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Professor Bennett
from the author.

REMARKS

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ON THE
CHANGES WHICH ARE SUPPOSED TO HAVE TAKEN PLACE
IN THE
TYPE OF CONTINUED FEVER.

BY CHARLES MURCHISON, M.D., L.R.C.P.,

ASSISTANT PHYSICIAN TO KING'S COLLEGE HOSPITAL AND TO THE LONDON FEVER HOSPITAL.

[REPRINTED FROM THE EDINBURGH MEDICAL JOURNAL, AUGUST 1858.]

It is not my object, in this paper, to enter into any discussion concerning the general question of changes of type in disease. I merely wish to call attention to one or two circumstances, which, in my opinion, must modify in a very great degree the conclusions which have been drawn by Dr Christison, in a very valuable paper read by him before the Medico-Chirurgical Society of Edinburgh, and published in the *Edinburgh Medical Journal* for January of the present year.

One of the main arguments, if not the principal one, urged by Dr Christison in favour of a change in the type of fever is, that in the epidemic of 1817-19, the practice of bleeding largely, so far from being injurious, as it would undoubtedly be in the fever which in late years has been most prevalent, was followed by the most favourable results. Thus he remarks, after speaking of drawing a legitimate allowance of thirty ounces (of blood) in all: "And let it be remembered that we did by no means slay our patients by such blood-thirstiness. On the contrary, the mortality from the whole forms of fever collectively in that epidemic, did not exceed 1 in 22 at any period, and was reduced to 1 in 30 as the epidemic spread, and the remedy became more and more familiar."¹ It is well known, however, and acknowledged by Dr Christison himself, that the fever which characterised this epidemic was that which is now familiar to many members of the profession under the designation of Relapsing Fever, and which was probably included in the *synocha*

¹ *Edinburgh Medical Journal*, January 1858, p. 587.

of Cullen.¹ I am aware that Dr Christison, and many other distinguished authorities, still regard this fever as a mere variety of typhus; but whether this be the case or not, whether the poisons of the two diseases be identical or different, whether, in short, the diseases themselves be different species or different varieties of the same affection, are questions quite unnecessary to the present inquiry. What I maintain is, that this relapsing fever, which seems only to occur in the epidemic form at lengthened intervals, has been at all times remarkable for its small mortality, as compared with that of the ordinary typhus, and that when no bleeding has been resorted to, the mortality has been even smaller than under the heroic practice, which was resorted to in Edinburgh during the epidemic of 1817-20.

Dr Christison tells us that the mortality from this epidemic, under the bleeding system, was from 1 in 22 to 1 in 30, or, in other words, from $4\frac{1}{2}$ to $3\frac{1}{3}$ per cent.; and out of 743 cases which came under the notice of Dr Welsh, who wrote a history of the epidemic, and who was the great advocate for copious bleeding, 34, or $4\frac{1}{2}$ per cent., died. Now, this relapsing fever was no new disease in 1817. Frequent mention is made of it by that accurate observer Rutty, in his *History of the Weather and Seasons, and of the Prevailing Diseases in Dublin*, as having occurred in Ireland during the last century. The following extract from Rutty's work shows that an epidemic of relapsing fever occurred in Ireland in the autumn of 1739, while it also indicates that, even at that remote period, particular attention was attracted by the small mortality which it occasioned, this small mortality, moreover, being a concomitant, if not the consequence of a non-recourse to medical interference of any sort. "The latter part of July, and the months of August, September, and October (1739) were infested with a fever, which was very frequent during this period, not unlike that of the autumn of the preceding year, with which compare also the years 1741, 1745, and 1748. It was attended with an intense pain in the head. It terminated sometimes in four, for the most part in five or six days, sometimes in nine, and commonly in a critical sweat. It was far from being mortal. I was assured of seventy of the poorer sort at the same

¹ Relapsing Fever may be defined as follows:—A disease commencing very abruptly with a sensation of coldness and rigors, and attended by quick and often incompressible pulse, white tongue, tenderness at the epigastrium, vomiting, enlarged liver and spleen; occasionally jaundice; constipation; high coloured urine; great heat of skin, but no eruption; severe headache, and pains in the back and limbs; restlessness; and rarely slight delirium;—an abrupt cessation of all these symptoms, with free sweating between the fourth and seventh days, usually on the fifth;—after a complete apyretic interval (during which the patient may get up and walk about), an abrupt relapse on the fourteenth day from the first commencement, running a similar course to the first attack, and terminating on or about the third day of the relapse;—rarely sudden syncope and death;—after death, no specific lesion, but in most cases enlargement of liver and spleen.

time in this fever, abandoned to the use of whey and God's good providence, who all recovered. The crisis, however, was very imperfect, for they were subject to relapses, even sometimes to the third time; nor did their urine come to a complete separation. Divers of them, as their fever declined, had a paroxysm in the evening, and in some there succeeded pains in the limbs."¹ Several epidemics of relapsing fever have occurred subsequently to that of 1817-20; and although venesection has constituted little or no part of the treatment, the mortality has not exceeded, or has been considerably less, than that observed during the period just alluded to. Thus, in 1843, relapsing fever was again epidemic in Edinburgh, and was made the subject of a monograph by Dr Rose Cormack,² and of a lengthened series of papers in the *Medical Gazette* by Dr Wardell.³ Among the cases observed by Dr Wardell, the mortality was only 1 in 20; and among Dr Cormack's cases it was 1 in 16½. Again, out of 7804 cases of relapsing fever (classified as distinct from typhus), which were admitted into the Glasgow Royal Infirmary between the years 1843 and 1853 inclusive, only 405 or 5·2 per cent. died;⁴ and of 203 cases admitted into the Edinburgh Infirmary in the year 1848-49, only 8 cases, or 3·94 per cent. died.⁵ The following table gives the mortality from all the cases of relapsing fever admitted into the London Fever Hospital, during the last ten years:—

TABLE I.

Cases of Relapsing Fever admitted into the London Fever Hospital.

Years.	No. of Cases.	Deaths.
1848	13	1
1849	29	0
1850	32	2
1851	256	7
1852	88	1
1853	16	0
1854	5	0
1855	1	0
1856	0	0
1857	1?	0
Total,	441	11

¹ *A Chronological History of the Weather and Seasons, and of the Prevailing Diseases in Dublin.* By John Rutton, M.D. Lond. 1770. Pp. 75 and 76.

² *Natural History, Pathology, and Treatment of the Epidemic Fever at present Prevailing in Edinburgh and other Towns.* By John Rose Cormack, M.D. Edinburgh, 1843.

³ *London Medical Gazette.* Vols. xxxvii. to xl.

⁴ *Glasgow Medical Journal.* Vol. ii., p. 161.

⁵ *Statistical Tables, Royal Infirmary.* Ninth Series, p. 15.

From this table it would appear, that out of 441 cases of relapsing fever treated in the London Fever Hospital, during the last ten years, only $2\frac{1}{2}$ per cent. have died, or about 1 in 40.

Typhus and enteric fever (typhoid fever or dothinerteritis) present a striking contrast in this respect to the relapsing fever, as will be apparent from Table II., which shows the rate of mortality from each of these fevers in the London Fever Hospital, during the last ten years.

TABLE II.

Mortality from Typhus and Enteric Fever in the London Fever Hospital in Ten Years.

Years.	Typhus.			Enteric Fever.		
	No. of Cases.	Deaths.	Mortality Per Cent.	No. of Cases.	Deaths.	Mortality Per Cent.
1848	526	106	20·15	152	41	26·97
1849	155	39	25·16	138	26	18·84
1850	130	24	18·46	137	24	17·51
1851	68	6	8·82	234	30	12·82
1852	204	24	11·76	140	25	17·85
1853	408	90	22·06	211	59	27·96
1854	337	68	20·18	228	44	19·3
1855	342	82	24·	217	31	14·28
1856	1062	207	19·49	149	23	15·43
1857	274	69	25·18	214	30	14·02
Total,	3506	715	20·39	1820	333	18·29
Deducting cases fatal within 24 hours after admission, }	3457	668	19·32	1806	319	17·66
Deducting cases fatal within 48 hours, }	391	600	17·69	1791	304	16·97

Moreover, any one who will take the trouble of studying the historical records of fever, will find that the true typhus, with a measly eruption, has invariably been productive of a far greater mortality than relapsing fever, and that at no period has it derived benefit from copious depletion.

Among other arguments in favour of blood-letting in the epidemic of 1817-20, it was urged that, in many cases, its practice was followed by the most sudden and marked improvement in the general symptoms. Dr Welsh speaks of it as having "cut short" the disease

in many cases. Against this, however, it must be borne in mind that a very sudden improvement in the symptoms constitutes a peculiarity of relapsing fever, totally independent of venesection. Dr Cormack, speaking of the effects of bleeding in the relapsing fever of 1843, remarks, "These beneficial changes were often not effects, though sequences of the bleeding, as was satisfactorily proved by the very same changes frequently occurring as suddenly and unequivocally in patients in the same wards, and affected in the same way, who were subjected to no treatment whatever."¹ This observation has frequently been confirmed in the London Fever Hospital. Dr Jenner, after mentioning a case of relapsing fever, which had been bled in this institution with no marked benefit, observes:—"Nature, unaided by the loss of blood, in many cases effected a much larger improvement in a much shorter space of time."²

When we recollect the small mortality from relapsing fever, as compared with that of the more ordinary forms, typhus and enteric fever, it is obvious that the greater the ratio which the relapsing cases bears to that of the other forms, the less will be the aggregate rate of mortality from all the cases of continued fever taken together; or, in other words, the rate of mortality will be smallest at those places, and in those years, in which there has been the largest number of relapsing cases. This is well shown in Table III., which gives the number of deaths and the rate of mortality from all the cases of continued fever (including those entered as "febricula") which have been admitted into the London Fever Hospital during ten years. When this Table is compared with Table I., it will be seen that the mortality was very much smaller in the two years, in which there was the greatest number of relapsing cases; although it is also to be observed, that the mortality from typhus only, in the same two years, was much below the average.

I would only add three remarks in conclusion, which I think may be regarded as legitimate inferences from the foregoing statement of facts:—

1. In comparing the mortality from continued fever at different times and places, or for the purpose of judging of the merits of different plans of treatment, it is essential to take into account the form of fever which has prevailed.

2. The small mortality, and the frequency of sudden improvement in the symptoms, which were observed to follow venesection in the epidemic of 1817–20, and which have been attributed to that practice, were characteristics of the relapsing form of fever which then prevailed, and have been equally characteristics of it at all times, even when blood-letting has never been resorted to.

3. Consequently, it is not a legitimate argument in favour of a change in the constitutional type of fever, to contrast the mortality

¹ *Op. cit.*, p. 151.

² *Medical Times and Gazette*. New Series. Vol. ii., p. 31.

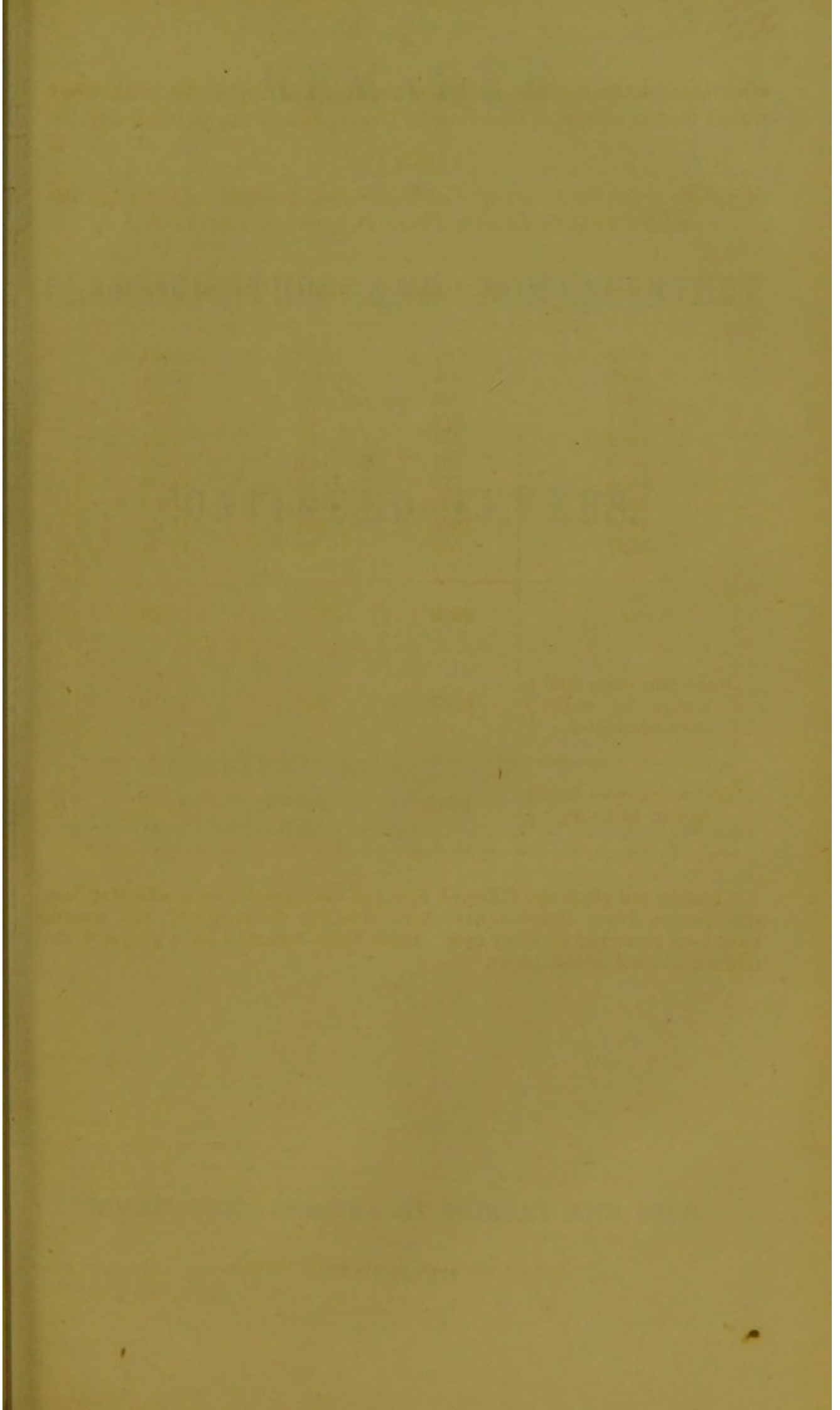
after blood-letting in the *relapsing* epidemic of 1817–20, with what would be the effects of bleeding in the *typhus* of the present day.

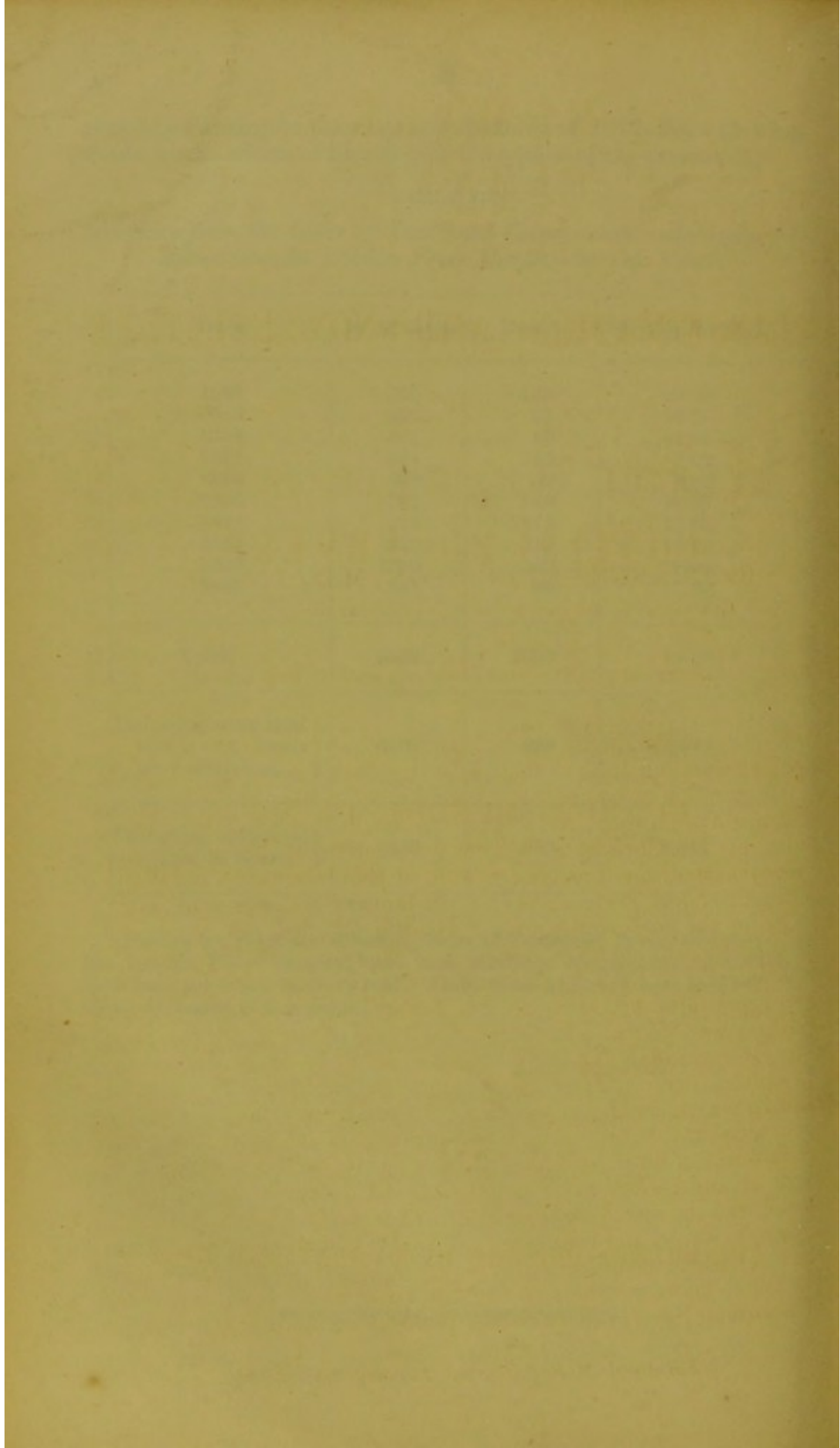
TABLE III.

*Mortality from the Cases of Continued Fever, taken collectively, admitted into the London Fever Hospital in Ten Years.*¹

Years.	No. of Cases.	Deaths.	Mortality Per Cent.
1848	707	148	20·93
1849	401	65	16·21
1850	361	50	13·85
1851	614	43	7·00
1852	561	50	8·91
1853	787	149	18·93
1854	714	112	15·68
1855	622	113	18·16
1856	1300	230	17·69
1857	561	99	17·64
Total,	6628	1059	15·98
Deducting cases fatal within 24 hours after admission, }	6567	998	15·19
Deducting cases fatal within 48 hours, }	6482	913	14·07

¹ During ten years the different forms of Continued Fever, admitted into the London Fever Hospital, have been carefully distinguished, and records have been preserved of every case. From these records I have prepared the tables contained in this paper.





With Dr. Murchison's
REMARKS

C.P.R. ✓

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ON THE

CLASSIFICATION AND NOMENCLATURE

OF

CONTINUED FEVERS.

BY

CHARLES MURCHISON, M.D.,

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MDCCLVIII.

REMARKS

CLASSIFICATION AND NOMENCLATURE

CONTINUED REVISED

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REMARKS
ON THE
CLASSIFICATION AND NOMENCLATURE
OF
CONTINUED FEVERS.

ALL the divisions of Continued Fever, as well as the numerous designations which have been applied to these, have, for the most part, been founded upon their symptoms, or upon their supposed anatomical origin. But the more one studies the subject, the more he will be convinced, that in the case of such diseases as idiopathic fevers, the most philosophic classification must be one which is based on their etiology. Fevers dependent upon the most different causes may occasionally resemble each other closely in their symptoms, so as to render their diagnosis difficult. Take, for example, the so-called Relapsing Fever; when the relapse and other characteristic symptoms are absent, it may be difficult to distinguish between it and a case of Simple Fever or Febricula. Surely, however, we are not to conclude, that the former, which is a contagious disease, prevailing in widely spread epidemics, and dependent upon a specific poison, is one and the same affection with the latter, which is constantly occurring in the sporadic form, and arises from non-specific causes, such as exposure to the sun's rays and fatigue. In like manner, with regard to typhus and typhoid fever, in their symptoms, they may sometimes be closely assimilated; in their causes they are widely different. Now we know, that very similar symptoms may be produced in the animal body by two very different vegetable or mineral poisons; so much so, that it may be impossible to determine from the symptoms alone what the poison is. No one would be presumptuous enough to conclude, that the poisons, under such circumstances, were identical, without subjecting them to analysis; and the same principles should guide us in the study of fevers, which only differ in the nature of the poisons being more obscure.

Even those febrile conditions of the system which are the result of some local inflammation, may approximate idiopathic fevers very closely in their general characters; and, indeed, the resemblance between typhus and typhoid fever is never so great, as what we not unfrequently observe between the general symptoms of typhus fever and asthenic pneumonia. If there be no cutaneous eruption,

I know of no symptoms by which we can distinguish a case of primary asthenic pneumonia from one of typhus, in which the pneumonia is a secondary complication; and yet there is this important practical difference, that the one is contagious, the other not so. If typhus was not prevalent, or the patient had not been exposed to its contagion, we should no doubt set down such a case as one of primary pneumonia; but we should be led to such a conclusion, solely from the certainty with which we can detect the presence of the local lesion. But in reference to typhus and typhoid fever, we must recollect that *both* are idiopathic fevers, independent of any local lesion; and that, although a specific lesion is developed in the course of the latter, the symptoms which indicate its existence, even when it is most extensive, may be very obscure. It is not to be wondered at, then, that they who have not had much experience in both fevers should have some difficulty in distinguishing them; but it is scarcely legitimate to infer, that the two fevers are identical.

One reason why many still refuse to admit the plurality of species of Continued Fever, is their neglect of the circumstances under which fevers originate. In an essay, which I lately had the honour of submitting to the Royal Medical and Chirurgical Society,¹ I endeavoured to prove that the class of Continued Fevers comprises three, or in all probability four, distinct species, originating from widely different causes.

First, there is *Typhus*, the grand predisposing cause to which is destitution; while the exciting cause, or specific poison, is generated by overcrowding of human beings, with deficient ventilation, and afterwards is propagated by contagion. Hence it is, that epidemics of typhus occur during seasons of famine, and in besieged cities; and hence it is, that we find it limited to the most overcrowded localities of large towns, and seldom meet with it in country districts, or in the upper classes of society.

Secondly, there is the "*Relapsing Fever*," about which there may still be some doubts as to its specific distinction from typhus. There can be no question that it differs widely from that disease, both in its symptoms and mortality; and also, that a previous attack of the one confers no immunity from a subsequent one of the other. On the other hand, relapsing fever is found to prevail, as epidemics, at the same times, and under the same circumstances, as typhus. Researches are still wanting as to the distinctive etiology of these two fevers; but I have grounds for believing, that it will yet be shown that relapsing fever is produced by famine alone; typhus, by destitution and overcrowding combined: in other words, that destitution and starvation are the predisposing causes of typhus, the exciting causes of relapsing fever.

Thirdly, there is *Typhoid* or *Enteric Fever*, which is less conta-

¹ This Essay will appear in the 41st volume of the "Transactions."

gious than either typhus or relapsing fever, and which is quite independent of the causes which give rise to these, being generated by the putrid emanations from decaying organic (animal) matter. The grounds for this opinion may be briefly summed up as follows:—

1. Previous attacks of either typhus or relapsing fever confer no immunity from subsequent attacks of typhoid fever (and *vice versâ*.)

2. There is no authenticated proof that the poison of typhus has ever generated typhoid fever (nor *vice versâ*.)

3. Typhoid fever does not prevail in wide-spread epidemics. It is essentially an endemic disease; or when it does become epidemic, such epidemics are always of the most limited and circumscribed character.

4. Typhoid fever is always most prevalent in autumn, or after a long continuance of hot weather. A hot autumn after a wet summer appears to afford the most favourable conditions for its development.

5. Typhoid fever is not, like typhus and relapsing, limited to the poor, but is met with among poor and rich alike.

6. Typhoid fever is not confined to overcrowded localities, but appears alike in the most dense, and in the least populous districts of large towns, and even in isolated houses in the country.

7. There is evidence, of the most conclusive nature, that typhoid fever may result from the emanations from (animal) organic matter, in a peculiar state of decomposition.¹ In every instance where "Fever" has been described as originating from such a cause, the fever has been typhoid. The reason why this cause is not more generally recognised, is the want of attention to the distinctions between the different fevers. Those who deny that "Fever" can be the result of putrid emanations, adduce thousands of cases of typhus and relapsing fever as negative evidence, in the same way as there are not wanting a few who bring forward typhoid cases to prove that fever cannot be the result of destitution and overcrowding.

Fourthly, there is *Simple Fever*, or *Febricula*, which is non-contagious, and arises from such non-specific causes as exposure to the sun's rays, fatigue, surfeit, etc. In its simplest form, this fever may terminate in 24 or 30 hours, as in the Ephemeral or Diary Fever of systematic writers; or it may be prolonged to eight or ten days, as in the Ardent or Sun Fever of tropical climates.

A faulty nomenclature must be assigned as another reason, why the various fevers are not more generally recognised as distinct diseases. The term Typhus, though derived from a single symptom, and so far objectionable, is one which is sanctioned by great antiquity and

¹ In addition to the evidence upon this point which will be found in my essay in the *Medico-Chirurgical Transactions*, I may allude to the circumstance, that Dr Barker of Bedford has recently succeeded in producing in animals symptoms very similar to those of Typhoid fever, by making them inhale the noxious principles arising from cess-pools.—*The Influence of Sewer Emanations*, by T. Herbert Barker, M.D. Lond., 1858.

a Hippocratic origin. The designation, Relapsing Fever, is no doubt inappropriate; for, in the first place, in a large proportion of the cases there is no relapse; and, secondly, it is hardly accurate to call that a relapse, which is a constituent part of the ordinary course of the disease; yet the name is distinctive enough, and, in the present state of our knowledge, it might be imprudent to alter it. The same remark, however, does not apply to the appellation Typhoid, to which I beg more particularly to draw attention. It is one which is not only faulty, but tends to create confusion. It is faulty; for, first, it literally means "like Typhus," and, consequently, it is at variance with all precedent in the scientific nomenclature of natural objects, whenever it is desired to confer designations on distinct genera or species; secondly, because the same word is constantly employed, in an adjective sense, to indicate a group of symptoms, which may come on in the course of any disease; and, thirdly, a large proportion of the cases to which it is applied exhibit no symptoms of a typhoid character, or resembling typhus. For the same reasons, it greatly tends to create confusion; and, indeed, I have good reasons for believing, that this name has done as much as anything else to make the public and the great body of the profession consider, that the affection is merely a variety of typhus. At the same time, none of the numerous synonyms is, in my opinion, more appropriate. For example, it would not be desirable to have a name derived from the abdominal lesion, tending, as such would do, to revive in the minds of many the exploded doctrines of Broussais. A suitable distinctive name for the disease remains a *desideratum*; and after having devoted much thought and attention to the question, I ventured, in a foot-note to my essay, already referred to, to propose one, derived from what I believe to be the cause of the fever. In that essay, I collected what, in my opinion, is conclusive evidence that typhoid fever is produced by the putrid emanations from decaying (animal) organic matter; and I therefore suggested for it the appellation of *Putrogenic Fever*,—*πύθογενής*, from *πύθων* (*πύθομαι*, putresco) and *γεννάω*. In repeating this suggestion in a more prominent manner, I do so with considerable diffidence, and am actuated solely by the crying necessity there exists for adopting a more appropriate designation for the disease in question. Should a better one be proposed, I shall gladly accept it; but, in the meantime, I would recommend the subject to the earnest consideration of the profession.

The whole class of Continued Fevers may be said to occupy an intermediate position, between the Eruptive Fevers (Variola, Scarlatina, and Rubeola) on the one hand, and the Malarious Fevers (Remittent and Intermittent) on the other. As to the causes which originate the eminently contagious poisons of the eruptive fevers, we as yet know little or nothing; and if we have almost succeeded in eradicating one of these, our preventive measures have no reference whatever to the causes which generate it. The malarious fevers are non-contagious; and although we know little of the in-

intrinsic nature of malaria, we have long known the causes and circumstances which give rise to these, and the prophylactic measures by which they may be in a great measure averted. Hence it is that agues, which in former times were so prevalent and so fatal in many parts of Britain, are now rarely met with. The continued fevers resemble the eruptive in being contagious, though to a less degree, while they are also assimilated to the malarious fevers, inasmuch as we know the circumstances under which they are developed, and the means by which they may, to a great extent, be prevented. I am fully aware, that the doctrines here enunciated are at variance with the deeply-rooted convictions of a large body of the profession, who, while they admit that the various conditions specified in this paper may favour the propagation of the specific poison of fever already existing, yet deny that the poison of a contagious disease can be by any such means generated *de novo*. But if this view be correct, how comes it that the same conditions only give rise to one form of disease? If, for example, overcrowding only acts by favouring the propagation of typhus (that it does thus act I am far from denying), how is it that, in temperate climates, it is always typhus which appears as an epidemic in a besieged city, or in an overcrowded prison, and not diseases which are notoriously more contagious, such as variola and scarlatina? In fact, with regard to typhus and pythogenic fever, the matter resolves itself into this: if certain conditions are present, we can, with almost certainty, predict the result.

Pythogenic fever may be said to form the connecting link between the continued and the remittent fevers. It is but sparingly contagious. There is also much that is remittent in the history of the course of the disease,—so much so, that many of the designations which have been bestowed upon it have reference to this character. There can be little doubt, I think, that the *Hemitritæus* or *Febris Semitertiana* of old writers, which was considered a composite disease made up of a tertian and quotidian intermittent fever, was pythogenic fever;¹ while it is now generally admitted, that the so-called “Infantile Remittent Fever” is of the same nature. Again, there are not a few well-authenticated instances of pythogenic and malarious fevers prevailing together, and apparently generated under similar circumstances. Such is the case, Dr Mercer Adam tells us, every summer in the foul-smelling city of Amsterdam. A most remarkable instance of this intimate relation between the two fevers will be found in an account of the diseases observed in the commune of Guermange, in the Duchy of Lorraine, and presented by M. Ançelon to the French Academy of Sciences in 1845.² There are also good grounds for believing, that careful dissections will show that many of the so-called remittent fevers of tropical

¹ See description of the *Febris Semitertiana* given by Hoffmann, *Op. Om.* 1740, lib. ii., cap. 5, p. 40.

² *Compt. Rend.*, vol. xxi., p. 158.

climates are typhoid or pythogenic. Already Drs Scriven¹ and Ewart,² of the Bengal Medical Service, have proved, by *post-mortem* examinations, the existence of pythogenic fever in India and in Burmah. Dr Scriven, who studied the characters of the disease under Dr Jenner at University College, has given figures of the intestinal lesion, and has written me that he has met with several other cases of the same fever since the date of his papers. It will be important to ascertain what are the precise circumstances under which such cases are observed in India, and whether they are not different from what are known to develop the more prevalent malarious fevers. With regard to these last, the common opinion at present is, that, although the putrefaction of vegetable matter is a frequent concomitant, it is not an essential part of the process of the development of malaria. This opinion is founded on the facts recorded by Chisholm³ and Fergusson;⁴ but both the facts and the opinion require reconsideration.⁵ Without entering into this question at present, I would merely record my opinion, that it is highly probable that vegetable putrefaction is the source of malarious fevers, while the putrefaction of animal matter begets pythogenic fever.

All the continued fevers which have been described by authors under so many different names, may be referred to one or other of the four species already spoken of. The following synonyms I have arranged under each of the fevers to which I believe they belong, after having referred myself to the works of most of the authors quoted. I have likewise given briefly the leading distinctive characters of each fever.

I.—TYPHUS FEVER.

Characters.—A disease generated by contagion, or by overcrowding of human beings, with deficient ventilation, and prevailing in an epidemic form in periods, or under circumstances, of famine and destitution. Its symptoms are: more or less sudden invasion marked by rigors or chilliness; a small, weak, usually frequent pulse; dry, brown tongue; in most cases, constipation; skin warm and dry; a morbilliform rash, appearing between the fifth and eighth days, frequently accompanied by true petechiæ, and lasting until death or recovery; great and early prostration; delirium coming on early, and for the most part low and wandering; contracted pupils; duration of the fever usually about 14 days, seldom or never more than 21. In the dead body, no specific lesion, but great congestion of all the internal organs.

Synonyms.

Τυφος? (Hippoc.);⁶ Febris typhodes? (*Prosp. Alpin.*, 1611; *Recalchus*, 1638;

¹ *Med. Times and Gaz.*, Jan. 28, 1854, p. 79; and *Ind. Ann. of Med. Science*, No. viii., 1857.

² *Ind. Ann. of Med. Sc.*, No. vii., 1856.

³ *Edinburgh Medical and Surgical Journal*, vol. vi.

⁴ On Marsh Poison. *Edinburgh Philosophical Transactions*, vol. ix.

⁵ See my remarks on the Origin of Marsh Poison, in my paper on "The Diseases of Burmah," *Edinburgh Medical and Surgical Journal*, vol. lxxxii., p. 79.

⁶ Probably a different disease.

- Juncker*, 1718); Typhus (*Cullen*, 1769); Enecia Typhus (*Mason Good*, 1817); Typhus and True Typhus (*modern English writers*).
- Febris pestilens (*Galen? Fracastorius*, 1546; *Forestus*, 1591; *Riverius*, 1623; *Willis*, 1659; *Sydenham*, 1668); Febris epidemica (*J. Burserius*, 1625); Pestilential Fever (*Grant*, 1775; *Stoker*, 1826); La constitution epidémique (*Beaulac*, 1810); Epidemic Fever *pro parte* (*recent writers*).
- One of the morbi contagiosi (of *Fracastor.*, 1546); Febris contagiosa (*Coytterus*, 1578); Infectious Fever (*Lind*, 1763); Der ansteckende Typhus (*J. V. Hildenbrand*, 1810); Typhus contagieux (*J. C. Gasc*, 1811); Das ansteckende Nervenieber (*Horn*, 1814); Contagious Fever (*Bateman*, 1818); Tifo contagioso (*Rossi*, 1819); Contagious Typhus (*English writers*).
- Febris putrida et maligna, Synochus putris and S. cum putredine (*old authors*);¹ Febris maligna pestilens (*Riverius*, 1623; *Sennertus*, 1641; *Willis*, 1659); Malignant Fever (*Langrish*, 1735; *Fordyce*, 1791); Febris continua putrida (*Boerhave*, 1738; *Wintringham*, 1752); Putrid Malignant Fever (*Huxham*, 1739); Febris exanthematica, maligna et venenosa, et perniciosa (*J. F. Bianchini*, 1750); Febris maligna (*Le Roy*, 1771); Putrid Fever (*Macbride*, 1772); Febris continens putrida (*Selle*, 1770); Das Faulieber (*Hecker*, 1809); Febbre putrida (*Ital.*); Fièvres putrides et malignes, *pro parte* (*Fr.*); Typhoid Fever, with putro-adydynamic character (*Copland*, 1844).
- Febris contagiosa in carceribus genita (*Huxham*, 1742); Jail Fever (*Pringle*, 1750; *Heysham*, 1782; *John Howard*, 1784); Typhus Carcerum (*Sauvages*, 1764); Febris carceraria (*Burserius*, 1785); Jail Distemper (*J. C. Smyth*, 1795); Maladie des Prisons (*French*).
- Malignant Fever of the Hospital (*Pringle*, 1752); Febris nosocomialis (*Burserius*, 1785); Fièvre des Hôpitaux (*French*).
- Pestis bellica and Typhus bellicus (*var.*); Morbus Castrensis vel Morbus Hungaricus, *pro parte* (*many old authors*); Morbus qui ex castris in Bavariam penetravit? (*Rhumelius*, 1624); Febris Castrensis (*Willis*, 1659; *Haller*, 1742); Febris militaris (*Petri*, 1665); Typhus Castrensis (*Sauvages*, 1768); Camp Fever (*Grant*, 1775); Die Kriegspest (*Hufeland*, 1814); Typhus des camps et des armées (*Louis*, 1829).
- Febris pestilentialis nautica (*Huxham*, 1752); Ship Fever (*Lind*, 1763; *Grant*, 1775); Febris nautica (*Burserius*, 1785).
- Febris pestilens quam Cuticulas vel Puncticula vocant (*Fracast.*, 1546; *Forest.*, 1591); Tabardillo et Puntos? (*De Torres*, 1574); Febris purpurea epidemica? (*Theræus*, 1578); Febris petechialis (*Salvus Diversus*, 1584; *Sennert.*, 1641; *Selle*, 1770; *Burserius*, 1785); Febris peticularis (*Roboretus*, 1591); Febris purpurata? (*Riverius*, 1623); Febris pulicaris seu puncticularis (*Pet. A. Castro*, 1650); Morbus puncticularis (*Donkers*, 1686); Febris petechialis vera (*Hoffmann*, 1700); Das Fleckenieber (*Ettmüller*, 1726; *Reuss*, 1814); Spotted Fever (*Strother*, 1728); Morbus cum petechiis (*Strack*, 1786); Febbre petecchiale (*Rossi*, 1802; *Rasori*, 1812); Morbo petecchiale (*Acerbi*, 1811; *Palloni*, 1817); Typhus exanthematicus and Das exanthematische Nervenieber (*of German writers*); Petechial Fever (*Peebles*, 1835); Petechial Typhus (*auct. var.*).
- Febris asthenica? (*var.*); Febris atacta *pro parte* (*Selle*, 1770); Fièvre ataxique *pro parte* (*Pinel*, 1798); Fièvre adynamique (*Pinel*, 1798; *Roux*, 1813); Adynamic Fever (*Stoker*, 1826; *Burne*, 1828); Brain Fever? (*auct. var.*)

II.—RELAPSING FEVER.

Characters.—A contagious disease, which is apparently generated by destitution, and which is only met with in the epidemic form during seasons of

¹ Previous to the time of Huxham and Pringle, the terms putrid and malignant were frequently applied to all fevers, except the Simple or Febricula.

scarcity and famine. Its symptoms are: a very abrupt invasion marked by rigors or chilliness; quick, full, and often incompressible pulse; white tongue; tenderness at the epigastrium; vomiting, and often jaundice; enlarged liver and spleen; constipation; skin very hot and dry; no characteristic eruption; high-coloured urine; severe headache, and pains in the back and limbs; restlessness, and rarely subacute delirium; an abrupt cessation of all these symptoms about the fifth or seventh day;—after a complete apyretic interval (during which the patient may get up and walk about), an abrupt relapse on the fourteenth day from the first commencement, running a similar course to the first attack, and terminating on or about the third day of the relapse;—mortality small, but occasionally death from sudden syncope;—after death, no specific lesion, but usually enlargement of liver and spleen.

Synonyms.

A five days' Fever with Relapses (*Rutty*, 1770); Short Fever, Five days' Fever, Seven days' Fever (*var.*, 1843); Relapsing Fever (*Paterson, Steele, etc.*, 1847; *Jenner*, 1849).

Fever of the New Constitution (*O'Brien*, 1828).

The Epidemic Fever (*auct. var.*); Epidemic Fever of Edinr., 1817 (*Welsh*, 1819); Epid. Fev. of Ireland *pro parte* (*Barker and Cheyne*, 1821); Scotch Epidemic of 1843 (*Wardell, R. Cormack, Alison, Jackson, Henderson, Craigie, etc.*); the Silesian Fever of 1847 (*Brit. and For. Med. Ch. Rev.*, July 1851).

Epidemic Remittent Fever (*Mackenzie*, 1843); Gastric Fever with Remittent type (*Craigie*, 1843); Gastro-hepatic Fever (*Ritchie*, 1855); has also been designated—Mild Yellow Fever, Biliary Relapsing Fever, Biliary Remittent Fever, Remitting Icteric Fever.

Irish Famine Fever (*Stoker*, 1826; and *Dublin Journal*, 1849); Die Hungerpest (*Graevell's Notizen*, 1848).

Dynamic or Inflammatory Fever (*Stoker*, 1826); Synocha (*Christison*, 1840 and 1858).

Relapsing Fever in all probability constituted one of the varieties of the Inflammatory Fever or Synocha, of the writers of last century; in more recent times, on the other hand, it has not unfrequently been considered a variety of Typhus.

III.—PYTHOGENIC FEVER.

Characters.—An endemic, slightly contagious disease, generated by putrefying organic (animal) matter. Its symptoms are: a commencement often insidious, or marked by slight rigors, a sensation of chilliness, or profuse diarrhœa; pulse usually frequent and soft, but variable in the same patient; tongue red and fissured, in a few days becoming dry and brownish; in most cases, but not invariably, increased splenic dulness, tympanites, abdominal tenderness, gurgling in the iliac fossæ, and diarrhœa, with or without melœna; urine copious and pale; skin warm, often with irregular sweats; an eruption of rose-coloured papules, first appearing between the seventh and fourteenth days, and coming out in successive crops, each of which lasts two or three days; very rarely petechiæ; frequently epistaxis; prostration coming on late, and often slight; delirium active or often absent; dilated pupils; the disease often protracted to the thirtieth day, and occasionally, though rarely, followed by a relapse of all the symptoms, including the eruption; after death, ulceration of the solitary and aggregated glands of the ileum, and enlargement of mesenteric glands.

Synonyms.

Typhus mitior and Synochus *pro parte* (*Cullen*, 1769); Abdominal Typhus (*Autenrieth*, 1822, and *German writers generally*); Fever with affection of the abdomen (*Alison*, 1827); Fever with ulceration of the intestines (*Bright*, 1829); Synochus and Typhus with abdominal affection (*Southwood Smith*, 1830); Fièvre Typhoïde (*Louis*, 1829; *Chomel*, 1834); Typhoid

- Fever (*Stewart*, 1840 ; *Bartlett*, 1847 ; *Jenner*, 1849) ; Mild Typhoid Fever (*Copland*, 1844) ; Enteric Typhus (*Christison*, 1850).¹
- Πυρέτος ἡμιτριταῖος ? (*Hippoc.*) ; Hemitritæus ? Tritæophyas ? and Triphodes ? (*auct. antiq. var.*) ; Febris semitertiana seu composita (*Galen ? Forestus*, 1591 ; *Spigelius*, 1624) ; Tritæophya typhodes (*Mangetus*, 1695) ; Frigeraria ? (*Sagar*, 1776).
- Infantile Remittent Fever (*var.*) ; Febris hectica verminosa (*Vander Bosch*, 1769) ; Febris verminosa (*Selle*, 1770) ; Infantile Gastric Remittent Fever (*Locock*, 1840) ; Infantile Hectic Fever and Worm Fever (*auct. var.*).
- Febris non-pestilens ? (*Forestus*, 1591) ; Morbus Hungaricus and Febris Hungarica pro parte (*Auct. var. et Sennertus*, 1641) ; Endemic Fever (*var.*) ; Autumnal or Fall Fever (*Austin, Flint*, 1852 ; and in America generally).
- Febris putrida (*Riverius*, 1623) ; Febris putrida quæ vulgo lenta appellatur (*Willis*, 1659) ; Febris putrida nervosa ? (*Wintringham*, 1752) ; Febris putrida aut biliosa (*Tissot*, 1758) ; Febris a putredine orta (*A. Tralliani*, quoted by *Burserius* as *Syn. for his Feb. gastric. ac.* 1785).
- Febris lenta (*Forestus*, 1591 ; *Willis*, 1659 ; *Linnæus*, 1763 ; *Vogel*, 1764) ; Febris hectica sive lues neurodes (*Willis*, 1667) ; Slow Fever (*Strother*, 1716 ; *Langrish*, 1735) ; Nervous Fever (*Gilchrist*, 1734) ; Slow Nervous Fever (*Huxham*, 1739) ; Febris chronica ? (*Juncker*, 1736) ; Febricula, or Little Fever, commonly called the Nervous or Hysterical Fever, the Fever on the Spirits, Vapours, etc. (*Manningham*, 1746) ; Febris atacta pro parte (*Selle*, 1770) ; Febris lenta nervosa maligna (*Burserius*, 1785) ; Irregular low nervous Fever (*Fordyce*, 1791) ; Fièvre ataxique pro parte, and F. adéno-méningée (*Pinel*, 1798) ; Nervenfieber ? (*Bischoff*, 1814) ; Fièvre nerveuse (*Fr.*) ; Common Continued Fever (*Armstrong*, 1816) ; Low Fever (*auct. var.*).
- Febris petechizans vel Spuria (*Hoffmann*, 1699).
- Febris biliosa (*Galen ? River.* 1623 · *Stahl*, 1700 ; *Juncker*, 1736) ; Bilious Fever (*Pringle*, 1750 ; *Rutty*, 1770) ; Febris biliosa putrida (*Selle*, 1770) ; Febbre biliosa (*Benelli*, 1775) ; Synochus biliosus (*Sauvages*, 1763) ; Febris cholericæ ? (*Vogel*, 1764) ; Bilio-gastric Fever (*Copland*, 1844) ; Gastro-bilious, and Bilious Continued Fever (*modern writers*).
- Febris catarrhalis ? (*Bockel*, 1580 ; *Crause*, 1676) ; Febris colliquativa ? (*J. R. Fortis*, 1668) ; Febris Stercoralis ? (*Quesnay*, 1753) ; Morbus mucosus (*Rœderer and Wagler*, 1762) ; Febbre glutinosa gastrica (*Sarcone*, 1765) ; Febris mucosa (*Selle*, 1770) ; Febris pituitosa (*Stoll*, 1785 ; *Strack*, 1789) ; Febris colliquativa primaria seu essentialis (*Burserius*, 1785) ; Morbus biliosus mucosus (*Knaus*, 1786) ; Febris pituitosa nervosa (*Jacobi*, 1793) ; Schleimfieber ? (*Canz*, 1795) ; Fièvre muqueuse (*Fr.*) ; Mucous or Pituitous Fever (*Copland*, 1844).
- Febris gastrica (*Ballonius*, 1734) ; Febris acuta stomachica aut intestinalis (*Heister*, 1736) ; Febris gastrica acuta (*Burser.* 1785) ; Fièvre méningo-gastrique (*Pinel*, 1798) ; Gastrisches Fieber (*Richter*, 1813) ; Fièvre gastrique (*Dict. des Sc. Méd.*, 1816) ; Epidemic Gastric Fever (*Cheyne*, 1833) ; Gastric Fever (*Craigie*, 1837).
- Febris mesenterica maligna (*Baglivi*, 1696 ; *Hoffmann*, 1728) ; Febris intestinalis et mesenterica (*Riedlin*, 1705) ; Febris mesenterica acuta (*Burchard*, quoted by *Burserius*, 1785) ; Fièvre entero-mesenterique (*Petit and Serres*, 1813) ; Enteritic Fever (*Mills*, 1813) ; Gastro-enterite (*Broussais*, 1816) ; Entero-mesenteric Fever (*Abercrombie*, 1820) ; Dothinerite (*Brétonneau*, 1825 ; *Christison*, 1840) ; Enterite Folliculeuse (*Forget*, 1841) ; Mucos-enteritis and Gastro-enteric Fever (*var.*) . Enteric Fever (*Wood*, 1848 ; *Aitken*, 1858).
- Night-soil Fever (*Brown*, 1855).

¹ Clinical Lectures, not published.

Many of the cases described by Cullen and his successors, under the designation *Enteritis erysipelatos*, were probably examples of this fever.—(See description of it in *Alison's Path. and Pract. of Med.*, p. 323.)

IV.—SIMPLE FEVER OR FEBRICULA.

Characters.—A sporadic, non-contagious disease, arising from exposure to the sun, fatigue, surfeit, inebriety, etc. Its symptoms are: frequent, full, and firm pulse; white tongue; great thirst; constipation; high-coloured urine; very hot and dry skin; no eruption; severe headache, and sometimes acute delirium; the fever subsiding in from one to ten days, with copious perspirations, herpetic eruptions, etc.; in the dead body, congestion of all the internal organs.

Synonyms.

Καῦσος (*Hippoc.*); Causus sive Febris ardens (*Galen, Willis, 1659; Boerhave, 1738*); Synochus causonides (*Forestus, 1591; Mangetus, 1695*); La Calentura? (*Piquer, 1751*); Causos (*Vogel, 1764*); Endemical Causus (*Mosely, 1789*); Enecia Cauma (*Mason Good, 1817*); Ardent Fever (*Burnett, 1812; Ransald Martin, 1841; Copland, 1844*); Ardent Continued Fever (*Morehead, 1856*).

Σύνοχος? (*Greeks*); Synocha vel Synochus Simplex (*Riverius, 1623; Hoffmann, 1700; Juncker, 1736; Burserius, 1785*); Synocha (*Linnaeus, 1763; Sauvages, 1768; Cullen, 1769*); La Fièvre Synoque (*Davasse, 1847*); Synoshische (*Germ.*)

Synochus imputris? (*Galen*); Febris continua non putrida (*Lemmius, 1563; Boerhave, 1738*); Synocha sine putredine (*Sennertus, 1641*); Synocha non putris (*Bellini, 1732*); Febris non putrida (*Quarin, 1781*).

Συνεχής φλεγματώδης? (*Gr.*); Febris Sanguinea? (*Avicenna*); Synocha sanguinea? (*Sennertus, 1641*); Feb. acuta sanguinea (*Hoffmann, 1700*); Febris venosa (*Ballonius, 1734*); Acute Continual Fever (*Langrish, 1735*); Simple Inflammatory Fever (*Huzham, 1739; Fordyce, 1791*); Febris acuta simplex (*Storck, 1741*); Synocha plethorica and Ephemera plethorica (*Sauvages, 1763*); Febris continens inflammatoria simplex (*Selle, 1770*); Febris acuta (*Ploucquet, 1791*); Entzündungsfieber and Entzündliche Fieber (*Reil, 1794, etc.*); La Fièvre angioténique (*Pinel, 1798*); La Fièvre angioténique pure et simple (*Bouillaud, 1826*); Fièvre inflammatoire (*French*); Febbre inflammatoria (*Ital.*).

Febris depuratoria? (*Quesnay, 1753*); Judicatoria? (*Sagar, 1776*).

Febris septenaria (*Platerius, 1656; Sprengel, 1814*); Ephemera plurium dierum (*Sennertus, 1641; Juncker, 1736*); Synocha septimo die soluta (*Hoffmann, 1700*); Febris continens? (*Stahl, 1700*); Febris continua simplex (*Lieutaud, 1776*); Simple Continued Fever (*modern writers*).

Febris ephemera (*Riverius, 1623; Sennertus, 1641; Sauvages, 1768*); Diary Fever (*Strother, 1728*); Ephemera simplex (*Boerhave, 1738*); Febris diaria, (*Juncker, 1736; Linnaeus, 1763*); Fièvre éphémère (*Davasse, 1847*); Febricula (*var., and Jenner, 1849, not the Febricula of Manningham*); Das entägige Fieber (*Germ.*); Effimero (*Ital.*); Efemera (*Span.*).

Ephemera a frigore and E. a calore (*Sauvages, 1768*); Sun Fever (*Scriven, 1857*).