VI.

Reports on the Epidemic Cholera, which has raged throughout Hindostan and the Peninsula of India, since August 1819.

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While typhus, the constant follower of war, was extending its ravages over even those parts of Europe which the sword had spared, an epidemic of another kind, and more alarming, as its effects were more speedy, and its causes more obscure, spread over the whole of our eastern possessions. Slight notices of it in private letters from India, and in the periodical publications of the East, besides the able communication to ourselves from Mr Anderson, (Edin. Med. Journal, Vol. XV, p. 354,) had only made us more anxious for a detailed and official account of this striking malady; and we hasten to take advantage of the very able report of the Bombay Medical Board, to make our readers thoroughly acquainted with the history of the epidemic, and, what rarely occurs in our professional pursuits, of the means by which it may be almost stripped of its terrors. In performing this public duty, we shall almost confine ourselves to extracts, never having seen the disease in question, and understanding that a still more copious and systematic work upon the subject is preparing at Calcutta.

"The cholera first appeared in August of last year (1817) in Zila Jessore, situated about a hundred miles north-east of Calcutta. There had been no previous marked peculiarity in the weather. The preceding cold and hot months were no wise different from those of former years; and the rainy season was proceeding with its wonted regularity. To the authorities on the spot there, the disorder seemed at first to be of a purely local description, and attributable to the intemperate use of rank fish, and bad rice. They were soon undeceived. After nearly depopulating the town of Jessore, it rapidly spread through the adjoining villages, and ran from district to district, until it brought the whole province of Bengal under its influence. It next extended to Behar, and, having visited the principal cities west and east of the Ganges, reached the upper provinces. There its progress was more irregular. Benares, Allahabad, Goruckpore, Lucknow, Cawnpore, and the more populous towns in their vicinity, were affected nearly in the regular course of time. But it was otherwise in more thinly peopled portions of the country. The disease would sometimes take a complete circle round a village, and, leaving it untouched, pass on, as if it were about wholly to depart from the district. Then, after a lapse of weeks, or even months, it would suddenly return, and, scarcely reappearing in the parts which had already
undergone its ravages, would nearly depopulate the spot that had so lately congratulated itself on its escape. Sometimes, after running a long course on one side of the Ganges, it would, as if arrested by some unknown agent, at once stop; and taking a rapid sweep across the river, lay all waste on the opposite bank. It rarely, however, failed to return to the tract which it had previously left. After leaving a district or town, it sometimes revisited it, but in such cases the second attacks were milder, and more readily subdued by medicine, than those in the primary visitation.

"The disorder shewed itself in Calcutta in the first week of September. Few were seized in the beginning; but of those few scarcely one survived. Each successive week added strength to the malady, and more extended influence to its operation. From January to the end of May, it may be said to have been at its full height; and during the whole of that period, the deaths in the city seldom, by the police returns, fell short of 200 a week.

"It, in turn, attacked every division, and almost every corps in the army. Of its fatal effects amongst the troops, a melancholy and signal instance is afforded in the history of its appearance in the centre division of the field army, under the personal command of the Most Noble the Commander in Chief. There it commenced its attack on the 18th or 19th of November; was at its utmost violence for four or five days; and finally withdrew in the first days of December. The division consisted of less than ten thousand fighting men; and the deaths, within twelve days, amounted, at the very lowest estimate, to three thousand; according to others to five, and even to eight thousand. The average loss of rank and file was between eighty and ninety men a-battalion.

"The Epidemic was long in crossing the Bundlekund and Rewa Hills. It began to shew itself at Jubbulpore on the 10th of April; prevailed generally amidst the corps posted there at Mundeh, Sau- gor, and other subordinate stations, to the 21st, and nearly disappear-ed before the end of the month. Here its influence was singularly irregular. In the same camp, and under circumstances precisely similar, some corps were entirely exempt; others had a few mild cases only; and others, again, suffered very severely. The same irregularity held in different descriptions and classes of troops. The disease did not reach Colonel Adams's camp till the 29th of May. It raged very violently during four or five days; and continued its operations in a desultory manner till the succeeding month. In Bengal, and the middle provinces, it may now perhaps be considered as nearly at an end. Cases no doubt still now and then occur in Calcutta, and its vicinity; but these are rare, and should rather be reckoned sporadic, than as proofs of the subsistence of the epidemic. The returns from the different divisions of the army now leave the head of Cholera Morbus, in most cases, blank; and the reports of the civil surgeons are equally decisive of its general disappearance. At Delhi, Futtigur, and others of the more northern stations, whither the disease was long in spreading, it is still, the Board believe, in full force, and producing the most alarming mortality.
"Colonel Adams's force was on the 29th or 30th of May in the neighbourhood of Nagpour, where the disease had raged for some days. We do not know the exact period at which it appeared at Jaulnah, but believe it to have been the latter end of June or beginning of July, immediately after the arrival of a detachment from Nagpour. After passing over a space of 200 or 220 miles, after visiting Aurangabad and Amednuggur in its course, it reached Seroor, a distance of 150 miles, on the 18th or 19th of July. Towards the latter end of the same month it appeared in the city of Poona, although the troops encamped in its neighbourhood continued healthy for some time after. On the 6th of August it broke out with great violence at Panwell, a considerable village on the main line of communication between Poona and Bombay, separated from the latter by an arm of sea, and distant about 15 or 20 miles; but between which a pretty constant communication is kept up by means of boats. On 9th or 10th of the same month the first case appeared on this island, and, as appears by Dr Taylor's report, could be traced to a man who had arrived from Panwell the same day. It is also evident by Dr Jukes's report, that it spread north and south along the sea coast from the same place, and that it was imported to a village in the neighbourhood of Jaulnah on the Island of Salsett, distant from this place about 20 miles, by a detachment of troops that escorted a state prisoner to that garrison from Panwell. The disease did not break out at Mahim, on the extremity of this island, distant only five or six miles from the principal native town of Bombay, until it had been established in the latter; it then gradually spread over the western side of the Island of Salsett, through which the road from Bombay to Surat and the northern countries lies, and by which, during the south-west monsoon, is the principal line of communication. By the observation of some individuals who, aware of the danger of the malady, and with the humane view of relieving the sufferings which it inevitably produced, carefully watched its progress, we are enabled to trace the disease as if creeping along from village to village on that island precisely in the same way, that is, by the arrival of people affected with the disease from places where it was known to prevail; and we are assured that there are some small villages on that island which, from want of this sort of communication, or from some other cause, have, after a lapse of four months, hitherto escaped entirely.' pp. v—xi.

We have already noticed that the causes of this disease are involved in obscurity. The sporadic cases of cholera that we see in this country all arise in the hottest season of the year, and during the time that the subacid fruits, ripe and unripe, are greedily devoured by the people. Their appearance is sufficiently accounted for by obvious exciting causes, and none others can be suspected to act. But the epidemic of India has been so universal in its empire, extending even to the most dissimilar countries, and continuing during the most opposite sea-
sons, that its prevalence cannot be accounted for by causes peculiar to individuals, to the air, or to situation. Its almost regular progress from place to place, suggests the idea of a cause depending upon communication with the diseased; and we foresee that the operation of contagion, hitherto scarcely admitted to exist in our eastern empire, is soon to become as keenly contested as it has been in our western colonies. The Bombay Board evidently lean, though cautiously, to the opinion that it is contagious.

"In the first place, it has prevailed in degree, equally violent at all seasons of the year; in regard to temperature, from 40 or 50 degrees of Fahrenheit to 90 or 100; in regard to moisture, during the continuance of almost incessant rain for months, to that dry state of the atmosphere which scarcely leaves a vestige of vegetation on the surface of the earth. Secondly, although what has been adduced may not appear to some to be sufficient evidence of the fact, it appears to us incontrovertible, that it is capable of being transported from one place to another as in cases of ordinary contagion or infection, and also to possess the power of propagating itself by the same means that acknowledged contagions do, that is, by the acquisition of fresh materials with which to assimilate, at the same time, perhaps, subject to particular laws, with which we may never become acquainted. Aware, however, of the doubtful nature of the ground which we tread, amidst the contrary opinions that have been advanced on this subject, we shall content ourselves with stating a few facts, which have been supplied by gentlemen whose reports have been already printed, and which might be increased far beyond the limits to which we think it necessary to confine ourselves. In October last, when the disease had almost disappeared at Tannah, the attention of Mr Jukes was called to a case that had appeared in one of the apartments of the barracks of that fort appropriated to European troops; this, owing to too late application for medical aid, soon terminated fatally. Another case occurred a few hours afterwards, the subject of which was saved with much difficulty and danger; and, in the course of six succeeding days, no less than nine cases occurred in the same apartment. The curiosity of Mr Jukes was naturally excited to ascertain under what circumstances so much disease was produced, and, on examination, the ward appeared to be both badly ventilated and too much crowded with men; the place was immediately emptied, scoured and fumigated, after which no other case occurred. Since the middle of December, when we had flattered ourselves that the disease was vanishing, as the cold season advanced, the number of cases considerably increased in this island, Salsette, and the Conkan, and, consequently, excited much alarm; in some instances these cases have been confined to particular spots, and sometimes to particular houses, where the disease has attacked and destroyed in succession whole families, consisting of three, four, and five persons, while in others only a single case, or, at most,
very few, have occurred. We are utterly ignorant of any local circumstances to which such a change can be ascribed, unless by supposing that a diminution of temperature, together with exposure, may have called into action some latent remains of an active poison; otherwise it seems difficult to reconcile those facts with what is observed in ordinary epidemics." pp. xi—xiv.

"The exciting and proximate causes of this interesting epidemic, although of the greatest importance to be understood, are, like those of most other epidemic diseases, concealed under complete obscurity, "atra caligine mersae." Great difference of opinion exists among practitioners, as to its contagious or non-contagious influence; and this difference very naturally arises out of the difficulty of the subject; and, when we consider the various and opposite opinions entertained by the most experienced practitioners of Europe on the same question, respecting the influenza of 1803, and the divided sentiments which have so long agitated the medical world on the subject of the yellow fever, and even typhus itself, we do not venture at present to decide on so important a point. Several irresistible facts already noticed, or related in the following reports, and its marked anomaly from all hitherto known simple epidemics, would seem to favour the doctrine of contagion, while the contrary supposition is only supported by a species of negative evidence. This is a question, however, of the greatest importance, and ought not to be too hasty entertained as proved, nor rejected as unfounded, but prosecuted with that diligent inquiry, and cautious induction, which, on every subject of science, are so necessary to the attainment of truth; and we entertain a confident hope, that the wide range through India which the disease has taken, will have afforded to some gentlemen more ample means of determining it than we possess.

"The predisposing causes are more obvious; and, on this point, practitioners are unanimous. Rapid atmospheric vicissitudes, in regard either to temperature or moisture; exposure of the body to currents of cold air, particularly the chill of the evening, after being heated by violent exercise of any kind, inducing debility or exhaustion; low marshy situations; insufficient clothing; flatulent and indigestible food, especially crude and watery vegetables, which compose a large proportion of the diet of the natives; and particularly that gradual undermining of the constitution which arises in a condensed, dirty, and ill-fed mass of population, are all, unquestionably, powerful predisposing causes; and though not necessary to the production of the disease, do, when present, offer a more unlimited range to the operation of the original cause, whatever that may be. Sad experience has, however, shown that the absence of all those affords no security against the attack; although it appears that a much smaller proportion of the higher orders of society have suffered from it on this side of India, than in the Bengal provinces; and, in this island, the disease has been confined almost exclusively to that class who are most exposed to the severest labour and privation." pp. xxviii—xxxı.
The history of the symptoms of the disease has been so well described by the Bengal Medical Board, that that of Bombay has thought proper to adopt it, noticing merely the peculiarities observed in the circumstances under their immediate inspection.

"The healthy and unhealthy; the strong and feeble; Europeans and natives; the Mussulman and Hindoo; the old and young of both sexes, and of every temperament and condition; were alike within its influence.

"The attack was generally ushered in by sense of weakness, trembling, giddiness, nausea, violent retching, vomiting and purging of a watery, starchy, whey-coloured, or greenish fluid. These symptoms were accompanied, or quickly followed by severe cramps; generally beginning in the fingers and toes, and thence extending to the wrists and fore-arms, calves of the legs, thighs, abdomen, and lower part of the thorax. These were soon succeeded by pain; constriction; and oppression of the stomach and pericardium; great sense of internal heat; inordinate thirst, and incessant calls for cold water, which was no sooner swallowed than rejected, together with a quantity of phlegm, or whitish fluid, like seethings of oatmeal. The action of the heart and arteries now nearly ceased; the pulse either became altogether imperceptible at the wrists and temples, or so weak as to give to the finger only an indistinct feeling of fluttering. The respiration was laborious and hurried; sometimes with long and frequently broken inspirations. The skin grew cold, clammy, covered with large drops of sweat, dank and disagreeable to the feel, and discoloured of a bluish, purple, or vivid hue. There was great and sudden prostration of strength; anguish; and agitation. The countenance became collapsed; the eyes suffused, fixed, and glassy, or heavy and dull; sunk in their sockets, and surrounded by dark circles; the cheeks and lips livid and bloodless; and the whole surface of the body nearly devoid of feeling. In feeble habits, where the attack was exceedingly violent, and unresisted by medicine, the scene was soon closed. The circulation and animal heat never returned; the vomiting and purging continued, with thirst and restlessness; the patient became delirious or insensible, with his eyes fixed in a vacant stare, and sunk down in the bed; the spasms increased, generally within four or five hours.

"The disease sometimes at once, and as if it were momentarily, seized persons in perfect health; at other times, those who had been debilitated by previous bodily ailment, and individuals in the latter predicament, generally sunk under the attack. Sometimes the stomach and bowels were disordered for some days before the attack; which would then in a moment come on in full force, and speedily reduce the patients to extremities.

"Such was the general appearance of the disease where it cut off the patient in its earlier stages. The primary symptoms, however, in many cases admitted of considerable variety. Sometimes, the sickness and looseness were preceded by spasms. Sometimes, the patient
sunk at once after passing off a small quantity of colourless fluid by vomiting and stool. The matter vomited in the early stages was, in most cases, colourless, or milky; sometimes it was green. In like manner, the dejections were usually watery and muddy; sometimes red and bloody; and, in a few cases, they consisted of a greenish pulp, like half digested vegetables. In no instance was feculent matter passed in the commencement of the disease. The cramps usually began in the extremities, and thence gradually crept to the trunk; sometimes they were simultaneous in both; and sometimes the order of succession was reversed; the abdomen being first affected, and then the hands and feet. These spasms hardly amounted to general convulsion. They seemed rather affections of individual muscles, and of particular sets of fibres of those muscles; causing thrilling and quivering in the affected parts, like the flesh of crimped salmon; and firmly stiffening and contorting the toes and fingers. The patient always complained of pain across the belly; which was generally painful to the touch, and sometimes hard and drawn back towards the spine. The burning sensation in the stomach and bowels was always present; and at times extended along the cardia and oesophagus to the throat. The powers of voluntary motion were in every instance impaired, and the mind obscured. The patient staggered like a drunken man; or fell down like a helpless child. Headach, over one or both eyes, sometimes, but rarely, occurred. The pulse, when to be felt, was generally regular, and extremely feeble, sometimes soft, not very quick; usually ranging from 80 to 100. In a few instances, it rose to 140 or 150, shortly before death. Then it was distinct, small, feeble, and irregular. Sometimes very rapid, then slow for one or two beats. The mouth was hot and dry; the tongue parched, and deeply furred, white, yellow, red or brown. The urine at first generally limpid, and freely passed; sometimes scanty, with such difficulty as almost to amount to strangury; and sometimes hardly secreted in any quantity, as if the kidneys had ceased to perform their office. In a few cases, the hands were tremulous. In others, the patient declared himself free from pain and uneasiness; when want of pulse, cold skin, and anxiety of features, portended speedy death. The cramp was invariably increased upon moving.

"Where the strength of the patient's constitution, or the curative means administered, were, although inadequate wholly to subdue the disease, sufficient to resist the violence of its onset; nature made various efforts to rally; and held out strong, but fallacious promises of returning health. In such cases, the heat was sometimes wholly, at others, partially restored; the chest and abdomen in the latter case becoming warm, whilst the limbs kept deadly cold. The pulse would return; grow moderate and full; the vomiting and cramps disappear; the nausea diminish; and the stools become green, pitchy, and even feculent, and with all these favourable appearances, the patient would suddenly relapse; chills, hiccup, want of sleep, and anxiety would
arise; the vomiting, oppression, and insensibility return, and in a few hours terminate in death.

“When the disorder ran its full course, the following appearance presented themselves:—What may be termed the cold stage, os the state of collapse, usually lasted from 24 to 48 hours, and was seldom of more than three complete days’ duration. Throughout the first 24 hours nearly all the symptoms of deadly oppression, the cold skin, feeble pulse, vomiting and purging, cramps, thirst, and anguish, continued undiminished. When the system shewed symptoms of revival; the vital powers began to rally; the circulation, and heat to be restored; and the spasms and sickness to be considerably diminished. The warmth gradually returned; the pulse rose in strength and fulness, and then became sharp, and sometimes hard. The tongue grew more deeply furred; the thirst continued, with less nausea. The stools were no longer like water; they became first brown and watery; then dark, black, and pitchy; and the bowels, during many days, continued to discharge immense loads of vitiated bile, until, with returning health, the secretions of the liver and other viscera gradually put on a natural appearance. The fever, which invariably attended this second stage of the disease, may be considered to have been rather the result of nature’s effort to recover herself from the rude shock which she had sustained; than as forming any integrant and necessary part of the disorder itself. It partook much of the nature of the common bilious attacks prevalent in these latitudes. There was the hot dry skin; foul, deeply furred, dry, tongue; parched mouth; sick stomach; depraved secretions, and quick variable pulse; sometimes with stupor, delirium, and other marked affections of the brain. When the disorder proved fatal after reaching this stage, the tongue, from being cream-coloured, grew brown, and sometimes dark, hard, and more deeply furred; the teeth and lips were covered with sordes; the state of the skin varied, chills alternating with flushes of heat; the pulse became weak and tremulous; catching of the breath; great restlessness, and deep moaning succeeds ed; and the patient soon sunk, insensible, under the debilitating effects of frequent, dark, pitchy, alvine discharges.

“Of those who died, it was believed, perhaps rather fancifully, that the bodies sooner underwent putrefaction, than those of persons dying under the ordinary circumstances of mortality. The bodies of those who had sunk in the earlier stages of the malady exhibited hardly any unhealthy appearance. Even in them, however, it was observed, that the intestines were paler and more distended with air than usual; and that the abdomen, upon being laid open, emitted a peculiar offensive odour, wholly different from the usual smell of dead subjects. In the bodies of those who had lived some time after the commencement of the attack, the stomach was generally of natural appearance externally. The colour of the intestines varied from deep rose to a dark hue; according as the increased vascular action had been arterial or venous. The stomach, on being cut into, was found filled, sometimes with a transparent, a green, or dark flaky
fluid. On removing this, its internal coats in some cases were perfectly healthy; in others, and more generally, they were crossed by streaks of a deep red; interspersed with spots of inflammation, made up of tissues of enlarged vessels. This appearance was frequently continued to the duodenum. In a very few cases the whole internal surface of the stomach was covered with coagulable lymph; on removing which, a bloody gelatine was found laid on the interior coat in ridges or elevated streaks. The large intestines were sometimes filled with muddy fluid, sometimes livid, with dark bile, like tar; just as the individual had died in the earlier or later periods of the attack. In most cases, the liver was enlarged, and gorged with blood. In a few, it was large, soft, light-coloured, with greyish spots, and not very turgid. In others again it was collapsed and flaccid. The gall bladder was, without exception, full of dark green or black bile. The spleen and thoracic viscera were in general healthy. The great venous vessels were usually gorged; and in one case the left ventricle of the heart was extremely turgid. The brain was generally of natural appearance. In one or two instances, lymph was effused between its membranes, near the coronal suture, so as to cause extensive adhesions. In other cases, the sinuses, and the veins leading to them, were stuffed with very dark blood."—Bengal Report.

"After the above luminous description, and what will be found in the reports which follow, it appears quite superfluous to enter here into any farther detail of the symptoms of this disease; we shall only, therefore, mention, that the subsequent fever, which it appears has generally accompanied it in Bengal, has been but little, if it all, observed on this side of India; and, as we have before noticed, may be owing, in a great degree, to the more extended influence of those causes, which are known to produce the bilious remittent fever as an epidemic in the Bengal provinces than on this side of the Peninsula; for it can scarcely be supposed that a disease, so uniform in its attack and in its course, should, as it were, deviate from itself in any considerable degree, without the agency of some local cause; and we entirely agree in the opinion, that it cannot be fairly considered as forming a part of it." pp. xv—xxii.

The disease, or at least one very much akin to it, has been described as occurring epidemically in this island, by Dr Sydenham, in 1669, and by Dr Brady, in 1674-5-6; and of its former appearance in tropical countries, the Bombay report refers to Mr Girdleston, Dr Clark, Mr Curtis, and Dr Johnson, as the most instructive writers.

In such a disease, so rapid in its career, and so fatal in its effects, when left to the course of nature, it is gratifying to learn, that our professional skill, so often unjustly reproached for its inefficiency, has obtained a triumph which secures it against the utmost efforts of scepticism and ridicule.

"We have before-mentioned, that Dr James Johnson, of the Royal Navy, seems to have been the first to have pointed out the best me-
thod of cure. Since most of the foregoing remarks were written, we have seen the second edition of that gentleman's valuable work, in which we find a strong corroborative testimony to the utility of blood-letting in this disease, or one somewhat similar to it, on the coast of Brazil, by Mr Sheppard of Witney, without the assistance of any other remedy. The public are greatly indebted to Mr Corbyn, of the Bengal Establishment, for his clear and comprehensive letter on this subject, at a time when the disease was producing the most dreadful ravages: the early communication of his practice has been the means of saving thousands of lives in situations where Dr Johnson's work might not be known." pp. xli, xlii.

Mr Corbyn, in his letter from Camp Erich, dated November 26, 1817, says, on the 16th of this month 160 patients were admitted.

"I immediately gave to each patient 15 grains of calomel, which I dropped on the tongue, and washed it down with 60 drops of laudanum, and 20 drops of peppermint, in two ounces of water.

"Before I go further, it will be necessary to mention to you, that laudanum, in a large dose of 60 drops, is not a stimulant, but a sedative; whereas laudanum, from 15 drops to 20 and 30, is a stimulant; the former produces sound sleep, removes spasm and irritability, whilst the latter excites considerable uneasiness and convulsive startings.

"It will appear the more remarkable to you when I also mention that the variation of a dose of calomel has the same effects.

"Calomel, in a dose from 5, 8, to 10 grains, excites lassitude, sickness, irritation of the bowels, and, on account of its being a stimulant, acts as a good purgative; but calomel, in a dose from 15 grains to 20, is a sedative, allays vomiting, removes spasm, sends the patient to sleep, and produces one or two motions.

"You will now observe on what principle I treated my patients; not on a plan of giving powerful stimulants, but on one which at once removes the irritability and spasm, composes the stomach and the bowels, produces sleep and tranquillity of the mind, excites the secretion of the liver, and prevents the progress of inflammation.

"On the second day, it was indeed a consolatory sight to observe the wonderful change.

"The vomiting and the purging had stopped, the spasms removed, with general moisture on the skin, they had experienced sound sleep, and the pulse had returned to the wrist.

"I now gave 30 grains of jalap, which effected one or two bilious motions.—Of one hundred and ten men, I only lost two, and those were decrepid aged men, in whom the vital energies were at once extinguished,—the remaining one hundred and eight I had the good fortune to see all recover."—Addit. App. pp. 2, 3.

The appearance of the disease among European soldiers, and the striking effect of venesection in them, we quote from a letter of Dr Burrel of the 65th regiment.
"Seroor, 27th July 1818.

"The Cholera Morbus has been in these cantonments since the 18th instant. In the 65th regiment it commenced on the 21st. The admissions are as follows:—

"21st 1; 22d 6; 23d 6; 24th 18; 25th 22; 26th 7; total 60; deceased 4.

"The soldiers of the regiment, not aware of the danger of the disease, did not report themselves for the few days after they felt unwell. These cases comprised the admissions of the 21st and 22d inst. When admitted into regimental hospital, the utmost debility was apparent, consisting of feeble pulse, cold extremities, nausea, and constant vomiting, with spasms. These were followed by universal sinking and coldness of the body; and death ensued in the space of twelve, fourteen, and twenty-one hours after admission. The warm bath, calomel, and opium were tried, along with the most powerful stimulants, with little success.

"On the 22d instant, when the men had been duly warned of danger from not reporting themselves sooner, I got into hospital a different description of cases; viz. men with a full pulse, hot skin, constant vomiting of white matter like thick conjug, seldom any purging; if it existed, it was like the matter vomited. Bleeding was used in every case with so much success, that I have no hesitation in recommending its adoption.

"The first symptoms in the attack were languor, with occasional pains, and sense of numbness in the extremities, violent headache, and thirst; shortly there ensued nausea, vomiting of slimy matter, weight over the praecordia, with griping in the bowels, small stools of white slimy matter, no appearance of bile from the stomach or bowels. The spasms followed in many cases so violent as to require six men to hold the patient. If relief was not immediately given, it is astonishing how soon the system sinks under the attack, marked by the ends of the fingers and toes getting cold, pulse and motion of the heart ceasing, with a livid mark round the eyes. From this state some men recovered, under the stimulating plan, although they had lain in that condition from six to twelve hours; but it is to be looked upon as one of the most dangerous symptoms of the disease.

"On admission I bled in every instance, in general to a good extent. Where universal spasms existed, venesection was carried on ad deliquium, the patients at the same time in the hot bath at 110 degrees. The spasms were invariably relieved, nausea and vomiting alleviated, so that the stomach bore the exhibition of the calomel in scruple doses, combined with laudanum; which doses were frequently repeated. In short, opium was given under every combination, with calomel; and I believe the calomel will be found to rest on most stomachs per se.

"The application of blisters was not attended with much advantage, although they might do good in some cases. Every dependence is to be placed on the hot bath, with the means above mentioned. Frictions, with stimulants to relieve the cramps, are never to be depended upon when the patient comes under treatment in the first
stage; as bleeding relieves the congestion of the liver and internal parts, and the patient falls into a refreshing sleep. The next day his gums will likely be affected, stomach quiet, and capable of bearing some of the common cathartics, the exhibition of which is followed by dark bilious stools.

"From having so much duty at present, I am sorry I cannot enlarge upon this topic; but have only to mention my full confidence of bleeding in Europeans. The result is most striking in our hospital, as it in every case lessens the irritation of the stomach, one of the most dangerous symptoms in this disease. Bleeding has been tried on the native attendants with the same good success.

"As every epidemic, by accumulation of subject, has a tendency to propagate its virus, I am cautious in reporting this disease not infectious. Almost every attendant in the hospital, in the short space of six days, has had the disease;—there are about thirty attendants in hospital.

"The regiment is about 800 strong. The admissions from the regiment bear no proportion to the attendants who have been taken sick. The mercurial influence in a small degree does not guard the patient from attack, as has been clearly proved in our wards; full mercurial influence might prevent it."

"Seroor, 10th August 1818.

"As dissections of cases of cholera morbus were not sent you along with my statement of the 28th ult. I beg to send you a few remarks on this subject.

"As congestion has been found in all our former fatal cases, I yesterday had another demonstrative instance of the eligibility of bleeding in cholera.

"John Stokes, of the 65th regiment, a man recovered from chronic syphilis, was attacked in our wards with vomiting and purging at eight P.M. of the 8th inst. When seen, his hands and feet were cold, with some rigidity. Under these circumstances, and he being of a weakly habit, bleeding (I may say unfortunately) was not used. The usual remedies, with the hot bath, were tried. He died on the 9th inst. at two P.M."

"In company with Dr White of the 2d N. I. and Assistant-surgeon O'Reilly, 65th regiment, I opened the body. The liver was found of a dark colour, distended with blood, and the gall-bladder full of bile. The spleen of an extremely blue colour. The omentum inflamed, and veins filled in every part. The small arteries of the intestines of a lively red; and the colon contracted through its length to the size of a middle finger, and its calibre so small as hardly to allow a scalpel handle to be introduced.

"The veins of the stomach more particularly arrested our attention. On the great curvature, they were of an intermediate size, between a crow's and a common quill. These turgid veins were more apparent internally, and the most forcible injection could not have more completely filled the vessels. The mesenteric vessels, as well as the vessels of every other internal membrane, partook of this appearance of formerly increased action. The lungs were dark, and suffused with
blood; this, most probably, is the cause of the stertorous and labour-
ed breathing present in almost every fatal case.

"From former dissections, and the appearances in this case, little
doubt ought to arise regarding the exigence of bleeding in almost
every case, but more especially in the first hours of attack. If even
during the cold and rigid state of the limbs, should the pulse rise in
the hot bath, which it generally does, we ought not to hesitate in open-
ing a vein; as recovery from this stage is most precarious, and every
experiment may therefore be tried.

"As dissection in this disease has shown, and will in every case
show, turgidity, if not inflammation, of the vessels of the internal parts,
no hesitation as to what line of practice is best should harbour in the
minds of medical men during the prevalence of so dreadful a disease.

"Under this idea of increase of action internally, and consequent
want of balance in the circulation, from which arises the coldness and
shrinking of the external parts, I commenced the bleeding system; and
of the cases admitted of cholera, since the 21st ultimo, up to the 10th
August, the casualties run thus,

| Bled,  | 88 |
|-------|----|
| Not Bled, | 12 |
|        | 2 |
|        | 8 |
| Total admissions, | 100 |
| Deaths, | 10 |

"Our cases of dysentery in the chronic stage in the hospital have been
aggravated in many instances, appearing as if the epidemic gave a pec-
icular character of symptoms to the usual endemic diseases.

"Relapses of cholera have not been unfrequent, and the regularity
of the bowels must be strictly attended to in the stages of convalescence.

"Some of these relapses require the same treatment as the original
attacks. In one European woman the attack proved fatal."

We have been so liberal in our quotations, that we have only
room to add, that to the report of the Board are added all the
documents upon which it is founded, and which do great credit
to our professional brethren in the East, and to several of the
military gentlemen, who have shown themselves accurate ob-
servers, and unremitting in their exertions to alleviate human
misery.

"In conclusion, we shall only add, that, whatever place may here-
after be assigned to this disease in nosological arrangement, we can-
not help thinking that its present appellation of Cholera must be dis-
continued. If true cholera morbus be, as we have been taught by
nosologists to conclude, a morbid flow of bile, the present disease
surely cannot be ranked with it; and we agree entirely with Syden-
ham, (if the quotation we have formerly made from him be allowed to
be applicable to our present purpose,) that though possessing many
symptoms in common, the diseases are yet _toto cælo_ of a different
nature. "Quisquis autem _cholera morbi legitimi_ phænotena _studi-
diose collegerit, fatebitur morbum istum, quamvis eorundeni symp-
tomatum nonnullis stipatum, ab hoc nostro _toto cælo_ distare."—
pp. xlii, xliii.