

ly approaching, and then we should forbear, as the application even of a few leeches might be fatal. Since whenever there is just cause for doubt about the propriety of general blood-letting we ought to prefer local, so wherever there is a similar doubt about the propriety of local blood-letting, we should prefer purgatives; and these, judiciously and perseveringly administered, will often succeed when every other means would have failed, in those complicated cases of typhus where subdued degrees of inflammation exist conjointly with a considerable loss of strength, as in the patients now under notice. Yet it ought not to be forgotten, that in such blisters are agents of much efficacy. The irritation which they excite upon the surface of the chest, abdomen, or spinal column often considerably diminishes the internal affection; and where any disposition was evinced towards stupor, they have appeared especially serviceable when applied over the head, in cases admitted late into the hospital.

Besides the peculiar order of the poor, so often referred to above, many persons have been brought, labouring under typhus, into the Fever Institution, who were previously well fed, clothed, and lodged, and accustomed to sufficient exercise in the open air. In such patients, particularly when young or middle aged, the general result of decisive venesection at an early period of the inflammatory typhus has been highly satisfactory not only to myself, but also to my able and excellent colleague Dr. Cleverly, though the effect of local bleeding has been often, and of purging always, a subsidiary of considerable force. It was before mentioned, that the pulse was mostly soft and compressible, even in the beginning of the inflammatory typhus when it occurred in certain habits relaxed from want of proper nutriment, air, and other circumstances; but in the robuster patients now under consideration, the pulse was frequently full and resisting, or at least generally indicative of more or less increased energy in the stroke of the heart. This difference in the pulse merits some attention. A soft, small, fluent pulse commonly indicates in typhus, that local will be preferable to general bleeding, particularly if the fever be of some days duration;

a hard, full, jerky pulse commonly indicates, that general will be preferable to local bleeding, particularly in the commencement. But in determining which is to be used the constitutional powers should always be carefully considered. When in typhus the preternatural force in the heart has once been removed, which is shown by the pulse becoming weak as well as soft, then local will be more suitable than general bleeding, even in patients who had been constitutionally vigorous, if any signs of visceral inflammation should still remain. These observations respecting the pulse must not be extended to every other febrile affection, because I hold them to be more peculiarly applicable to typhus as a specific disease, which demands much more care as to the extent of blood-letting than those fevers which proceed from ordinary causes. To give more weight to this remark it may be noticed, that several cases of fever proceeding from the influence of the weather and similar sources have been sent as instances of typhus into the Fever Institution, where the lancet was beneficially used at rather an advanced period, when it would have been fatal in genuine typhus; and I am persuaded, that those who so strongly recommend such repeated and even late venesections in typhus have mistaken for it the common continued fever of this country, a disease which shall afterwards be shown not to possess a contagious property (31). An hospital where, from the mode of ventilation, the temperature has hitherto varied with that of the external atmosphere, is not a place suitable for the common exhibition of calomel as an alterative in fever; and as it, therefore, has been most frequently given as a purgative during the excitement, what relates to its alterative powers in the inflam-

(31) It will be observed that the remarks of our author in this place are somewhat at variance with those previously made, in which he recommends the practitioner, in the treatment of typhus, to abstract the idea of contagion, and to proceed upon principles applicable to other diseases where this paralyzing influence is not suspected. His departure from his own rule is the less defensible on the present occasion, since the previous circumstances of the class of patients now under consideration, are sufficient of themselves to account for the impropriety of extensive depletion.

matory typhus of the metropolis shall be considered in another place. It may be subjoined, that purging is an evacuation which has been remarkably well borne and highly advantageous in every modification of the inflammatory typhus which has been admitted into the Fever Institution. In the cases of the congestive typhus which have come under my care, where it was absolutely necessary to create re-action in order to save the patient, the influence of calomel as an alterative was unquestionably favourable, in conjunction with external warmth, tepid drinks and laxatives, and sometimes with blisters and local bleeding; for in those cases the use of the lancet was generally inadmissible, sometimes from the great constitutional feebleness of the patients in whom they occurred, but far more frequently from the too advanced stage at which they were sent into the wards. Indeed several patients have been received in a dying state, who, from the preceding history which was collected, had exhibited no signs of excitement, but who had sunk into the congestive typhus, under the first shock of the contagion; and it was curious to remark what a very different aspect the disease had, even in this advanced stage, from the simple, or the inflammatory variety. The face and general surface was commonly pale, mixed however with a certain shade of duskiness in several places, most evident at a short distance from the bed, while dark petechiæ were often scattered here and there on the skin. Before coma existed, the expression in some cases was idiotic, and in others marked by a wild or vacant stare; the tongue was mostly white, soft, and moist with a ropy saliva, the tunica adnata blanched to whiteness, and each pupil of the eye more or less dilated. Often in such cases, a faint smile or grin was now and then observable, with a quivering motion of the upper lip, mostly attended by starting of the tendons at the wrist; while indifference to surrounding objects, or an alternate stupor and delirium designated the mischief in the brain, which at last generally terminated in coma. The pulse was invariably feeble, the respiration irregular, and the animal heat below the natural standard in examples of such extreme severity; but in others, where the ve-

nous congestion had been less overpowering in the beginning, some degree of re-action occurred towards the close, with a dry dark tongue, black petechiæ, and those symptoms which the older writers deem putrid. Upon the whole, indeed, typhus has assumed a remarkably urgent character in the metropolis during the last year, particularly where it was allowed to hold an unimpeded course in the wretched haunts of poverty; and in the majority of cases, however favourably the patients might have been situated, an early tendency to petechiæ has been among the most prominent of the external signs. Most recent writers on fever seem disposed to attribute the appearance of petechiæ to the hot regimen, and thus account for their frequency in the typhus of former times when that practice was prevalent: but though they may have been often thus produced formerly, yet this was not the cause in a great many of the epidemic cases which have occurred in the metropolis, for the petechiæ in some instances appeared on the first day of the attack, and frequently on the second and the third; and it is therefore highly probable, that petechiæ sometimes occur as epidemical peculiarities wholly unconnected with the mode of treatment which may be pursued, nay, this is certain in the instance above adduced. The petechiæ were sometimes so peculiarly small as to have the character of an almost anomalous rash, and sometimes so large and thick-set as to make the skin almost as red as in the measles or scarlet fever, for the eruptions of which indeed I have known them occasionally mistaken; but whatever were their characters in the first or intermediate stages of the simple or inflammatory typhus, they have been invariably lessened by purgatives, especially where calomel was given for some days successively. Numerous cases have been brought into the Fever Institution with as malignant a combination of symptoms as any that Huxham and other authors have recorded in their works, which proves that the disease is liable to have the same characters now as formerly; and yet a large proportion of the cases just alluded to was certainly composed of the inflammatory typhus, the circumstantial evidence of symptoms, and the more direct evidence of dis-

sections having alike shown, that the inflammation was not confined to one viscus, but had attacked those of the head, chest, and belly. It is however deserving of particular notice, how comparatively mild an aspect the disease soon assumed under the cooling and evacuant treatment, in many of the patients early removed into the Institution; and even those instances which did not undergo so speedy an amelioration, have nevertheless been conducted to a successful termination, with very few exceptions indeed; so that the number of deaths has been made up, in a great measure, from cases sent into the wards all but hopeless or actually moribund. It has often been the subject of deep regret to my colleague and myself, that we should have been so repeatedly circumstanced as only to have it in our power to attempt the mitigation of the final sufferings of patients in the last stage of a disease, which generally would have admitted of a remedy if they had been seen in the first or intermediate stage; and it may here be remarked, that one great difference between the simple, the inflammatory, and the congestive typhus, is this, that the first is often remediable in the last stage when it had been unrestrained in its progress, but the two last are rarely so, because if neglected in the beginning, they are so exceedingly apt to induce organic derangements. This observation illustrates why typhus under one epidemic constitution may sometimes be seldom fatal, and why it may be often so under another; for the simple variety of the disease, under its mildest modifications, will frequently end well without any medical aid, and under its more strongly expressed character, will generally yield to purging and the cooling treatment; whereas the inflammatory typhus, and a similar remark likewise obtains with the congestive, must be met by more active measures in the first or intermediate stages, otherwise the mortality will necessarily be considerable. From all indeed that I have seen of typhus in the metropolis, I am fully warranted in concluding, that evacuations and the antiphlogistic regimen, properly varied according to the character of the cases and the constitution of the patients, are highly efficacious in the general result, when timely applied, even in the aggravated forms of the disease;

but that, in such examples, the efficacy of medicine lessens in a ratio with the advancement of the complaint towards the last stage, in which most agents are of doubtful, if not of dangerous applications, except those gentle ones termed laxatives. The following extract from the Annual Report, which was drawn up by Dr. Cleverly, will show under what unfavourable circumstances we have had to combat an epidemic, the common character of which has been extremely severe, during the whole term in which we have practised in the Fever Institution.

"The present epidemic commenced in London about the end of March, 1817, and during twelve or fourteen months the proportion of deaths, in comparison with former years, was certainly very small. In May last, however, the mortality began to be more considerable, and the physician, at that time officiating, reported, that the disease 'seemed to have assumed a character of greater severity, and that the mortality had, in consequence, been very considerable.' And in the report for June, the same physician declared, that the mortality had been unprecedented in any former reports of this Institution; and this he ascribed, in part, to the increased virulence of the malady, but principally 'to the very advanced state of the disease in which many of the patients were admitted, precluding the possibility of affording them effectual relief.' And, in fact, the mortality in June was 1 in $4\frac{1}{4}$; which is greater than at any period (with a single exception) since the Institution has existed. In July (about the middle of which the present physicians were appointed) the ratio was as 1 to about $5\frac{1}{10}$ and the average ratio for the whole period comprehended in the present report is nearly as 1 to 6. Epidemics have always been observed to differ much from each other in the severity of their characters, and even from themselves, in different periods of their course; so that, in all Institutions the mortality, in different years, has been found to vary greatly; and, indeed, in the London House of Recovery, it has fluctuated between 1 in $12\frac{1}{2}$, and 1 in $3\frac{3}{4}$. But however various this result, we know that the disease was treated by the same physician, in the several instances allud-

ed to, and with the great care and talent by which he is distinguished.*

"Besides, the mortality in the wards of this Institution cannot be considered as representing, at any time, the general destructiveness of the disease, or the success with which it may be treated in its early stages; for the House has become the receptacle for a very considerable number of the worst cases of typhus in its most advanced stages; and to this cause, certainly, the great mortality is to be attributed. It will appear on examination, that a very large proportion of the patients has been sent into the House from under the care of general practitioners, and from the medical officers attached to parishes; and this often not till the disease had assumed its most alarming and desperate character. Patients themselves often evince considerable reluctance to leave their homes, however miserable, and seek relief in an hospital; and, when the first dread of the epidemic is over, they are frequently retained by their relations, till the aspect of the disease has alarmed these for their own safety.

"From these causes it has arisen, that patients have often died before the porters could arrive at their dwellings; that others have expired in the house before the physicians could see them; and that others, again, with cold extremities, livid, and senseless, have survived their reception only a few hours; and, had it been possible that many of the patients could have left their fever at the gates, they must still have died, from the great mischief which important or vital organs had sustained during the first period of its destructive and, perhaps, unrestrained violence."†

From the above statement it will appear utterly impossible to form any precise estimate of what might have been the average of mortality, had opportunities been generally afforded of treating the disease in the primary stages; but if the

* Dr. Bateman, the author of the valuable little Treatise on Epidemic Fever, recently published.

† The Seventeenth Report of the Institution for the Cure and Prevention of Contagious Fever in the Metropolis: For 1819. London: printed for the Institution.

number of moribund cases alone were abstracted, the average would not be very considerable, in proportion to the violence of the epidemic; and if those cases were also abstracted in which the patients were admitted, though not actually moribund, yet all but hopeless, the average of mortality would be low indeed. Upon the whole, I may repeat, that my experience in the Fever Institution has tended to increase my confidence in the efficacy of physic when applied in the beginning of fevers; and it has likewise satisfied me, that it is generally of much utility in the intermediate stages, but that it is of comparatively little benefit in the last. There are some men such enthusiasts as to suppose, that medicine can do every thing, and others so sceptical as to assert that it can do little or nothing; but the truth lies in the middle of these extremes, for while the imperfections of the medical art are certainly to be lamented, yet it cannot be justly denied that we are in possession of many valuable principles and practices, especially in regard to acute diseases. If any good man, acquainted with the structure and functions of the healthy body, were to be placed in an hospital in which nothing but the worst cases of acute disease were admitted in the last stage, the result would probably be to shake his confidence most completely in physic: but if, on the contrary, he were introduced into an hospital where nothing but acute diseases were admitted in their very onset, and skilfully managed at that time, his confidence in the healing art would be confirmed, in short he would feel assured, that his profession was at once useful and dignified; so that if he were called to practice where cases were indiscriminately admitted, he would be in no danger of imputing imperfection to physic where an unrestrained disorder had been permitted to produce an organic derangement. In regard to public and private practice, supposing other circumstances the same, still I am inclined to think, that the success in the main would be greater in the latter; for I have never yet seen an hospital constructed with due reference to the phenomena of the human mind, far too many patients being put into one ward, not even arranged according to the character of their cases; and thus it frequent-

ly happens, that the sufferings of some greatly agitate the mind of others, and thereby the symptoms, particularly in fever, are apt to be aggravated.

Few diseases being more liable than typhus to leave predispositions, as it subsides, to secondary attacks of fever, it may be of some service to the inexperienced to bring them, as it were, to the bed-side, and briefly point out the causes, the peculiarities, and the methods of treating such attacks. Secondary fever may proceed from six causes, namely, reinfection, neglected bowels, errors in diet, diffusible stimulants, too early or too much exertion, and the influence of a low or variable temperature in the convalescents' apartments. Where a number of people have been confined in an atmosphere not sufficiently refreshed by ventilation, typhus itself is apt to return from the influence of the accumulated matter of contagion; the general debility, which for several days usually attends convalescence from a first attack, strongly predisposing the body to a second, where the convalescent breathes a contaminated air (32). On this account, every Fever Institution should have convalescent wards, into which patients ought to be removed as soon as they have recovered from typhus; for if they remain in wards containing other patients actually labouring under the disease, they may contract it again, whatever care be taken as to ventilation, from going about the beds of those patients, with whom they are apt to converse. When the strength has once been fully restored, then the body, so far as I have remarked, resists contagion better than before; though those who have recovered from a first attack should always avoid if possible the chance of a second, by a removal into a pure atmosphere. If a second attack of typhus occur in a highly exhausted subject, soon after the first has been subdued, the face often becomes sunk and pale, the skin cool, the head giddy, the pulse feeble and fluttering, the respiration quick, short, and weak, and

(32) It has been very boldly asserted by some theorists that the same individual was never liable to a second attack of typhus fever, and the assumed fact has been strongly urged as a proof of the contagious character of the disease. The testimony of our author is decisive to the contrary.

the patient may thus sink with rapidity, before the development of the stage of excitement. External warmth, strong warm tea, a little æther with six, eight, or ten drops of laudanum, I have found among the best measures under such embarrassing circumstances of the first stage; and even where the stage of excitement is subsequently developed, still the danger is very considerable, especially if any degree of wheezing be present, for such peculiarly enervated patients can only bear the mildest treatment. Tepid ablutions, therefore, laxatives, sub-acid drinks, consoling language, and a fresh cool atmosphere are the means usually most suitable for counteracting an excitement of this kind; though when the bowels shall have been sufficiently opened, very small doses of Dover's powder, say from one to three grains about twice in twenty-four hours, sometimes allay irritation and open the skin. Thin arrow root with lemon juice is the best diet in such cases, but the appetite is usually so prostrate that very little can or ought to be given at once, and indeed it should never be forced against the inclination of the sick. When typhus supervenes a second time, where the interval has been sufficient for the strength to be in some degree recruited, it may most frequently be controlled by active purgatives and the cooling regimen: if however any threatenings of inflammation appear, leeches and blisters should be promptly applied, which will commonly supersede the use of the lancet; and when inflammation is really present it must be managed as formerly recommended in the inflammatory typhus, according to its extent, seat, and character, together with the constitutional powers of the patient.

If the bowels be neglected for a few days during convalescence from typhus, they are liable to be over-loaded, and the tongue in that case becomes white and furred, the breath somewhat offensive, a fever suddenly or insidiously resulting from the intestinal irritation. The remedies are free purgation, the tepid bath, and an abstemious diet, but if any signs of abdominal inflammation appear when the bowels have been well evacuated, a full opiate will often allay the pain, and render venesection unnecessary: indeed when the bowels