Membranes vascular.	Adhesions of both pleural membranes.	Spleen soft.
Margaret Pennifold	Healthy.	Bronchi inflamed; tubercles in left lung; right slightly hepatized.	Ulceration of ileum and colon, with general vascularity of mucous membrane.
Benjamin Flegg ...	Brain and its membranes vascular; serum in the ventricles and at the base.	Lung gorged, and structure dense.	Ileum inflamed.
Thomas Kennie. ..	Membranes vascular; slight effusion.	Healthy.	Perforation of intestine, many ulcers.
Sarah Agembar...	Great vascularity of the brain, membranes vascular.	Consolidation of right lung.	Mesenteric glands enlarged.

Thomas Watkins..	Brain and membranes inflamed; effusion under the opaque arachnoid.	Lower portion of right lung hepatized, and inflamed throughout.	Membrane of ileum and cœcum inflamed; sub-mucous glands enlarged.
Elizabeth Gosset..	Membranes of brain vascular.	Healthy.	Invagination of the jejunum.
Jane M'Neil	Membranes vascular; arachnoid opaque and thickened, with effusion of yellow serum under it, and in the ventricles.	Both lungs and bronchi inflamed.	Intestines vascular.
Emma Haynes....	Healthy.	Pleura inflamed and thickened; deposition of lymph; quart of fluid in each pleura; tubercles in the lungs.	Healthy.
Elizabeth Coghlan	Healthy.	Pleura inflamed, and covered with lymph; inflammation of both lungs; serum in both cavities.	Peritonitis, with considerable effusion.
Virginia M'Mahon	Arachnoid opaque, with effusion under it, and in the ventricles; brain soft.	Bronchi inflamed.	Mucous membrane inflamed in patches; mesenteric glands enlarged.
Jane Kennedy	Healthy.	Lungs much consolidated and tuberculated.	Healthy.
Jeremiah Ferry	Healthy.	Left lung hepatized and tuberculated; right pleura inflamed, and coated with lymph; serum in right pleural cavity; bronchi inflamed; pericarditis, with effusion.	Peritoneum slightly vascular; liver large and soft.
Mary Duggin	Brain and membranes vascular, and effusion under arachnoid.	Healthy.	Healthy.
William White ...	Brain very firm.	Healthy.	Healthy.
John Bates	Healthy.	Tuberculated lung, with adhesions.	Spleen softened.
Fras. Hodgkinson	Membranes vascular, and effusion in the ventricles and base of the brain.	Effusion in both pleura, of bloody serum; lower portion of left lung inflamed and consolidated.	Dark red colour of mucous membrane of intestines.
Elizabeth Wood ..	Healthy.	Purulent fluid in left side, and lymph on pleura; left lung hepatized and inflamed; right lung hepatized.	Healthy.
Mary Brenock	Healthy.	Serum in both pleural cavities; pleura and lungs sound.	Sero-purulent fluid in the belly; peritoneum inflamed, and adherent.
Anne Edwards....	Healthy.	Adhesions of pleura.	Extensive peritonitis, with effusion; mucous membrane of intestines inflamed, especially of colon; mesenteric glands enlarged.
David Piggott	Membranes vascular.	Adhesions of pleura (ancient).	[peritonitis. Perforation in ileum, and consequent
Mary Welch	Arachnoid inflamed, with slight effusion; brain and spinal cord vascular.	Purulent fluid in each pleural cavity; adhesions and inflammation of right lung; pericarditis, and effusion.	Liver enlarged.
Harriet Algar	Healthy.	Healthy.	Inflam. and ulceration of ileum and colon; enlarged mesenteric glands; spleen soft.
Elizabeth Rice....	Membranes inflamed, and effusion under arachnoid.	Healthy.	Inflammation and ulceration of ileum.
Mary Howes.....	Brain and membranes vascular.	Adhesion of right pleura to diaphragm.	Mucous membrane of intestines inflamed
Isaac Comber	Brain and its membranes inflamed; yellow lymph over the whole surface beneath the arachnoid; serum and pus in ventricles; membranes of the spinal cord inflamed.	Right lung vascular, and partly hepatized.	Spleen soft. [and softened.
Jane Mead.....	Opacity and effusion under arachnoid; spinal cord sound.	Healthy.	Spleen soft.
Sophia Gould	Purulent fluid under scalp; opacity and effusion under arachnoid in the ventricles.	Healthy.	Inflammation and ulceration of ileum.
Catherine Medlin	Turgescence of vessels of brain.	Right lung adherent and consolidated.	Healthy.
James Nicolls	Vessels of membranes full of blood.	Old adhesions of right pleura.	Peritonitis, with purulent effusion.
Henry Elbow	Slight effusion in the ventricles.	Tubercles in lungs.	Liver indurated.
Eliza Hardy	Healthy.	Healthy.	Abscess in the spleen; ulcerations of the ileum, one of them healing.
Thomas Naper....	Milky effusion under the arachnoid.	Healthy.	Healthy.

CHAPTER VIII.

TREATMENT OF FEVER.

Treatment of Simple Fever: Of Bloodletting—Cautions with regard to Bloodletting in Fever—Combination of General and Local Bloodletting—Local Bloodletting—Emetics—Purgatives—Mercury—Antimonials—Refrigerants—Narcotics—Cold. Treatment of Typhus Fever: Bloodletting—Aperients—Wine—Management of Convalescence.

In no disease is it of more importance to have correct views of the principles of treatment than in the various forms of fever; and before determining the measures to be pursued in each case, several circumstances are always to be kept in view: for example, the precise form and duration of the fever is to be ascertained—the kind of complication that does, or may have existed—the age, sex, and constitution of the individual—the previous habits or mode of life, so far as they can be ascertained—and the nature and effects of the remedies which may have been adopted.

The principles upon which the cases which form the subject of the present report have been treated, it is almost unnecessary to observe, are founded on the conviction, that fever is an acute

disease, whether in its simple or complicated form, and therefore requiring antiphlogistic treatment, modified according to the individual circumstances of each case.

In mild cases of simple fever, in which there is no active disease in any organ going on, all that is required in the way of treatment, is confinement to bed, occasional aperients, and a regulated diet, consisting principally of farinaceous substances. If, however, there be much general excitement, especially if the individual be of a full habit, the abstraction of sixteen to twenty ounces of blood will tend to moderate any undue vascular action, and to prevent inflammation.

Though in many cases there is general excitement only, yet from the observations I have made, and from the history and dissections of the cases, it is evident that in by far the largest proportion, the fever is combined with local inflammations, which constitute the chief source of danger; and that the best means of subduing these, is to have recourse to the early adoption of active measures.

The principal remedy with this view, and the one which gave the most certain and speedy relief, was,

Bloodletting.—Most practical writers of the present day, whatever may be their views of the proximate cause of fever, agree in the propriety

of abstracting blood in its early, and even in the more advanced, stages, should local symptoms arise to render this evacuation expedient.

The fear of debility, which so long exercised a sway over even well-informed minds, has nearly lost its influence, so that there is no need of the acknowledgment, "that their subsequent practice has been a continued struggle between the prejudices of education, and the staring conviction of opposing facts, which were continually forcing themselves upon their observation." *

The experience of the decided benefits which result from bloodletting, in the treatment of the patients at the Fever Hospital, fully warrant me in affirming, that there are few cases which are not materially benefitted by its judicious employment, and I had too often reason to regret that it had not been performed at the commencement of the disease.

In many instances, when the patients were sent in early, bloodletting not only moderated the violence of the fever, but shortened its duration, while the tendency to local inflammation was entirely removed: in several instances, among the nurses and domestics, when it was performed on the first appearance of the symptoms, prompt bleeding entirely extinguished the disease.

* Bateman's Account of Fever, page 98.

When inflammation occurred in any organ, the lancet, in general, speedily arrested its progress; though in some cases, when it attacked a feeble convalescent, the violence of the inflammatory action was such as speedily to destroy life; in such cases bloodletting only reduced the powers, without making any impression on the local disease.

In no case was bleeding more decidedly beneficial than in severe headach, with flushing, restlessness, acute delirium, and watchfulness; it often proved the best means of tranquillizing the patient, and inducing sleep. When, however, the delirium was of the low, muttering kind, without pain of head, or flushing, showing a low form of neglected inflammation of the brain, the stage for active treatment had passed over, and experience, therefore, of the doubtful advantage, if not positive injury, resulting from abstraction of blood in such cases, led me to trust to small leechings, cold washes, and blisters to the nape.

The state of oppression and apparent debility induce the practitioner too often, in such cases, to prescribe a tonic plan of treatment; but it should be remembered, that the low, depressed condition of the patient, is the effect of inflammation in the brain, or its membranes, which will be inevitably increased by the administration of cordials.

When the pulse was sharp, and the eye injected,

notwithstanding apparent prostration, and dry brown coating on the tongue, I have seen a few ounces of blood from the arm of very great benefit. Stimulants under such circumstances are always injurious, and generally render the situation of the patient quite hopeless.

I am convinced that such symptoms are frequently brought on from the neglect of early evacuations, and the cooling treatment in the beginning of the disease. Indeed it was by no means uncommon to receive into the Hospital several members of the same family, in different stages of fever. The character of the disease varied chiefly according to the treatment which had been adopted. The great sensorial disturbance and oppression proved the neglect of early evacuations, while those who were at once removed into the well-ventilated wards of the hospital, and were blooded as the symptoms required, manifested no bad symptom.

In inflammation of the chest, which occurred in the winter and spring, the lancet was freely employed, and, from the state of the blood, was evidently an indispensable measure: 81 patients were bled for some form of pulmonic inflammation, the average quantity taken from each being about 17 ounces, besides the local abstraction of blood by leeches, or cupping on the chest.

When the peritoneum became inflamed, the acute pain in the abdomen attracted early atten-

tion to this symptom. It was at once treated by copious venesection, and the belly was afterwards covered with leeches, which, with doses of calomel and opium, and the occasional exhibition of purgatives to open the bowels, in general arrested the inflammation. In other instances, however, the disease, though actively treated on the first appearance of the symptoms of peritonitis, passed rapidly into effusion and death; and the morbid appearances, on dissection, showed the intensity of the previous inflammation, and how little influence the combination of our most powerful remedies had in controlling such violent action.

In some of the cases of peritonitis the first symptoms had been evidently overlooked, and when the patients were sent in, the disease had assumed more of the slow chronic action which succeeds when the inflammation does not immediately prove fatal. In these cases there is comparatively little pain, except on firm pressure, but the rapid, small, soft pulse, the distension of the belly, and the aspect of the countenance, indicate, with certainty, the fatal termination.

I have drawn up, with some minuteness, a table to shew the number of patients who have been bled, and the mortality of those who were bled; and to render this view as complete as possible, I have given these details by the month.

Tabular View of the Bloodletting employed in the Cases referred to in the Report.

1828 and 1829.	Monthly admissions.	Numbers bled from the arm.	Number of ounces of blood from the arm.	Number bled locally by cupping or leeches.	No. of ounces of blood locally abstracted, allowing half an ounce taken by each leech.	Numbers bled both generally and locally.	Ounces of blood abstracted: Generally. Locally.		Monthly Mortality.	Of whom were bled, Generally, Locally, Generally and locally.
September.....	60	29	504	8	90	4	System..132 Locally.. 40	172	12	Generally.....3 Locally.....2 Both 2 7
October.....	44	13	292	6	61	7	System..146 Locally.. 89	235	6	Generally.....2 Locally.....1 Both 2 5
November	24	5	112	6	37	4	System.. 86 Locally.. 33	119	5	Generally.....1 Locally.....2 3
December	52	9	188	8	43	7	System..162 Locally.. 82	244	2	Generally.....1 Locally.....1 2
January.....	67	10	218	9	46	6	System .. 94 Locally.. 47	141	8	Generally.....1 Both 1 2
February.....	49	3	28	4	29	5	System..132 Locally.. 36	168	6	None bled.
March.....	41	13	252	3	25	2	System.. 22 Locally.. 19	41	5	Locally.....2 Both 1 3
April	28	3	6	6	28	4	System.. 56 Locally.. 25	81	2	Locally.....1
May.....	56	24	559	9	74	5	System..112 Locally.. 78	190	9	Generally.....2 Locally.....2 4
June.....	41	18	316	2	16	8	System..175 Locally..109	284	8	Generally.....3 Both 1 4
July.....	36	12	231	4	42	8	System..108 Locally.. 64	172	7	Generally.....1 Locally.....3 Both 1 5
August.....	23	7	131	5	35	4	System .. 58 Locally.. 34	92	3	Both 1
	521	146	2892	70	526	64	System..1283 Locally.. 656 1939		73	Generally....14 Locally.....14 Both 9 37

By this statement it appears 280 lost blood—146 from the arm, 70 locally, and 64 both generally and locally; the average quantity of blood drawn was about 19 ounces.

Of the whole number bled (280), there were

	Cases.	Average quantity of blood.
Of Simple Fever	26	..... 8 ounces.
Affection of the brain	110	 20
——— chest	81	 17
——— abdomen	22	 15
——— head and chest	20	 21
——— head and abdomen	12	 16
——— head, chest, and abdomen	9	 24
	280	

With respect to the period of the fever at which bloodletting was employed, it may be observed, that although it was chiefly adopted in the early stages, still when the symptoms were urgent, it was abstracted even in the more advanced stages; for it frequently happened that in the course of fever, which at the commencement was comparatively mild, visceral inflammation supervened, which could only be arrested by the lancet.

The tables which follow, show the period of the disease, and the ages at which bloodletting was employed.

Numbers bled.	Day of the disease.	Ages.	Number of Patients.	Average quantity.
18	2nd	under 10	5	8 oz.
16	3rd	10 to 15	17	13
29	4th	15 .. 20	66	16
33	5th	20 .. 25	58	17
18	6th	25 .. 30	18	16
36	7th	30 .. 35	9	15
20	8th	35 .. 40	16	19
2	9th	40 .. 45	7	13
7	10th	45 .. 50	6	18
1	12th	50 .. 55	4	15
20	14th	55 .. 60	1	10
3	15th	60 .. 65	3	12
1	16th			
4	21st			
2	30th			
210			210	

The appearance of the blood was an additional proof of the necessity of this evacuation, for it was sizy in four-fifths of the whole cases; and even when it did not assume this character, the relief was equally striking; because it was not employed to subdue the visceral inflammation only, but in many instances, to relieve the general vascular excitement, and thus to anticipate, rather than remove, organic inflammation.

In determining the quantity of blood to be drawn in any case, due reference was always had to the period of the disease, as well as to the intensity of the symptoms for which bloodletting

was employed. When the crassamentum was small in proportion to the quantity of serum, and at the same time very soft, it showed that the period for venesection had passed over.

Fully convinced as I am of the advantages of employing the lancet judiciously in fever, still it is not a remedy that should be indiscriminately adopted, as if fever were identical with inflammation. I feel it incumbent on me to give this caution as a check to those who abstract blood in fever, with the view of extinguishing it.

The only stage of the disease at which this can be accomplished, and it is rarely accomplished, is at the very first onset, and before any decided impression on the various organs has been made.

From my own observations, I can bear testimony to the practical import of the following doctrine, as applied to fever.

The aged, infirm, and habitual free livers, in all diseases, bear bleeding ill. But, besides these more familiar classes, there is another, in which phlebotomy must be cautiously and sparingly practised.

It consists of men, perhaps not above the middle age, whose minds and bodies, either from the circumstances in which they are placed, or from a natural ardour of temperament, are unceasingly taxed to the very utmost of their powers. With this class of persons, and medical men themselves too frequently belong to it, we must deal

tenderly, or the mischief will speedily be irretrievable.*

It is also a well-established fact, that in some epidemics, and even at particular seasons, fever is not only more fatal, but does not bear bloodletting so well as at other times. We also know that in complicated fever, the local symptoms vary in degree, and therefore require the discriminating hand of experience to apply, with advantage, a modification of this class of remedies.

The experience of epidemic puerperal fever has shown, that though this severe, and often fatal, disease generally depends on inflammation of the peritoneum, and is most successfully treated by the early and free abstraction of blood, and other antiphlogistic measures, yet in some epidemics, or even in sporadic cases, these measures would be speedily destructive. This is owing not so much to any variation in the symptoms in the disease, as to some unexplained state of the system, at certain periods when puerperal fever is prevalent.

This has been forcibly pointed out by Dr. Gooch, in his excellent work on the Diseases of Women, in which he states that there is a form of peritoneal fever in childbed, which, although it has the ordinary symptoms, pain and tenderness of the belly, with a rapid pulse, is very different from the

* Medical Essays on Fever, Inflammation, &c., by Joseph Brown, M.D.

peritoneal fevers which prevailed between 1810 and 1820, different in its duration, which is much shorter; in the way in which it is affected by bloodletting, and, lastly, in the morbid appearances discovered after death.

As far, however, as my experience of the epidemic fever of London, for the last ten years, has enabled me to judge, the symtoms have generally required the employment of bloodletting at the commencement; yet, from the facts stated, and from what has been observed by many practical writers, I think it should be kept steadily in mind, that an epidemic may appear, which will not bear the same bold treatment which has been recommended in this report; and I would again take the liberty of reminding those who scarcely draw any line of distinction between complicated fever, and common inflammation, that there are modifying circumstances in fever which render the system unable to withstand large losses of blood without great hazard. I have seen many instances of fever, in which it came to be a point of serious deliberation, whether or not the patient could survive the measures necessary to extinguish the inflammation which had been kindled in some important organ, which, if unarrested, must have proved fatal.

In short, much judgment and discrimination is often required in the use of the lancet in fever, since, after it has advanced beyond a certain stage,

the measures which, at a more early period, would have been proper, are not only inapplicable, but often positively injurious, if not fatal.

When the indications for bloodletting in fever, to abate the violence of general excitement, or to subdue organic inflammation, have been fulfilled, or, in other words, when a decided impression on the general and local symptoms has been made by bloodletting, the system should be left pretty much to its own resources. We are not to bleed because the general symptoms of fever continue, but endeavour to guide the patient through the disease, carefully and minutely watching the recurrence of inflammation.

In many cases the combination of general and local bloodletting was necessary to subdue inflammation. I often observed, that when a full bleeding had reduced the power of the pulse, though the local symptoms were not proportionably overcome, the topical abstraction of blood by cupping, or leeches, was most beneficial.

Local Bloodletting. When the inflammation had been overlooked in the commencement, or when it came on in the more advanced stage of fever, while the constitutional powers rendered phlebotomy hazardous, local bleeding was in general the only means of arresting its progress; in these cases it was necessary to repeat the leeching or cupping till the pain or other symptoms gave way, and to support the strength

at the same time by mild nourishment. When this treatment had produced a tendency to sinking, it was sometimes necessary to allow diffusible stimuli for a short time, and to withdraw them when the powers were restored. The administration of stimuli in such cases required very close watching, to prevent any renewal of the inflammation.

When the local symptoms have been allowed to go on unarrested for some time, especially when the powers of the patient are low, it is often a nice point to determine between general and local bleeding. If the pulse be firm, and the skin hot, there can be no question that the abstraction of a few ounces of blood from the arm is decidedly the preferable practice. If, on the other hand, the pulse be soft, though rapid, and the skin moist, the application of leeches, or the cupping glasses, is the most likely means of affording relief. It is in vain to expect benefit from local bleeding if there be indications of general excitement; and it is equally certain that when the capillaries of an inflamed part have become much distended, general bleeding will not remove this condition; it is only to be effected by local depletion.

As to the method of abstracting blood locally, I may remark, that when the situation will admit of the application of the cupping glasses, this mode is infinitely preferable to leeching, the blood is drawn more rapidly, and the patient feels less fatigued, while the quantity can be regulated

according to its effects. I generally order cupping when the brain is much affected, and the nearer this can be applied to the seat of pain the better.

In the bronchial affection of fever, which is seldom attended with much general excitement, the repeated application of leeches on the upper part of the chest, was found to be the best mode of abstracting blood. It is decidedly to be preferred to venesection. If the practitioner be sufficiently acquainted with the use of the stethoscope, he will be enabled to detect some points of the chest, to which they may be more advantageously applied.

Sometimes the bronchitis is confined to one lung; in such cases the necessity of abstracting the blood from the immediate seat of the inflammation is obvious.

From the frequency of abdominal inflammation in fever, there is no part of the body which requires the topical abstraction of blood so frequently as the abdomen.

In some of the cases in which there was great tenderness of the epigastrium, accompanied with vomiting, venesection, followed by the application of leeches to the pit of the stomach, and small doses of neutral salts, was very beneficial.

It was some times necessary to repeat the leeching once or twice, and occasionally to apply a blister. I do not know on what this symptom depends. Dr. Cheyne states, that in a case in which great tenderness of the epigastrium existed during a great part of the disease, on opening the

body not the slightest morbid appearance could be discovered, except a small quantity of bloody serum effused into the cavity of the abdomen, and a very inconsiderable blush in the mucous membrane of the stomach, at the part where the œsophagus enters.

When the peritoneum becomes inflamed, general as well as local bleeding is necessary, upon the general principles which have been already adverted to.

Inflammation of the mucous membrane of the bowels, however, like bronchitis, appears to be little controlled by general bleeding; in all cases, therefore, where, in the absence of direct evidence, there was reason to suspect this complication, the abdomen was covered with leeches, and afterwards a hot poultice applied for the twofold purpose of encouraging the bleeding from the leeches, and of acting as a fomentation.

I seldom found this or any other mode of treatment of much avail, unless adopted before the tympanitic distension of the belly appeared—a very formidable, and not unfrequently fatal symptom.

This is evidently intimately connected with, if it be not produced by, inflammation, and, as far as my observation extends, it is chiefly confined to the large intestines. I have generally remarked, that the distension was considerably reduced immediately after the application of leeches, though it appeared to be again speedily renewed.

When it was necessary to apply leeches when the powers of the patient were much sunk, I have seen almost fatal sinking from the profuse hemorrhage from the orifices. This hemorrhagic tendency is not peculiar to fever, as it occurs occasionally in other affections; but when it takes place from the abdomen, where pressure cannot be effectually applied, I have known it followed by fatal consequences.

The practice of applying leeches late in the evening, and covering the belly afterwards with a hot poultice, without carefully watching the patient, should, if possible, be avoided; and when profuse bleeding cannot be restrained by lunar caustic, a fine needle should be passed under the bleeding orifices, and a ligature twisted round in the usual way.

The local abstraction of blood was of much use in some cases of diarrhœa, which, though unattended by pain, or any dysenteric symptoms, probably depended on inflammation of some portion of the mucous membrane of the bowels. In protracted cases of fever, I think the local is preferable to the general abstraction of blood in inflammatory diarrhœa, unless the state of the pulse, and other symptoms, denote much general excitement.

Emetics. Patients are so seldom admitted into the Hospital at the commencement of fever, at which period alone emetics are serviceable, that I have little experience of their efficiency.

When the excitement is moderate, when there is no organic inflammation, and when the patient is young and vigorous, I think the shock given to the system, by the effort of vomiting, is decidedly useful by determining powerfully to the surface, and stimulating the organs of secretion.

If, however, there be considerable vascular action, and more especially any local determination, the operation of an emetic is decidedly injurious. A moderate bleeding, under such circumstances, is the more judicious practice. In feeble subjects, or when the system is much lowered, they should never be employed.

Purgatives. In some mild cases of fever, without any local determination, the exhibition of purgatives alone, was sufficient to subdue the disease. When there was much general excitement, a moderate bleeding from the arm, followed by one or two doses of cathartics, speedily put a stop to the febrile action.

From the opportunity I enjoyed of witnessing the efficacy of purgatives in the treatment of fever, while I held the appointment of physician's assistant to Dr. Hamilton, in the Royal Infirmary of Edinburgh, I am convinced, that next to judicious bloodletting, there is no class of remedies so decidedly useful.

Dr. Hamilton has the merit of having first pointed out the advantages of a more liberal employment of purgative medicines in fever, and

was eminently successful in combating the phantom—debility, which, at the time his work first appeared, fettered the minds of practitioners.

In all cases of high excitement in the commencement of fever, more especially when the brain was seriously affected, after due bloodletting had been performed, the exhibition of purgatives gave great relief. The bowels were thus not only unloaded, but a copious discharge from the intestinal exhalents produced, which was in general followed by a marked diminution of the cerebral as well as the febrile symptoms.

After the bowels had been thoroughly evacuated, a gentle action was kept up during the whole course of the disease, unless there were particular circumstances in the case to render this practice improper.

The choice of the purgatives was of little consequence, provided it produced the intended effect on the bowels. I generally prescribed, in the first instance, calomel and rhubarb, followed by castor oil, or the usual purging draught, consisting of infusion of senna and some neutral salt. When the stomach was irritable, the large bowels were first cleared by enemata; and when free evacuations had been procured in this way, the stomach became quiet, and retained pills composed of calomel and cathartic extract, or the effervescing senna draught.

I found it sufficient afterwards to give occasional doses only of mercurial purgatives, accord-

ing to the condition of the stools, but it was in most instances necessary to give a mild aperient daily, so as to ensure at least two evacuations from the bowels.

In the advanced stages of fever however, there is much caution necessary as to draining too much from the system through the bowels.

Indiscriminate purging, I conceive, to be equally injurious as indiscriminate bleeding; indeed, when we consider how much the system may be reduced by purging, and observe the pale countenance and exhaustion produced by frequent serous evacuations from the bowels, it is evident the powers of the patient may be as readily sunk by injudicious purging as by too much bleeding. I am certain that much harm has been done by continuing the daily administration of purgatives in tedious cases of fever, by which the powers of the patient are unnecessarily lowered, and the probability of the ultimate recovery rendered more doubtful.

In those cases of fever in which there was a tendency to diarrhœa, purgatives were withheld; this soluble state of the bowels, as formerly noticed, proceeds very generally from irritation, or inflammation, of the intestinal mucous membrane, which would be materially aggravated by purgatives. In such cases very little interference is necessary, beyond the regulation of the secretions by occasional doses of mild mercurials.

Though the French writers condemn too indis-

criminately the exhibition of purgatives by British practitioners, still I conceive the frequency of gastro-intestinal inflammation in fever, should be an additional caution against long-continued purging.

The dread of inducing or increasing this condition of the mucous membrane of the bowels, explains, in a great measure, the execration of purgatives by *Broussais* and his disciples. The maxim, *in medio tutissimus ibis*, may, in this particular instance, be well applied.

Another class of cases in which active purging is improper, is subacute bronchitis, which is generally relieved by expectoration. Nothing is more likely to diminish this salutary process than the injudicious administration of purgatives. In such cases, therefore, the more mild aperients, so as to evacuate the bowels thoroughly without acting on the exhalents, were preferred.

Mercury. This mineral is administered in fever, with three indications; first, as a purgative; secondly, as an alterative; and thirdly, to subdue inflammation.

I have already stated that calomel is a very useful combination with other purgatives in the commencement of fever, though I do not approve of the daily routine exhibition of mercurial purges during the whole course of the disease. When occasionally given, perhaps every second or third night, I think it assists materially in cleaning the

tongue, and inducing more healthy secretions. The blue pill answers this purpose extremely well, and being less likely to irritate than calomel, is therefore well adapted to the latter stages of fever, and will often alone be sufficient to regulate the bowels, after they have been fully evacuated. In the stage of convalescence, when every symptom has disappeared except a slight fur on the tongue, I do not know any plan more beneficial than giving small doses of mercury, with some bitter aperient infusion, and strict regulation of the diet.

The alterative operation of mercury can only be proved by its effects in restoring the vitiated secretions to their healthy condition. How this process is effected, I am not prepared to show, nor is it of much importance to inquire.

I am frequently in the habit of ordering the external application of the mercurial ointment in fevers, where the general powers are feeble, and the local inflammatory symptoms have assumed a low character, either from the neglect of proper measures, or from the protracted nature of the disease.

It would appear that the febrile action forms a protecting power against the influence of mercury, as its action on the system does not take place till the fever subsides; hence I always regard the early effect of mercury as a favourable circumstance in fever.

Dr. Brown* states that, in remittent fever, he

* Medical Essays, page 118.

has seen full ptyalism during the remission, which has disappeared during the exacerbation, and become again perceptible on its subsidence. The case which follows, is very much in point. Mercury was given to a female who was ill of continued fever, but the mouth did not become affected till she was convalescent. She relapsed from some error in diet, and the ptyalism instantly disappeared; she soon recovered, when there was again perceptible affection of the mouth.

This should lead to caution in the quantity of mercury exhibited in fever, as it may accumulate in the system, and produce severe effects in convalescence.

When mercury is employed externally, the best plan is to apply two scruples of mercurial ointment to the axilla, where absorption goes on very rapidly; this mode is more cleanly, and less fatiguing to the patient than friction.

The combination of calomel and opium, in inflammation of the chest and abdomen, is a remedy of great power, and I can speak with confidence in its favour.

Though I should never think of this, or any other remedy, superseding general or local bloodletting, when the powers of the patient are able to bear these evacuations, still when the period for active depletion has passed over, or when the symptoms do not yield readily to bloodletting, it assists very much in reducing the inflammatory

action, while, at the same time, it tranquillizes the nervous system. I generally prescribed, after a full bleeding, two grains of calomel, with one of solid opium, in a soft pill, every two, three, or four hours, till some decided impression on the local symptoms was made; it was then given at more distant intervals.

It is important to avoid, if possible, the full mercurial action, because when this occurred, I observed that great weakness ensued, which tended much to render the convalescence exceedingly tedious, and often imperfect. I have also occasionally witnessed very troublesome sloughing of the mouth, and even perforation of the cheek, which ultimately proved fatal, from the administration of mercury to children in fever.

Antimony. From the dry, parched heat of the skin in fever, and the occasional termination of the symptoms by free diaphoresis, it is reasonable to suppose that those remedies which promote cutaneous transpiration may have a similar beneficial tendency. The favourite dogma of Cullen, that spasm of the extreme vessels is the proximate cause of fever, has secured for such remedies a more lasting reputation than their real merit deserved. The practice, in itself perfectly inert, has had the injurious effect of excluding more powerful measures, and is an illustration of what may be daily observed, that errors in theory very generally lead to erroneous principles of treatment. I

must say, I seldom prescribe diaphoretics in fever, from a conviction of their inefficacy. They may be ordered to avoid the *nimia medici cura*, or to amuse the mind of the patient when there is no particular indication of treatment. I include in these remarks the whole tribe of saline medicines.

The only preparation of antimony in which, from ample experience of its utility, I place great confidence, is the tartar emetic. I have already alluded to the treatment of some forms of chest affections, more particularly bronchitis, by large doses of this medicine, so that I need not in this place enlarge on the practice, further than again to impress on those who have no experience of its efficacy, a trial of its power in subduing idiopathic, as well as symptomatic pulmonary inflammations.

The excellent account given by Laennec and other writers on this point should be carefully read; and I do not know that a more comprehensive view can be given than the summary of this practice by Dr. Forbes, under the unassuming name of a "note."

Nauseating doses of antimony depress the action of the heart in proportion to the sickness they induce. I cannot speak confidently of this mode of practice in fever, though I have no doubt there are many cases of great general or local excitement, in which it may be adopted as an auxiliary to other measures.

Refrigerants. As refrigerants, I generally prefer the mineral acids, especially the oxymuriatic. In the early stages, they check the thirst and heat of skin; and in the more advanced, particularly when the fever approaches to the typhoid character, their antiseptic powers render them decidedly useful.

Narcotics. The propriety of administering opium or other medicines of this class in continued fever has been admitted by some, and questioned by others. It was formerly the regular routine practice to order an anodyne as soon as the symptoms of fever were on the decline, very often without reference to the condition of the several organs.

I have seen much mischief from this indiscriminate use of opium, and I do not know a more difficult or uncertain point than the due administration of this remedy in fever.

There were some cases in which it answered admirably; in others it produced the most unpleasant effects, increasing the delirium, thirst, and heat of skin, confining the bowels, and inducing a dry, parched state of the tongue.

When there has been much excitement in the brain, an opiate will certainly do harm. Even though the cerebral symptoms have passed off, and the patient complain only of restlessness and want of sleep, its advantages are doubtful. If it

be given in such cases, a full dose of solid opium combined with calomel, is the safest plan of administering it, while the scalp is enveloped in a cold lotion. Sometimes small opiates, repeated at short intervals, answer better than a full dose, for instance, eight or ten drops of the liquor opii sedativus in camphor mixture, or in a saline aperient draught, every three, four, or six hours, carefully watching its effects.

When opium is found to tranquillise the nervous system, and does not act injuriously on the other symptoms, I think the latter plan preferable, on the same principle that small, repeated doses of wine are given, in preference to a large quantity at once.

The acetate of morphia is an excellent preparation of opium ; in fever, it is less stimulating, and consequently less injurious, should it fail in tranquillising the patient, and inducing sleep. The medium dose for an adult is ten drops of the alcoholic solution, but when given at short intervals, three or four drops are sufficient.*

I have no experience of any of the other narcotics. I have sometimes prescribed a scruple of camphor, in the form of enema, with apparent advantage ; I very often preferred the exhibition of opium in this way when its administration was

* R. *Acet. morphia*, gr. xv. ; *Aquæ distill.* ʒvi. ; *Acid. acet.* gt. v. ; *Alcoholis*, ʒii. : the dose is from 5 to 15 drops.

of doubtful advantage, and consequently a matter of experiment.

Cold. The advantage of the free admission of cool air in the treatment of fever is incalculable. This was frequently proved by the change in the aspect of the patient, and the improvement in many unfavourable symptoms, within a very short time after his removal from a crowded room to the well-ventilated wards of the Fever Hospitals. I have seen the prostration and delirium speedily disappear, and the dry tongue become more moist and clean, under such circumstances.

The employment of the cold affusion in the treatment of fever, as recommended by the late Dr. Currie, has now almost entirely fallen into disuse. I had an opportunity of seeing it decidedly and boldly administered in the Edinburgh Infirmary, by Dr. Home, fifteen years ago; and as I officiated as his clinical clerk, I had the opportunity of ascertaining accurately its effects. It was always a remedy which gave great alarm to the patient, and the shock was certainly in many instances injurious, especially when the powers were naturally feeble. I never witnessed the fever extinguished by it, nor, as far as I was able to judge, was its course even shortened.

I have not employed it since, and find the modified application of cold, or even tepid sponging, when there is no internal inflammation, answer

much better. The patient is refreshed; the temperature of the skin much diminished: and it very often has a soothing effect. It should only be employed when the heat of skin is steadily above the natural standard, and when there is no visceral inflammation.

The local application of cold in cases of cerebral inflammation, is so advantageous, that it should never be omitted. Vinegar and water, brandy and water, iced water, or a lotion consisting of equal parts of liquor acetatis ammoniæ, spirit of wine, and camphor mixture, should be kept constantly to the shaved scalp.

The mode of employing cold to the head, which of all others was eminently serviceable, is the cold dash, which I was induced to employ, from having many years ago witnessed its powerful effects in restraining vascular action in the brain, in the practice of Dr. Abercrombie of Edinburgh, to whom I am much indebted for this, as well as many other practical hints.

It is described in his work on the diseases of the brain, and is as simple in its application, as it is powerful in its effects. The patient is raised in bed; the body is supported and protected from being made wet; the head is then to be placed over an empty basin, and cold water, from a large jug, is to be poured on the scalp, the stream being gradually raised, as the patient can bear it. This mode produces a great shock at

first, but the relief it gives, invariably induces the patient to request its frequent application. I employ it constantly both in hospital and private practice, and certainly with the most excellent effects.

A cold lotion should be constantly applied in the intervals, and on any threatening return of the symptoms, the dash should be immediately employed.

Treatment of Typhus Fever.

Hitherto the treatment of continued fever in its simple and complicated forms has been considered. The curative measures which were found best adapted to typhus fever, remain to be pointed out.

I formerly stated that the three distinguishing characteristics of typhus fever are, early and severe disorder in the brain and nervous system, symptoms denoting a morbid state of the mucous membranes and skin, and a tendency to what has been termed putrescency.

I alluded to its simple and complicated forms, which it is indispensable should be distinguished, that the indications of treatment may be fulfilled.

The period at which the more active kinds of measures are proper, soon passes off, and therefore patients were seldom sent into the hospital early enough for the use of the lancet.

Indeed, of the 42 cases of typhus fever, only one was bled from the arm. As a general rule, this form of fever neither requires nor bears

phlebotomy; there is more functional than vascular disorder, with tendency to sinking of the powers: hence topical inflammations are best treated by local bleeding, and blisters. The rapidity with which the blood flows from the vein, and its appearance when drawn, form a very good criterion of the propriety of its abstraction in typhus fever. If, instead of pouring in a continued full stream, it come in drops, notwithstanding the vein has been well opened; when the blood coagulates slowly, the crassamentum being at the same time soft, and easily broken, we may rest assured that the system will not bear bloodletting.

Though the advantages of purgatives in the more acute forms of fever be unquestionable, they should be employed with much caution in typhus. After freely evacuating the bowels at the commencement, such aperients as removed the unhealthy secretions without producing watery stools, were employed, viz., rhubarb, magnesia, senna, or castor oil, with occasional doses of mercurials. Daily inspection of the stools in typhus fever is indispensable. When there was any appearance of hæmorrhage, the aperient medicines were immediately suspended, and thin arrow-root, or barley water, only allowed.

In such cases, I occasionally employed small doses of turpentine in mucilage, with apparent good effects.

When the abdomen is tympanitic, purgatives only increase the irritation.

The cause of this distension, which, I formerly noticed, is chiefly confined to the colon, is very obscure; some regard it as the product of inflammation, others as the consequence of over-purging: it has also been ascribed to the disengagement of air from accumulation of acrid, half-putrid secretions in the bowels.

I observed, however, that the distention was greatest in those cases in which the bowels were quite empty on examination after death, but in which the mucous membrane was much disorganized.

Wine. From the view which has been given of the nature of fever, it is obvious that the exhibition of stimulants, even in typhus fever, is, except under special circumstances, inconsistent with the principles laid down.

No remedy in the treatment of fever has been more abused than wine; and though still given by some practitioners, even in the present day, in every stage and complication, without regard to circumstances or symptoms, yet, as the effects of fever on the various organs are now more minutely traced, the stimulant plan of treatment must, from conviction, eventually be abandoned.

These remarks apply to the indiscriminate use of wine and other stimuli in fevers, but are by no means intended to convey the idea, that there are no forms of fever or special circumstances, which

not only render this class of remedies proper, but indispensably necessary to save the life of the patient.

I have repeatedly treated cases of fever, in which at the beginning there was so much excitement as to require bleeding and purging; but some unexpected symptoms of sinking of the powers, or more sudden collapse, came on, which required the liberal administration of wine, or even brandy, with ammonia. Persons above the age of fifty, who have lived intemperately, are liable to those sudden changes, and the practitioner should ever be on his guard to act with promptitude on their first appearance; the stimuli, however, should be withdrawn when the powers have rallied, and the patient thus restored to comparative safety.

Some months ago, a female was sent from one of the parish workhouses, in the second week of fever. The symptoms were so mild as only to require occasional purgatives.

She suddenly became exhausted, the skin felt cold, the pulse soft and thready, the tongue became dry and brown, and she rambled incessantly. I ordered a liberal supply of punch, under which the delirium disappeared, and she soon recovered her powers: as she appeared almost convalescent, it was discontinued.

Next day, however, she was nearly in the same state as when the brandy was first given.

The line of conduct was clear: she was once more put on the same allowance of punch, which produced the same fortunate effects; she rallied, and gradually convalesced, but I continued the cordial till within a day or two of her leaving the Hospital.

Again, in the advanced stages of typhus fever, when the symptoms indicate failure of the nervous and circulating systems, and especially when evacuations have in the beginning been judiciously employed, the administration of wine often acts as a charm, by rousing the languid powers, and abating the restlessness.

If too much excitement be produced, the quantity of wine must be abridged, or for a time altogether withdrawn. The observant practitioner requires only general principles which he can apply to the special circumstances of each case.

In fourteen cases of typhus fever treated last year at the Fever Hospital, wine was administered, and evidently with the happiest effects; but these were not the only cases in which it was administered.

In tedious convalescence, a small quantity was often found useful in promoting the recovery of the patient.

The same principles regulated the administration of bark and other tonics. The combination of some bitter infusion with an aperient, was exceedingly useful at the approach of convalescence.

Of Convalescence. More precision is often required in the management of convalescence than is generally admitted.

Particular attention should be paid, 1st, to the diet; 2nd, to clothing; 3rd, to avoid, as much as possible, the vicissitudes of temperature; 4th, to the regulation of the bowels.

Errors in diet were a common cause of relapse, particularly when there had been gastric irritation; and though the diet tables in the Hospital are drawn up with great care, and the changes precribed only by the physicians, the permission to resume solid food was often hazardous.

Cold was another cause of danger to convalescents. We have seen that some who were about to leave the Hospital, were seized with inflammation in some organ, which rapidly destroyed them. In cold weather especially, due attention to clothing, and a regulated temperature, is indispensably necessary.

It was also observed, that when bloodletting was freely employed, there was a great tendency to relapse; indeed, a very large proportion of the relapses occurred among those who were largely bled. This is no argument against venesection, but should put both practitioner and patient on their guard, in the period of convalescence, especially after large bleeding, to avoid every possible cause of irritation, and thus avert a probably fatal recurrence of fever.

CHAPTER IX.

Of Scarlatina—its Varieties—of the Epidemic Scarlatina of 1828-9—Pathology—Treatment.

Scarlatina is another form of fever which remains to be noticed; but having fully considered the several varieties of continued fever, to which this, though classed with the eruptive fevers, bears a great analogy, I shall enter very briefly into its consideration.

It occurs under three distinct forms—

1. Scarlatina Simplex. 2. Scarlatina Anginosa. 3. Scarlatina Maligna.

In the first form (S. Simplex), the characteristics are, general febrile excitement, bright-red efflorescence of the skin, without affection of the throat, or essentially of any internal organ.

In the second form (S. Anginosa), the general symptoms and cutaneous efflorescence are precisely the same as in the Scarlatina Simplex, but there is inflammation and swelling of the internal fauces, and consequently painful deglutition. In both these forms, desquamation of the cuticle takes place about the eighth or ninth day, after

which the convalescence, unless protracted by some complication or sequlæ of the disease, is rapid. The danger in these mild forms is comparatively trifling, as will be seen on reference to the annual mortality.

They require moderate antiphlogistic measures only, unless great excitement, or some organic inflammation, call for the use of the lancet. When local inflammation arises, the indications of treatment are similar to those pointed out as applicable to the complicated forms of continued fever. In Scarlatina, there is, in cold weather especially, even a greater susceptibility to organic inflammation, either in its progress, or in the period of convalescence. Metastasis of the inflammatory action to the joints is also by no means uncommon.

In the third form, (the S. Maligna), the pathology resembles precisely that of typhus fever, in the early disorder of the brain—in the affection of the mucous membranes, which however is more general and severe in the former—and in the tendency to glandular inflammation. The character of the eruption, however, differs in this from the two preceding varieties, in its appearing in irregular patches of a more or less dusky hue, and in its sudden recession and re-appearance at uncertain intervals.

The temperature of the skin, too, is less steady; it is sometimes not above the natural standard,

and the surface occasionally assumes a livid colour in different places. The bowels are generally purged.

These general characters explain the great sensorial disturbance and prostration—the severe affection of the mucous membranes, and the consequent acrimonious secretion from the nostrils, throat, larynx, and bronchi—the swelling of the parotid and submaxillary glands—the irritated or inflamed condition of the mucous membrane of the bowels, indicated by the acrid, and sometimes bloody, nature of the stools.

It is almost unnecessary to say, that this form of scarlatina is often rapidly fatal, frequently as early as the third or fourth day, though the patient sometimes survives to a much later period.

Of these three, the scarlatina simplex, and anginosa, are the prevailing forms of the disease in this country; the scarlatina maligna is only occasionally observed, or a few instances may occur when the other forms are epidemic.

As the malignant form of scarlatina, however, has been occasionally observed at some seasons, the necessity of discriminating the prevailing character of this disease is obvious.

For the year ending 1st September, 1829, 60 cases of scarlatina were admitted into the Fever Hospital. In many, the symptoms assumed a more malignant character than I have witnessed in London within the last ten years. The severity may

be judged by the mortality, 10 of the 60 having died. All the cases were fortunately not of this malignant character, though the disease was more than usually severe, from the intensity of the general and local excitement. In this class of cases, there was little danger when active treatment was adopted; but from there being a marked susceptibility to inflammation of serous structures, instances of pleuritis, peritonitis, and synovial inflammations, were frequently observed.

The following case shows the occasional intensity of synovial inflammation after scarlatina.

A young man was admitted into the Fever Hospital, last year; after the symptoms in the head and throat had been subdued, inflammation of the joints, with great constitutional excitement, supervened. Although active treatment was employed on the first appearance of the metastasis, he died three days after. On dissection, the large joints, especially the knees and wrists, the synovial membranes of which were much inflamed, were found to contain a considerable quantity of pus. The mucous membrane of the small intestines was inflamed, and in some parts ulcerated.

When the disease assumed the malignant form, the affection of the throat did not at first attract much notice; there was little if any swelling, but the dark-red colour of the membrane, with specks of ulceration, soon showed its nature.

The peculiar acrid secretion from the nostrils,

excoriating the ala nasi; the dry crusts on the lips and angles of the mouth; the enlargement of the parotid or sub-maxillary glands—the viscid secretion from the fauces producing great irritation; and when it extended to the larynx, trachea, and bronchi, cough and laborious breathing—the acrimonious and sometimes bloody discharges from the severe affection of the intestinal mucous membrane, sufficiently indicated the malignant character of the disease. It showed the same malignancy in private practice, and it was not uncommon for two, three, or four children of one family, to be carried off by this fatal malady.

In the fatal cases, the appearances on dissection were not always sufficient to explain the cause of death, which in such instances seemed more the result of a specific poison, operating on the brain and mucous membranes. In some, the brain showed marks of vascularity and effusion; in others, the mucous membrane of the larynx, near the arytenoid cartilages, was destroyed by ulceration, and the membrane of the trachea and bronchi was in several excessively inflamed. In one or two, the mucous membrane of the intestines was inflamed, and in one instance it had passed into ulceration.

With regard to the treatment, the indications were regulated by the circumstances observed in each case. In a few, purgatives only, or, when the throat was affected, local bleeding and purging,

comprised all that was necessary; in others, some inflammatory complication required the bold use of the lancet, aided perhaps by local depletion. In the malignant form, I know of no treatment that was useful. Bloodletting, or any kind of active measures, was out of the question; sometimes emetics were given in the beginning; afterwards small leechings to those organs which were most embarrassed, seemed for a time apparently useful: the mineral acids also were freely given. The disease, however, generally bade defiance to any kind of treatment, but it showed the necessity of discrimination in the plan of treatment, and the advantage which the observant practitioner gains in knowing the nature of the prevailing epidemic; and, what is of great importance to his own credit, how much is to be effected by curative measures.

FINIS.

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