dical question which has not yet been placed on a satisfactory footing.

The last six pages of the report are occupied with a question which the Commissioners truly designate as one of "great and pressing importance," namely, that of criminal lunatics.

The length of Dr. Boyd's important and valuable paper on Cholera compels us to defer the consideration of this question to a future number. We trust at an early opportunity to resume our remarks on this able and most valuable Report.

Observations on Cholera, by ROBT. BOYD, M.D., *Fellow of the Royal College of Physicians, London; Physician to the Somersetshire Lunatic Asylum.*

"He came, he went, like the simoon,
That harbinger of fate and gloom,
Beneath whose widely-wasting breath,
The very cypress droops to death."—*Byron.*

The frequent occurrence of Cholera, in different parts of the United Kingdom, of late years, and its prevalence at present, seems to point out the necessity of our being prepared for its appearance, particularly in public institutions, and amongst others, Lunatic Asylums, which in some instances have suffered severely from this disease. In the West Riding of York Asylum, containing 633 patients, 98 are reported to have died from cholera in the autumn of 1849. The private asylums for pauper lunatics generally about London and in some other places, suffered more or less from the same epidemic; whether from cholera or some other cause, the mortality in the Lancaster Asylum was unusually high, 48 per cent. in 1833, according to "a table of patients admitted, &c," in the annual reports of that institution.

The Commissioners in Lunacy considered it necessary last year to issue a printed circular, suggesting precautions against cholera. In the first number of "the Asylum Journal," it is suggested that the recommendation in that circular, of having in every asylum, probationary wards set apart for patients from infected districts, to be placed there for some days, in the first instance, and there attended by separate nurses, would be beneficially modified, by having the probationary wards placed "without the walls, and at some distance from the asylum." Hospital wards, distinct and separate, would doubtless be a great relief and benefit, during the prevalence of any epidemic, and, in the generally crowded state of asylums at present, such wards seem to be almost absolutely required.

Patients in cholera, when in a state of collapse, require constant and unremitting attention; the thirst is often incessant; the medicines have to be given frequently; a frequent change of bed-clothes and bedding is also required; hence, a strong staff of nurses is requisite. When patients suffer from spasms and cramps in the extremities, which they often do most severely, two or three nurses may be employed in rubbing the limbs of a patient, in applying turpentine fomentations, and flannel bags filled with hot salt or sand, to the spine, and other parts of the body. Where the rubbing of the limbs can be dispensed with, a hot air bath is speedily efficacious in raising the temperature of the patient. The bath I have been in the habit of employing, not in cholera especially, but in any other case, was formed by raising the bed-clothes on a wooden cradle, similar in form to that used for protecting a broken limb, but large enough to embrace the body; the lower end of the cradle was formed of a semicircular board, through which was a hole to admit the nozle of a two inch metal pipe, communicating with a metal funnel outside the bed, in which an oil or spirit lamp was kept burning to heat the air.

In a large cholera hospital to which I was attached as assistant resident physician, during a part of the epidemic of 1832, the number of patients admitted in six months, from May to November, was 3,026, and the number of deaths 905, or nearly 30 per cent., about one half when admitted were in what was then termed blue or Asiatic cholera, excluding the milder forms; those for instance affected with diarrhœa, or English cholera only when admitted, the mortality might be said to amount to 60 per cent. in the worst form of the disease.

A great number of patients were admitted between midnight and four o'clock in the morning, although the hospital gate was opened at all hours to applicants. The medical and other attendants took the night duty alternately. When the epidemic was at its height, the cases ran their course quickly, one "receiving ward" was emptied of its occupants by death, twice during one night.

I shall here give a few examples of the blue or Asiatic cholera, from my notes taken in that hospital, which will show the nature of the cases, effects of remedies, and the amount of attendance required.

1. T. F., a news carrier, aged 32, admitted 18th September, 1832, into ward No. 8, at a quarter to two p.m., attacked with purging twenty-six hours, vomiting nine hours, and cramps one hour before admission. The only medicine he appears to have taken was a draught of castor oil about an hour before the vomiting. The extremities were cold, tongue cold and white, no pulse in radial artery, cold perspiration, blue appearance of the skin, and the peculiar whispering voice, the evacuations were characteristic, like rice water. No urine passed, which was also a characteristic in all these cases. Hot water-bottles were applied to the feet, and between the legs; bags of hot salt to the knees and between the thighs; the hands and arms were rubbed with hot turpentine, and turpentine and hot flannel applied to the abdomen, a mixture of one part of brandy to three of water for drink. A pill of three grains of carbonate of ammonia and one of capsicum, every fifteen minutes, to be swallowed with one ounce of the brandy and water. Five p.m., heat of body natural, no pulse at wrist or temple, in a clammy sweat. He died in seven hours after admission.

2. Mary F., aged 53, attacked 2nd October, 1832, at two a.m., admitted at eleven a.m., in a state of collapse, cold and blue. Warmth applied, one drachm of calomel given, and stimulants; no attempt at reaction. Death occurred eight hours after admission.

3. Betty C., aged 46, attacked 21st October, with purging, admitted seven hours afterwards in a state of collapse. No pulsation in radial or temporal arteries; eyes sunken; cold clammy perspiration on forehead;

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tongue white and cold; skin on hands wrinkled; no vomiting. Calomel ten grains, and one of powdered opium given; sherry and water equal parts, for drink. 3 P.M., Purging continues, an astringent enema of decoction of oak bark, alumn, and tincture of galls. 5 P.M., the enema repeated, and carbonate of ammonia, camphor, and capsicum pills every fifteen minutes, a sinapism to be applied to the abdomen. 8 P.M., no improvement; the medicine and astringents continued. At midnight she vomited, and the vomiting stopped after taking an ounce of oil of turpentine. 22nd. 2 A.M., purging continues, no recurrence of the vomiting. 4 A.M., stimulants required; watery evacuations still continue, passing through the bed; vomited once; head hot, four leeches to the temples; astringent enema repeated. 11 A.M., pulse felt in temporal artery, but not in the radial. Stimulants &c., continued. 3 P.M., restless, extremities cold, no pulse, respiration hurried, purging stopped; the extremities to be well rubbed with hot turpentine, and bandaged with warm flannel; calomel, six grains, and hyoscyamus, two grains, directly; the stimulant pills to be continued. 6 P.M., some reaction; head hot. 8 P.M., no pulse, no purging, stimulants given. Midnight, gradually sinking. 23rd, She died at 1 A.M., thirty-five hours after admission; unlike the first two cases, in this one there was an attempt at reaction.

4. A woman aged 48, attacked at 8 A.M., 29th October, and about 12 o'clock with vomiting and cramps, admitted to the hospital the same day, at 2½ P.M., in a state of collapse; no pulse at the wrist or temple. Calomel 20 grains, and acetate of morphia half a grain given; brandy and soda water for drink; sinapism to the epigastrium; hot bottles and bags of hot salt to the feet and other parts of the body. She died sixteen hours after admission.

The husband to the last-mentioned patient, aged 56, admitted within four hours of his wife's death: he appeared quite well when he brought her to the hospital yesterday. Purging, at first slight, came on last evening; he was admitted at 10½ A.M., in a state of collapse; no vomiting; a small pulse felt at the wrist; clammy sweat; cold extremities; tongue cold and white; the peculiar whispering voice. (It should be noted, that this man slept in the same bed and bedclothes from which his wife had only lately been removed.) Hot applications to extremities; stimulants, given internally; astringent enemas. He only lived eight hours after admission.

5. A boy aged 11 years, attacked with purging, 26th October; admitted to the hospital three hours and a half afterwards, in blue cholera. No pulse in radial or temporal arteries; eyes sunken, with a dark areola; lips cold and blue, extremities cold. Hot bottles applied; carbonate of ammonia, camphor, and capsicum every quarter of an hour; sherry and water drink; vomiting came on soon after his admission; fifteen grains of bismuth ordered for that symptom. Midnight, —restless, asks for cold water, which he is allowed in small quantity; fifteen grains of calomel, and two of extract of hyoscyamus, given in the form of a bolus. 27th—4 A.M., vomiting has stopped; watery evacuations continue, passing through the bed; no pulse; an astringent enema ordered, which checked the purging; in an hour afterwards the vomiting came on, and soda water was given. In two hours afterwards the face became warm, pulsation returned at the temples; restlessness, purging. and vomiting continued; six leeches to the temples, soda water for drink, astringent enemas, a blister to the epigastrium—the blistered surface to be dressed with a grain of acetate of morphia. 6 P.M., pulsation in radial artery. 11 P.M., no purging or vomiting, or clammy perspiration; very restless; a scruple of calomel and three grains of extract of hyoscyamus given. 28th—Passed a quiet night, restless to-day; calomel and James's powder, in pills, given; eight leeches applied to the temples; he passed urine for the first time to-day. 29th—Vomited once; another blister applied to the epigastrium, and one grain of acetate of morphia sprinkled on the blistered surface. He went on afterwards without a bad symptom; the medicine was discontinued. 5th November—He was discharged quite recovered on this day, being the tenth from the day of attack.

6. A sailor aged 32, attacked with purging, vomiting, and cramps in the lower extremities, on 29th of October; admitted into the hospital four hours and three quarters afterwards in a state of collapse, no pulse at the wrist. Limbs to be rubbed, and heat applied in the usual way; twenty grains of calomel, three of extract of hyoscyamus, and electuary of catechu, given as a bolus; sherry and soda water to drink when he asks for it. 10 P.M., vomiting frequent, cramps violent, small quick pulse; rubbing of limbs to be continued, and the bolus of calomel repeated. 12 o'clock, cramp less severe; he vomits a watery fluid at short intervals; twelve grains of the oxyd of zinc to be given every half hour. 30th—The vomiting continued, other symptoms less severe; skin corrugated and covered with a clammy perspiration, no pulse at the wrist or temple, a blister applied to the epigastrium; ten grains of nitrate of silver, dissolved in one ounce and half of distilled water as a draught, twice during the morning, also a draught containing an ounce of oil of turpentine. The evacuations from the bowels were like whey; in the afternoon they assumed a darker colour, and a strong fœtor of rotten eggs. Astringent enema, with tincture of opium, ordered; brandy and water for drink. In the evening he was easier. At 10½ P.M. he became restless and anxious, talking of his family who were far distant; he gradually sunk, and died soon after midnight.——*Post mortem* examination, twelve hours after death.—The body rigid, skin of a natural colour. The spinal canal first examined: the spinal cord of the natural appearance. Head: vessels on surface of the brain very much congested with blood. The roots of the cerebral nerves were carefully examined, and appeared natural. The splachnic nerves were also examined, and the semilunar ganglion, which last appeared larger and more vascular than usual. Lungs appeared natural: heart, exanguinous. Œsophagus: the mucous membrane dark, probably from being stained by the nitrate of silver he had taken, the veins congested with blood; the veins of the stomach also congested in the same way, and small red patches on the mucous membrane, which had been frequently observed in other cases examined in the hospital; a dark brown fluid and some turpentine in the stomach.

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Intestines void of any fluid or feculent matter. The edge of the liver very sharp, the organ devoid of blood, and as it were contracted; the gall bladder distended with bile, the gall duct contracted. The spleen small, and devoid of blood. The kidneys unusually pale, but in other respects natural.

The cases of malignant, blue, or Asiatic cholera now given, all died but one; the stimulant, mercurial, and anodyne treatment was chiefly practised, with counter irritants, leeches, and soda water or cold water when called for by the patient.

In three other cases I found most remarkable results from the saline injection of the veins, as recommended by my friend Professor Hart, physician to one of the principal cholera hospitals in Dublin, who has kindly sent me some valuable observations on the subject. The saline injection consisted of muriate of soda one drachm, carbonate of soda ten grains, water (of the temperature 105°) six pints, and sometimes two grains of sulphate of quinine were added. The patients, from being pulseless, cold, and almost insensible, underwent after the injection of the fluid into the brachial or median vein in the arm, the following changes: the pulse rose, their senses returned, they sat up in the bed, and became so much roused as to be capable of settling their worldly and other affairs, but in the course of a few hours afterwards they all died. This mode of treatment recommended by Drs. Smart and O'Shaughnessy as an improvement in cholera on Dr. Stevens's saline plan, was extensively tried in the Dublin cholera hospitals in 1832, but without success, although elsewhere in some cases with a different result.

The circumstances which favored the recovery of patients were their *youth*, (infancy excepted,) but especially their being *soon brought under treatment*. The cases here mentioned were affected from nine to three and a half hours before being brought under treatment, and moreover prove, that a diarrhœa neglected for even that short period may terminate in fatal cholera.

The usual characteristic in these cases was a discharge of the less colored part of the blood and fluids from the mucous membrane of the intestinal canal, an exosmosis; this was, however, only an effect; the cause probably a poison acting on the nervous system, as when the epidemic of cholera was at its height persons died in a few minutes, before any of the usual symptoms developed themselves. I have known, in like manner, at an outbreak of an epidemic of scarlet fever, some of the strongest children, in appearance, die, as if poisoned, in a few hours, before the usual symptoms of that disease had become developed.

The post mortem appearances only shewed an exsanguineous state of the thoracic and abdominal viscera, and red patches inside the stomach. These would be the natural results of a profuse discharge of fluid from long continued vomiting and purging. The vascular congestion of the nervous centres was probably in consequence of their being less immediately under the influence of the discharge from the mucous membrane of the stomach and intestines, and of the well known fact, that efforts at vomiting greatly tend to produce congestion of blood in the head.

The idea of cholera being an exosmosis from the mucous membrane, has been acted upon successfully in one instance by Dr. Allen, late my colleague in the Marylebone Infirmary. In that institution in 1848, a girl of 13, in a state of collapse in cholera, was enveloped in a wet sheet to produce the opposite state termed "endosmose" by Dutrochet, and she speedily recovered. The nurse who attended this girl in the infirmary, was herself seized with cholera, and at her urgent request was treated with the wet sheet in the same way, but she died.

Affusion of cold water continued with frictions, Dr. B. Hawkins describes as a method pursued in Persia, and more rational than the calomel and opium plan.

The return of the secretion of urine was one of the earliest, and is the surest sign of recovery in cholera, for although the patient may linger on for a little without that secretion being fully established, the consecutive fever which follows, usually terminates fatally.

A new method for treating cholera, suggested by Sir J. Murray, M.D., will be found in the *London Medical and Surgical Journal*, vol. i., No. 24. He found, that by placing a person in an air-tight vessel, to which an air-pump is adjusted, the face only of the person being exposed, that half a pound abstracted off the square inch produces great determination of blood to the skin and expansion of the chest; while at the same time the lungs received a column of air of the usual expansive force.

In three cases of cholera, "entirely beyond the reach of art," reported in the same journal, in which this plan was tried, the fatal termination seemed certainly to be delayed. The principle seemed to answer, and if the machine had been more perfect in its construction, it was considered that these patients would have derived more advantage from its use.

Independent of the abstraction of the blood from the internal parts, the spinal column, and ganglionic nerves, Sir J. M. considered that the new process "may alter their electrical condition, both by insulating the body, and also by keeping it some time surrounded by a rarified and drier atmosphere, and consequently modifying the electrical influence of the air on their nervous system." He suggests that cholera arises from electrical disturbances, and most ingeniously endeavors to explain the phenomena attending it on these grounds, and that "the supposed contagion of the disease may be owing to the distribution of the electric fluid between a healthy individual in whom it is equal, and a diseased person in whom it is irregular, thus deranging it in the one that is well."

A clear and succinct history of the epidemic cholera or choleric fever of 1832, may be found in Professor Benson's Lectures, published in Nos. 92, 94, and 96 of the *Dublin Medical Press*. From which it appears, that in March 1832, the first case appeared in Dublin in a person who had come from Liverpool, where the disease prevailed. It spread through almost every town in Ireland. The symptoms of the disease were extremely various, and very different from English or common cholera, yet some prominent symptoms, as vomiting and purging, being generally present, are sufficient to justify the use of the same name. Dr. Cranfield grouped the symptoms into three, constituting so many types. "In one group the most marked symptoms are those of collapse, or the *blue*

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type. In another spasm is the most prominent symptom, the *spasmodic type.* And in the third a febrile state prevails almost from the outset, this may be denominated the *febrile type.*

Mr. McCoy, who was attached to a very large cholera hospital in Dublin, observed the greatest irregularity in the *succession* of the symptoms, in their *duration*, and *severity.* He says, "I have seen any one symptom take precedence; I have known any one of its symptoms occasionally absent; I have seen all the symptoms strike at once. I have seen the disease linger with trifling symptoms for a week before there was much cause for serious apprehension; I have seen it run its course from apparently perfect health to dissolution in one hour and three-quarters; I have seen them present every shade of severity from the most tranquil state to one of great agony.

"The prevalence of particular symptoms appeared periodically endemical, for three or four successive days the great majority of patients received into hospitals would have one symptom or train of symptoms predominating, the next period others, and so on. I was not able to connect these with any remarkable atmospheric changes. I have not known the mental faculties of cholera patients disturbed in the disease, nor even the same degree of mental debility, which often attends great bodily weakness; some lunatics under my care gave most correct answers to questions connected with their condition, but less so, as they advanced to convalescence."

The identity of the epidemic of 1832 with Asiatic cholera was allowed by our army surgeons, who had witnessed the pestilence in India. It was unlike any thing ever before witnessed in this country. It is expressively named in India "Elowa and Mordekin:" the hurricane, the death-swoop. In India the collapse was more sudden and recovery more rapid. Orton says, that at Hoobly and other places, the natives were attacked with the disease whilst walking in the open air, and having fallen down, retched a little, complained of vertigo, blindness, and deafness, and expired in a few minutes. Mr. Coates says, that three thousand perished in a few days, many of them "having been knocked down dead, as if by lightning."

The fever which so frequently follows the state of collapse in this country was rare in India.

Pathology.—In the reports of the morbid appearances from the medical boards of the three Presidencies of India, Dr. Bisset Hawkins's account of cholera in Moscow, M. Rayer from France, and Dr. Brown from Sunderland, where cholera first appeared in England; Dr. Bensou states, "you find nothing to account for death, no lesion of sufficient importance to give rise to the symptoms, or to cause the fatal result. In fact, there is venous congestion of all the internal organs, and nothing more, not even inflammation. I believe there was no additional light thrown on the subject by the Dublin anatomists."

Professor Hart, a profound and accurate anatomist, says, "Of those who died in the state of collapse, the cerebral organs and spinal chord presented no marked morbid appearances; in some cases the vessels over the hemispheres of the brain were congested; the heart was contracted in most cases; nothing peculiar respecting the lungs; the stomach and intestines presented a remarkable pinkish color, and their veins were greatly congested; the Peyerian glands were generally distinct; no fæces in any part of the intestinal canal which contained a white fluid like thin gruel; the surface of the mucous membrane throughout was covered with a tenacious pulpy substance of the consistence of starch mucilage; the liver was generally small in size; the gall bladder distended with dark green bile; the spleen was usually small and corrugated; the kidneys were firm; no urine in the bladder. I carefully dissected the semilunar ganglion in several cases, but could never discover any morbid change in it. The muscles were always rigid. Of those few I had an opportunity of examining who died in the febrile state, the greater part had signs of inflammation of the intestinal mucous membrane, and in some there was softening of the lining of the stomach to such an extent, that it hung in shreds into the organ." Dupuytren found the glands of Brunner and of Peyer always enlarged in cholera, and believed that they were the chief seat of the disease. Delpech found the semilunar ganglions voluminous, red, injected with blood and infiltrated with serum; he found the nerves of the solar plexus swollen, and their neurilemma injected; and the lower part of the par vagum similarly changed; and Loder of Moscow predicted these changes from a consideration of the symptoms. None of these changes were observed in this country.

In most instances the blood became thick and pitchy looking, even in the arteries it was dark. Dr. O'Shaughnessy shewed that cholera blood had less water than healthy; that the serum had more albumen, but was very deficient in salts; that it separated imperfectly from the crassamentum, and was of high specific gravity. The fæces contained the salts which the blood lost.

The change in the blood was very remarkable, and generally supposed to be communicated through the nervous system. The first outbreak of the disease was so sudden, so violent, and so unlike any other disease, that the symptoms in every country were supposed to be the result of poisoning; and many a medical man had a narrow escape from the enraged populace for his imagined participation in the crime. "The disease *was* occasioned by a poison, but the poison was *not* administered by man."

Contagion. — The belief in India was generally *against* the contagious nature of the disease, also that of the Commission sent from Paris to Poland. Some of the Dublin physicians were against contagion, others believed the disease to be contagious. Mr. McCoy often observed the hospital attendants, at night, stretched on the same beds with a collapsed patient, sometimes asleep; "yet," he says, "I have not known any ill consequences to follow. None of the medical officers took cholera. I have tasted the rice vomit, and escaped. The suddenness with which the number of patients increased or diminished was very remarkable. I should be inclined to consider cholera neither contagious nor infectious."

On the other hand, it is stated that thirteen medical officers died of cholera in Madras in four years. Prof. Hufeland, of Berlin, considers cholera a contagious disease, and in Sunderland Dr. Haselwood and Mr.

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Morely came to the same conclusion. Professors Hart and Apjohn, of Dublin, are decided contagionists. Many persons supposed that the contagious influence of the disease was greatest after the death of the patient, but this would be contrary to all analogy. The great probability is, that the contagious influence increased up to the period of death, but that the body ceased, at least after it became cold, to give out any fresh poison. Such indecent haste was often used in burial, that a belief prevailed extensively that many persons were buried alive; such haste added greatly to the horrors of the awful visitation, and increased the number of victims, by disseminating any effluvia from the body, which would have been avoided if the room had been freely ventilated, and a couple of days allowed to elapse before the burial.

Treatment.—With respect to the treatment of cholera, Dr. Benson observes, "that the first cases in any place could scarcely be cured by any treatment, whilst those which occurred at a later period were by no means unmanageable." This fact might be accounted for in various ways: "First remedies generally failed, and after remedies generally triumphed, so that they multiplied exceedingly."

The treatment adopted in India, as described by Mr Annesley, was large doses of calomel and opium, bleeding from a vein, if it could be performed, leeching and friction, etc., as already described in the cases 1 to 6. In Russia the medical council recommended the physicians of the districts where cholera appeared to hold in view the practice approved by the British in the east. Diaphoretics and warm diluents were found useful in Moscow. The late Sir David Barry wrote from St. Petersburgh, that two German physicians there had treated thirty cholera patients without losing one; their remedy was two tablespoonfuls of common table salt in six ounces of hot water, at once, and one tablespoonful of a similar mixture, cold, every hour afterwards; they always began by bleeding. In cholera patients in this country a vein might be opened, but as to any blood flowing that was rarely to be seen.

Stimulants, hot water, and vapour baths were used in Prussia, also bleeding and leeching.

In France Andral recommended bleeding, frictions, sinapisms, diluents, and opium. With respect to calomel, he says, "I cannot account for the prostrate veneration which English physicians pay to this metallic drug: I can only compare them to those poor Indians who, faithful to their ancient creed, persist, with words of mystic import, in plunging their sick into the charmed waters of the Ganges." Calomel, which Andral so condemned in his clinical lecture in 1831, is not so objectionable in cholera as opium, which he recommends. Dupuytren prescribed acetate of lead in cholera, and Recamier prescribed cold affusion, beginning with water at the temperature of 66°.

In this country one of the first remedies was the *cajeput* oil. It was considered afterwards only as good as the oil of peppermint, or any of the other stimulating essential oils. Then came the non-purgative *neutral salts*, as muriate of soda, nitrate of potass, &c., the saline treatment, which had many advocates. Mustard emetics, if administered early, were considered valuable. A strong solution of camphor, under the name of Ponsonby's drops, obtained celebrity. Good brandy was considered a preservative, but by opening the door to intemperance it became a powerful predisposer to the disease.

"It was found to attack the poor, the debilitated, and the debauched more frequently than others; bad food, imperfect clothing, and fear, favoured its development. Persons who enjoyed high health and spirits generally escaped. Hence every Government and Board of Health published directions and advice accordingly."

The treatment pursued by Professor Hart was, in the first stage, diarrhœa present, "a warm purgative of rhubarb and magnesia in cinnamon water, tincture of rhubarb, tincture of opium, and oil of cloves. In the second stage; stimulants were employed with astringents, both given by the mouth and in the form of enemata. The stimulants were brandy and water, wine, spirits, camphor, carbonate of ammonia, ether, phosphorus dissolved in ether as recommended by Magendie, &c. The astringents were decoctions of oak bark, logwood; alum and powder of galls, strichnine, &c. In the collapsed stage, with pulse at wrist imperceptible, but at the heart 120, blue shrunken features, dark circle round eyes and mouth, stridulous voice, cold white tongue, urgent thirst, black nails, shrivelled skin on the hands and fingers, with purging and vomiting of the wheyish fluid, cramps, &c. A mustard emetic was given, and sinapism applied to the stomach; after the action of the emetic, symptoms of reaction often took place. Experience taught that, to keep up reaction, stimulants should be given; camphor. oil of turpentine in ounce doses, &c., and frictions with oil of turpentine. Mercurial medicines, calomel by itself or with opium were often given with advantage. When reaction took place, it terminated either in rapid recovery; or fever, often of a typhoid type, supervened. *Nitrate of silver*, a scruple dissolved in two ounces of water, as an astringent was found useful in checking vomiting."

Dr. Apjohn recommended ice to be given, as very effectual in checking thirst; and he also recommends a pill, containing two grains of calomel and half a grain of camphor, every hour. Opium, in large doses, he considers "a regular poison in the Asiatic cholera."

Such were the opinions and mode of treatment pursued by some of the most eminent medical men on the First Epidemic of 1832; now let me take a short review of the latest opinions on the Second Epidemic of 1848-49.

Reports on the "Cause and Mode of Diffusion of Epidemic Cholera, by Dr. Baly," p. 232 and appendix. "On the Morbid Anatomy and Pathology, and the Treatment of Cholera, by Dr. Guy," p. 220. These reports recently published in one vol. by the Royal College of Physicians of London, contain a very full and valuable record and statistical history of the epidemic of 1848-9 in England. The information from which they were prepared was obtained from the replies of members of the medical profession in all parts of the country, to a series of questions addressed to them in circular letters issued by the Cholera Committee of the College of Physicians; from the reports of Dr. Sutherland and Mr. Grainger to the General Board of Health; and from Mr. Farr's able Report on

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the Mortality of Cholera in England in 1848-9; and the Registration Returns; also, from documentary evidence from the Director-General of the Medical Department of the Navy, and the Commissioners in Lunacy.

There are two maps shewing the distribution of cholera in England; and five diagrams representing the deaths from cholera and the temperature in London in the year 1849, in Berlin in 1848, in Paris in 1849, the deaths from cholera and mean temperature in London in 1832, the weekly fluctuations in the mortality from fever, &c., in London in 1849, and the mortality from diarrhœa and dysentery in 1846.

Dr. Baly remarks, that the feeling of the profession is, "that an exclusive theory of the mode of propagation or diffusion of cholera cannot be maintained." "Amongst the eighty-four communications relative to this topic, there are thirty-two in which the writers either distinctly maintain that the disease is not contagious or infectious, and seven in which the contagious or infectious nature of the disease is asserted in an unqualified manner. On the other hand, in fifteen the writers admit the probability that cholera is propagated in more than one way; and in six it is stated, that the disease is communicable under some circumstances, or that instances of infection have been observed by the writers."

As to the remote cause of Asiatic cholera, there are six principal theories. "The *first* theory is, that the disease spreads by an atmospheric influence or epidemic constitution, and that the particular localities affected are determined by certain localizing conditions, as, circumstances which render places insalubrious, and a susceptibility of the disease in the inhabitant produced by the habitual respiration of an impure atmosphere." The *second* theory regards the cause of cholera as a morbid poison which undergoes increase within the human body, and is propagated by contagion. The *third* theory, Dr. Snow's, supposes that the poison of cholera is swallowed, and acts directly on the mucous membrane; and afterwards in various ways reaches the alimentary canal of other persons, and produces the like disease in them. The *fourth* theory also assumes that the cause of cholera is a poison, but supposes that it is only reproduced in the air. The *fifth* theory is a modification of the fourth: "It admits that cholera matter is increased by fermentation in impure, damp, and stagnant air, but maintains that it is diffused by means of human intercourse." The *sixth* theory combines the second and fourth, "That the material causes of the disease may be propagated by impure air, as well as in and by the human body."

Of the six theories, Dr. Baly's conclusion is, "that alone is supported by a large amount of evidence which regards cholera as a matter increasing by some process, whether chemical or organic, in impure or damp air; and assumes that, although of course diffused with the air, it is also distributed and diffused by means of human intercourse."

"Certain general characters in a cholera epidemic are too well established to be disputed:" as—

1. The unequal and very partial distribution of the epidemic, which in this respect presents a remarkable contrast to epidemic influenza. Deaths from sporadic cholera occur every year, in all parts of the country.

2. The localities most severely visited by cholera have certain features which distinguish them from those places which escaped; and were, densely populated regions on the sea coast, or on great rivers, or near mines, especially coal mines. The cholera was three times more fatal on the coast than in the interior of the country; in towns it was most fatal in ill-ventilated houses, with imperfect sewerage, deficient supply of water and accumulations of filth. In the Wakefield Asylum the most unfavourable condition to health in the building was bad ventilation. From Dr. Wright's report, it appears that the first patient attacked in the Wakefield Asylum, was a female, on the day of her admission, from a workhouse where cholera prevailed.

3. The long duration of cholera in a country, or town of large size, is a distinguishing characteristic. In England in each epidemic it continued for about fifteen months; whereas epidemic influenza only continued a few weeks.

4. The intensity of cholera varies during its continuance in a country or large city, so that, it has usually well marked periods of increase and decrease. In London in 1849, a relation subsisted between the variations in the mortality and the variations in the temperature. When the thermometer ranged between 55° or 71° Fahr., the great increase of mortality took place. The epidemic attained its height on the 4th September, when 336 deaths from cholera occurred in London. The thermometer stood at 67°; when it fell to 42° a rapid decrease in the mortality took place. At Berlin also, in 1848, there was a close correspondence between the variations in the mortality from cholera, and the variations in the external temperature. The reverse of this occurred in Glasgow, Paisley, and other towns in Scotland in 1848-49, in the middle of winter, when the epidemic reached its height; and in Stockholm and Paris there was a high mortality when the average temperature was below 55°. The influence of the temperature is not the only one capable of affecting the mortality, and is neither constant or necessary in its operations. It is in many cases superseded by the marked preference which a cholera epidemic often shows for localities in which impurities of all kinds abound, with a low site, damp soil, want of ventilation, and a dense population.

These conditions seem to operate principally by the production of an impure atmosphere. A higher temperature favors the development of impurities in the atmosphere; also great stillness in the air, and a certain degree of moisture. In winter, a high temperature in public institutions, artificially warmed, favored the development of cholera in them. In November, 1849, "the only deaths in Taunton were 58 in the Union workhouse, there being only 168 deaths in the whole county of Somerset; and the only deaths in Hertford were 7 in the County Gaol, the whole number in the county being only 23."

To explain exceptional cases, especially the occasional rapid subsidence of the epidemic while the temperature is high, it is necessary to admit the agency of an unknown cause.

In the great outbreak, in the spring and summer of

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1849, different towns began to be afflicted in succession and not simultaneously. It sometimes happens that the most insalubrious places in a town escape at least for a time.

Cholera in Lunatic Asylums.—Dr. Baly observes, that "the main features of the local outbreaks of cholera, in regard to their progress and duration, may be conveniently studied in the history of the visitations experienced by lunatic asylums in England during the epidemic of 1848-49. Returns made to the Commissioners in Lunacy show that deaths occurred in sixteen asylums. In one of them there were only two deaths, which happened at distant dates. But in the remainder there were a series of several cases, with a proportional number of deaths. And as three asylums experienced visitations of the epidemic both in the winter of 1848-9, and in the subsequent summer, there were in these establishments eighteen distinct outbreaks, the features of which may be examined. [Tables 13 and 14, in the Appendix, which were constructed from the data furnished by the Commissioners in Lunacy.]

The first thing to be observed in regard to them is, that in lunatic asylums, as in the sub-districts of the metropolis, and as in smaller towns, the disease did not appear in all parts simultaneously; but that, on the contrary, the first cases in the different wards occurred after successive intervals. Sometimes, as at Wakefield, the disease was confined to one ward for two or three weeks, and then extended, within a few days, to nearly every part of the establishment. In other cases it sooner began to spread from the ward first affected, but afterwards extended neither so quickly nor so widely as in the instance of Wakefield. In a third class of cases, again, it commenced in two or three wards on the same day, though its subsequent extension to other wards took place in accordance with the general rule, after successive intervals. In almost every asylum some parts escaped altogether; and this fact, which has already been noticed as an instance of the partial operation of the epidemic, was the more remarkable when an entire section of the establishment, devoted to all the patients of one sex, remained, during, the entire outbreak, free from the disease; while the section occupied by the patients of the other sex, was more or less severely visited; as happened in the instances of the Grove Hall Asylum, Bethnal House, and the St. Marylebone Infirmary.

The cessation of the outbreak was usually as gradual as its commencement, the disease lingering some days, or even weeks, longer in a few wards than in the majority of those affected. In some instances, indeed, the effects of the epidemic had ceased to be felt in one part of the institution before they had begun in other parts."

The duration of the outbreaks in these institutions varied; the most protracted one, the summer outbreak in Peckham House, lasted 72 days, but few exceeded 45 days. The course of the disease, as it occurred in lunatic asylums, is exactly that which obtained in prisons, in workhouses, and groups of the houses of the poor.

In instances where several cases occurred in the same house, they have generally been successive, and not simultaneous; and this is not easily reconcileable with an atmospheric influence, but more with the theory of a material poison, transferable by human intercourse or currents of air.

The manner of the progress of the disease from one country to another, is next noticed in the Report, and also its early history. The persistence of cholera on board ship is exemplified by the case of the *Apollo*, with the 59th Regiment from Cork to China, which had sixteen deaths from cholera in fifty-five days, when the disease ceased.

The usual term of the incubation of cholera appears to be from three to six days.

The cholera was imported from the Baltic, in 1848, to both England and Scotland, and was introduced from Scotland to Ireland the same year.

"Including lunatic asylums, respecting which information was elicited by the Commissioners in Lunacy, there are nineteen public establishments in which the outbreak of the disease could not be traced to infection brought in by human means. The evidence in favour of the introduction of infection by human intercourse is numerically strongest in the case of distinct towns and villages."

With respect to the origin of the disease, in the towns of Ireland, in the last epidemic, it is stated by the Commissioners of Health, in their Report, that in the majority of cases, "the attack could not be traced to importation or contagion."

In December, 1848, a fearful outbreak of cholera commenced at Surrey Hall Pauper School, at Tooting, and, from the great mortality, the children were distributed among the several parishes to which they belonged. In four places in which the infected children were received, the disease immediately appeared, and in a fifth it was traced to communication with them.

In but few instances has the bedding and linen used by cholera patients exerted an infectious power on those who washed them; and the communication of the disease by clothes and linen, which has seemed well established in other cases, must have been due to special circumstances.

Dr. Baly has fully examined the available evidence with regard to the effects of nursing and attending on cholera patients in hospitals and other institutions. In sixteen lunatic asylums, in which cholera appeared, "there were 311 deaths amongst 3,639 patients; while, out of 408 persons residing in these asylums in the capacities of officers, attendants, or nurses, only six died; of these only three were nurses." The two officers who died in the Wrekenton Asylum were the superintendent and his son-in-law. The attendants suffered in much smaller proportion than the insane inmates. In the Wakefield asylum, where 98 out of 633 patients died, only 1 out of 51 attendants died. The clerk also died, who most probably had no intercourse with the sick. A susceptibility of the disease—similar to that "manifested by the insane, by soldiers fatigued by long marches—is observed in convicts under long sentences of imprisonment, in whom the nervous powers, even more than the nutritious functions, are depressed."

With respect to "preventive measures," which are

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fully detailed by Dr. Baly in his Report, the necessity of improving the drainage of towns, covering open drains, opening the more crowded parts, ventilating and improving the dwellings of the poor, should be done before the pestilence comes; and, in the time of its presence, a house-to-house inspection, with the view of discovering and treating all cases of diarrhœa, "some of which may be presumed to be cases of cholera in an early stage."

Dr. Gull observes, with regard to the condition of the body after death, in the cold stage of cholera, "that the icy coldness of the body passed away after death, the surface becoming in some cases actually warm; and in case 10, an hour after death, the heat was observed nearly two degrees higher." This, however, is not peculiar to cholera, as Cruvelhier speaks of a rise of temperature after death from asphyxia. Dr. Dowler observed the same in cases of yellow fever; and Briguet and Mignot made similar observations in peritonitis and pneumonia. Muscular contractions often occur after death from cholera, and last a variable time, from "a few minutes to two hours." The same also occurs after death in yellow fever, and some other diseases.

Cadaveric rigidity occurred in most cases before two hours had elapsed. Putrefactive changes, in most instances, were slow.

Pathology.—As already observed in the epidemic of 1832, in the majority of cases in that of 1849, the affection of the mucous membrane of the intestines did not pass beyond the stage congestion, ecchymosis, hyperæmia, and œdema of tissue, with exfoliation of epithelium. In most cases the stomach was distended, the reaction of the mucous membrane was always either neutral or acid, according to Dr. Lendet, at the Hotel Dieu. The solitary glands were almost universally distinct. The reaction of the evacuations in cholera was alkaline or neutral, and the fluid part contained a large amount of albumen, according to Dr. D. Thomson's analysis. In no case examined by Dr. Parkes did the quantity of earthy phosphates expelled nearly equal the healthy standard, which is the opposite of what occurs in typhoid fever, there being an excessive increase in the stools.

Microscopical appearances of the evacuations: 1. Amorphous granular matter, and larger granules, fibrinous. 2. Minute bodies, nuclei. 3. Exudation cells, some large. 4. A few scattered blood corpuscles. 5. Columnar and scaly epithelium. 6. On evaporation, crystals of chloride of sodium in cubes and octohedra; occasionally also crystals of cerate of ammonia and cerate of soda, when decomposition commenced; prisms of triple phosphate.

Spleen and liver generally diminished in bulk, and gall bladder distended with dark bile, p. 50. Kidneys rarely presented any morbid change, but in the subsequent stages were often swollen, allied to Bright's disease; urinary bladder empty. Sanguineous discharge from the uterus, in the typhoid stage, not uncommon. Lungs were commonly healthy; frequently hypostatic congestion, bronchi congested. The muscular tissue of the heart was pale, often from one to four drachms of straw-coloured fluid in the pericardium. The blood in the cavities of the heart and large veins mostly in the form of soft dark coagula.

Schmidt found that "the density of the blood is increased in proportion to the duration of the process of exudation from the intestinal capillaries. It reaches its maximum in 36 hours, and then falls again as water is re-absorbed." The solids of the blood reach, after about 36 hours, nearly one half more than the normal proportion. "The increase of the inorganic salts at the beginning of the disease, owing to the large amount of fluid poured out, reaches its maximum after four hours; afterwards, in a few hours, fall to the normal quantity, after 18 hours sink much below, and after 36 or 48 hours are still further diminished, according to the time which has elapsed."

The specific gravity of healthy serum being 1028, Dr. Garrod found it in cholera 1039 and 1041. He also concludes that "urea usually exists in increased quantities in cholera blood, but that the amount differs considerably in the different stages of the disease;" being small in the stage of collapse, and in excess when consecutive fever occurs.

The maximum specific gravity of the blood, from Becquerel and Rodier's tables, in men 1062, in women 1060. In cholera cases, in adult males from 1076 to 1081, and in females 1068 to 1074; and even in children under ten as high, in whom in a healthy state, it would be about 1045.

In cholera patients who died during collapse, Virchow "met with no structural changes in the brain and spinal cord. There was well marked venous hyperæmia, with œdema of the pia mater, and sometimes a slight increase of fluid into the ventricles."

Dr. Budd found pneumonia in four out of six cases, where the patients had lived forty-five hours after the attack.

Dr. Babington first called attention in this country, in the "consecutive fever" of cholera, to an eruption, after some days, of red spots on the wrists and hands; like nettle-rash on the face, which is tumid. On the second day the efflorescence is found over the whole trunk. The eruption is well marked on the third and fourth days. It declines about the sixth day, and terminates by a general desquamation of the cuticle.

Dr. Gull observes, "Whatever may be the nature of the cholera poison, it requires no definite predisposing conditions in the system to enable it to produce its effects. It was fatal at all ages, nearly equally in both sexes, and neither the weakness of infancy, the vigour of manhood, nor the decrepitude of age, was a safeguard against its inroads."

The number of deaths in England in 1849, from diarrhœa and cholera together, was upwards of 72,000. It was most fatal to infants and persons over 55; the mortality was lowest from 5 to 15 years.

At the beginning of the epidemic the mortality was greatest amongst the males; but subsequently greatest among the females, when the mortality was at a high rate.

The existence of other diseases seems not to have predisposed to cholera. In only 6 out of 89 cases examined by Dr. Gairdner were there traces of chronic lesions in the organs. The same was also noted by Schmidt. Mr. Grainger observes, "Abundant evidence was afforded that habitual drunkards were highly predisposed to cholera," etc.

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Epidemic cholera has prevailed in this country in the autumn months. The sweating sickness, in the 15th century, made its five visitations at the same season. The plagues of the 17th century also prevailed in the autumn.

Of 39,468 cases of epidemic cholera registered, 20,684 were fatal within eighteen hours; the average duration of all being a little over two days; whilst sporadic or summer cholera has a duration of five days.

Treatment. With respect to the treatment of cholera, Dr. Gull observes, "In European countries, the poison of cholera produces its first effects on the system gradually, as indicated by diarrhœa, varying in duration from a few hours to several days. The diarrhœa was arrested by various remedies in a large number of cases. Opium was a constant ingredient, with astringents, aromatics, and diffusible stimuli: a recumbent position is an important measure, it prevents exhaustion," etc.

Dr. Burrows says, "The facility with which the serous diarrhœa may be checked depends mainly upon the period of the epidemic when the treatment is adopted," etc.

The uniform success which attended the house-to-house visitation, in London and Dumfries, cannot be considered independent of the decline of the epidemic, which had reached its acme in both cases before the preventive measures were adopted. In the metropolis, from 1st September to 27th October, 1849, there were 43,737 cases of diarrhœa discovered, and 978 cases approaching cholera, and only 52 cases which passed into cholera after treatment. In Glasgow, out of upwards of 13,000 premonitory cases treated, only 27 passed into cholera.

Many eminent practitioners, however, found the diarrhœa premonitory of cholera could not with certainty be stopped, and that many cases were uninfluenced by any treatment.

Dr. Gull observes, in the fully developed stage of cholera, "medicines administered internally must be of small power. The pathological condition of the gastro-intestinal membrane is such that absorption is then almost, if not quite, suspended; and medicines, when retained in the stomach, form but an inert accumulation."

As a remedy, calomel has been more fully tested in this country than any other; there appears to be no argument in favor of its exhibition, and its value must be determined by the results. Of 365 cases treated by small and frequent doses of calomel, 187 died and 178 recovered. Dr. Ayre, the great advocate for this treatment, in the last epidemic, reports 365 deaths out of 725 unequivocal cases.

The reporter observes, "Under various and opposite plans, the recoveries, even in severe cases, averaged from 45 to 55 per cent., according to the period of the epidemic; they should therefore exceed the highest of these numbers before they can be adduced in proof of the value of any particular method of treatment."

Dr. Hill treated twelve cases at the Peckham House Lunatic Asylum, with small doses of calomel and opium, frequently repeated, and "was so unfortunate as not to save one."

Dr. Gull states, "although opium and diffusible stimuli—brandy, camphor, and ammonia—were used at an early stage of the disease, as collapse set in, they not only failed to produce any favorable result, but often aggravated the symptoms."

The expectations excited by the early success from the use of chloroform were not realised in its subsequent employment by Dr. Hill at the Peckham Asylum. The perchloride of carbon, in five or ten grain doses, and a solution of camphor in chloroform, acted as powerful stimuli; but the results did not indicate that they possessed any especial therapeutic value. Dr. Lang found "musk quite useless, camphor doubtful." Dr. T. Thompson had seen reaction promoted, in a few cases, by administering six drachms of oil of turpentine, and after repeating small doses at intervals of a quarter of an hour; in other cases he did not observe any effect.

Ice was generally grateful to patients in approaching collapse, and probably served to arrest the discharge. Dr. Arnott proposed a mixture of ice and salt, in large quantities. In Petersburgh it is stated that warm drinks were avoided, as they increased the discharges, and that ice and iced water were certainly most serviceable. Salines were sometimes given instead of common water.

In five cases, reaction seems to have been accelerated by the use of the wet sheet. Emetics, in the early stages, were sometimes of use, and in collapse the effects were equivocal. Bleeding was not much resorted to in the last epidemic. In the consecutive fever local bleeding seems to be indicated. Leeching the epigastrium, temples, or cupping the back of the neck, were of service in obviating cerebral congestion, but if carried too far were injurious by exhausting the patient.

Under the head "empirical treatment—specific remedies. Quinine, strychnia, arsenic, sesquichloride of iron, nitrate of silver, nitrous acid, chlorine water, sulphur, sulphuric acid, bichloride of mercury, charcoal, &c. The failure of those methods of treatment, which, from being based upon some supposed indications of the disease may be called rational, led naturally to the employment of almost every active medicine in the materia medica. It is notorious that the results have been discouraging, notwithstanding the bold assertions to the contrary. The state of the patient in the collapse of cholera is so unfavorable to the absorption of medicines that, even if we know the remedy in itself most appropriate, we could not anticipate great results from its administration by the mouth at this period."

External means. The application of heat in the earlier stage of the disease allays cramps: in the stage of collapse it is generally oppressive, and tends to exhaust the patient. "Cold affusion was highly spoken of on the Continent as a means of producing reaction. The patient was placed in a warm hip bath, and cold water poured or thrown over the head, back, and chest. This was done quickly, and the patient then placed between warm blankets. If the first application was followed by any improvement, the operation was performed every three or four hours.

"The 'wet sheet envelope,' in the milder cases, favored reaction; but when the disease was severe, it was useless or injurious."

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By the inhalation of oxygen, galvanism being employed at the same time, in the stage of collapse, the heart's action for the time was increased, but no permanently favorable influence was exercised by those means in the majority of cases.

Saline injections into the veins were not much used during the last epidemic. The results, as in 1832, were generally unfavorable. Dr. Gull, however, seems rather favourable to this mode of treatment at an early stage, and where the loss of fluid has been very great. "In an adult, probably not more than from forty to sixty ounces should be injected without intermission, slowly, in about twenty minutes."

The soluble salts, as determined by Schimdt's analysis of the liquor sanguinis, being 9 parts in 1000 of water, bear a close correspondence to the analysis of the evacuations in cholera by Mr. Herapath (*Medical Gazette*, 1849, p. 841). This is near the proportion in which the soluble salts should enter into the fluid to be injected; the specific gravity would be about 105, and the temperature of the fluid from 105° to 110°.

In the *Lancet* (October 1st, 1853), Dr. Rees advises the injection of a saline fluid of the specific gravity of the serum, 1030, at 60°; his reasons being, that a lower density would endanger the integrity of the corpuscules, from too free an endosmosis into them; a danger increased in cholera, owing to their contents being concentrated by the drain of fluid which has occurred. "Approximate constitution of the salt to be used for injection into the veins in cholera:

Chloride of Sodium . . .	60	parts by weight.
Chloride of Potassium . .	6	„ „
Phosphate of Soda . . .	3	„ „
Carbonate of Soda . . .	20	„ „

By dissolving 140 grains of this salt in 40 fluid ounces of distilled water, and filtering, we obtain a fluid having a decidedly saline taste, a faintly alkaline reaction, and nearly approximating in its constitution to the fluid effused, minus the organic substances. These are small in amount," etc.

The trials which have been made of *medicated venous injections* in cholera are too few to admit of any deduction from them. The cases were in too advanced a stage also, to expect a favourable result. Laudanum and camphor have been used in this way, but unsuccessfully. Dr. Little, of Sligo, in 1832 used a small quantity of alcohol, with the saline injections, and has repeated this practice in the last epidemic, and with success. In one male, aged 22, in a few hours he injected a quantity of alcohol equal to six ounces of brandy; at four times 250 ounces of saline fluid, each pint containing two drachms of alcohol. The recovery of the patient was complete.

The most important indication for treatment in the consecutive fever, *uræmia*, is the depuration of the blood from the urinary secretions. The derangement of the kidneys is rather congestive than inflammatory, and these organs regain their normal condition as the general circulation is restored.

Conclusions.

The cases of the collapsed stage of cholera here given, which fell under my observation in 1832, agree in their characters and *post-mortem* appearances very much with those recorded in the report of the last epidemic of 1849.

The enquiry, in that Report, into the cause, mode of diffusion, and general statistics of the last epidemic in this country, particularly as regards the lunatic asylums, is very interesting; as well as the chemical analysis and microscopical observations by which it is distinguished.

As regards the mode of treatment there is nothing new worthy of particular notice. The same plan as in 1832 seems to have been generally followed, and may be shortly summed up.

In the premonitory diarrhœa, a warm aperient draught with opium in the first instance, followed, if requisite, by the usual astringent and aromatic medicines, also combined with a moderate quantity of opium.

If vomiting and cramps should succeed, external heat, calomel and camphor in small and frequent doses, and ice as recommended by Dr. Apjohn. The ice might be combined with salt, as more recently recommended by Dr. Arnott, and the cold affusion and wet sheet seem also worthy of trial, and the medical venous injection, as practised by Dr. Little.

When the stage of collapse ensues, medicine in the stomach is inert, and the venous injections seem to be the last hope.

The mortality from cholera has amounted to from 50 to 60 per cent., although it has been very fatal in asylums and a few other public establishments; its principal victims have been healthy persons, free from any organic disease.

As a preventive, sanitary measures, combined with house to house visitation, and the treatment of the premonitory diarrhœa, seems to have been attended with excellent results in those localities in which it has been tried.

It is remarkable, now when cholera has again appeared, that the New Board of Health has been necessitated to issue instructions to the Poor Law Guardians, thereby superseding the Poor Law Board in the administration of medical relief, for which it is incompetent even under ordinary circumstances; and the Poor Law Guardians are unfortunately also unfitted for carrying out sanatory measures, as in many instances they have an interest in upholding local nuisances.

Could not the duties of health officer and medical officer be combined, and administered as they ought to be by the medical officers of the parishes, under some *competent* authority? The sanitary condition of the parish must be known by the person whose business it is to attend the sick in the district; and it would be for the good of the state, and to the advantage of the working classes—who, medically, are nearly all poor—to have the services of an experienced man, rather than a tyro, which must be frequently the case now, from the wretched payment allowed to parish surgeons.

August, 1854.

The Epidemic of 1854.

From the *Times* Correspondent, Varna, Aug. 12, 1854.

"At present the cholera has assumed a phase which baffles our best efforts, and throws all our past data to

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the winds. It sometimes is quite painless, there is often little or no purging, but the sufferer is seized with violent spasms in the stomach, which increase in intensity till collapse is established, and death then rapidly follows, attended with but little exhibition of agony. There can be no reason for the illness of our men, so far as the commissariat supplies are concerned. The ration is as follows, daily: 1½ lb. of meat, beef or mutton; 1½ lb. of bread, or 1 lb. of biscuit if the bread is bad or is not ready; 1 oz. of coffee, 1¾ oz. of sugar, 2 oz. of rice, and half a gill of rum. I doubt if any army ever received from its country half so good an allowance regularly as our men in Turkey do."

The treatment of cholera by castor oil, which is reported in the *Times* of the 9th September as having been successful in twelve out of fifteen cases, in King's College Hospital, proves nothing, inasmuch as it is not shown that those were cases of malignant cholera.

A medical friend in London mentions, in a note dated 3rd September, "the cholera for the last three days has been indeed truly frightful, and *no remedy* seems to have any effect. In this small registry district sixty deaths were registered yesterday; in Poland street it has been fearfully bad. Broad street, Carnaby, Marshall, and Silver streets have been ravaged. The attacks are sudden, and in many cases almost immediately fatal. I have had one very severe case of forty hours' duration, and I believe the only one that has lasted so long. The people are panic-stricken; numbers die of fright."

Lunatic Economy and Farm Profits.

To the Editor of the Asylum Journal.

Sir,—Your judicious and manly article on "The Restraint System" as practised in two asylums of this kingdom will not fail to elicit admiration from every thoughtful and humane mind. The fault to which it points is likely to become universal, for it appeals to, and falls in with the "economic" views of guardians, magistrates, and ratepayers. It is the principle of *cheapness* which more than any other upheld and is upholding the straight-waistcoat and the handcuff. Those who are well acquainted with the past history of lunatic asylums, know full well, that where one patient was restrained because of his personal violence, three or four were fastened in order to save the tearing of clothes, the breakage of windows, and such like mischief. If the amount of weekly charge be made the sole test of excellence, then farewell to the scientific labours of Esquirol, Pritchard, Boyd, yourself, and others, and to the humane and philosophic exertions of Pinel, Charlesworth, and Conolly. The fault specified by you is all the more to be dreaded, because it is an exceedingly unpopular thing to advocate even a legitimate expenditure, and because it comes to us in the plausible garb of scientific agriculture—a study which just now is attracting the attention and zeal of many of the best minds among the nobility and magistracy of this kingdom. It therefore requires great moral courage to uphold those just views which were enforced in your article of the past month. The opponents of your views will readily impute inefficiency or indolence to those who espouse and act upon them: inefficiency in not being able to control the insane, to economise their labours, and to direct it to successful and profitable ends, or indolence in not caring to do so. Alas! where the saving of money is concerned, such imputations gain ready credence.

I believe the evil to which you referred has been fostered, if it has not arisen from the exaggerated statements which have been made as to the profits derived from the labour of lunatics. Architects and superintendents have placed highly colored facts before "The Building Committees of Asylums," and before the public; and have (unintentionally) misled them upon this important subject. To such an extent has this been carried by some enthusiastic minds, that I have seen a report from a provisional committee to the county magistracy, in which it is stated, that from information obtained from the active superintendent of an asylum, they are led to believe that their projected institution may be made almost self-supporting, and that several lunatics had been pointed out to them, "*each* of whose earnings were equal to that of *two* paid men;" so that according to this opinion, madness rather qualifies than disqualifies a man for active and profitable employment. The published reports of asylums have also ministered to this error by exaggerated statements of the *profits* derived from the labours of the insane, and thus the fault, which you have exposed so ably, has been indirectly supported even by hospitals which repudiate "the restraint system." The last report from the Colney Hatch Asylum abounds in such fallacies. Several high-sounding but delusive paragraphs have appeared in the newspaper press upon the profits achieved by that establishment, but one from the *Observer* will suffice to illustrate my statement.

"Industrious Lunatics.—The committee of visitors of the Pauper Lunatic Asylum, Colney Hatch, state that during the past year the estimated value of the labour of 246 male patients amounted to 1,338*l* 8*s* 1½*d*. The actual profit realised from the farm, after debiting it with a rent of 30*s* an acre, for 57 acres, interest at 4 per cent. on a capital of 800*l*, and all other payments, is 866*l*."

Every practical farmer knows at a glance that this must be a fallacy. Even the enthusiastic Mechi, the pork-feeding Huxtable, the potatoe-planting Caird, or any other of the distinguished agricultural *savants*, who are startling the bucolic mind by their energy and skill, would pause over such a statement. But what would be their surprise to read from the Report itself, that the above result has been obtained at the deduction of 30*s* per acre, "from 57 acres of land which was *lately a worn out* brick-field, its *natural soil removed*, and the holes from which the brick-earth has been taken only partially filled up with a *variety of unproductive soils* obtained from the well-sinking and foundations of the building;" and more especially, when they read that "the draining" is not finished, but "progressing," and that still greater results are anticipated, when "the necessary pipes and apparatus have been laid down for the distribution of the liquid manure."—The author of this glowing Report informs us that the stock has been "estimated at a price which

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