2. For this purpose the Principal Medical Store-keeper at the Presidency will provide himself with labels printed on yellow paper with the word "POISON" in large English characters, and in Nagree, Oordoo, and Bengalee, to affix to all bottles, &c., containing such articles which he issues; and he will send with his supplies to Divisional Store-keepers labels of convenient sizes to suit smaller bottles and vessels, which the latter officers are held responsible for having affixed to all their issues to Hospitals and dispensaries.

3. In Hospitals and dispensatories these medicines will be kept separate from all others, in a box or drawer, and the latter also shall have the word "POISONS!" affixed, and no other drugs shall be kept therein. When medicines are in large quantity, as Tincture of Opium, of course, it will be necessary to keep apart only the phial from which the medicine is being used for prescriptions, the bulk of the tincture being put out of the way in a box carefully locked.

4. Medical Officers will, in their Annual Reports on their charge, certify in a footnote to the following effect: "I certify that the orders respecting the custody of Poisons have been obeyed by the Chief Inspector-General, Medical Department, dated 3d March 1863, are fully carried out, and that all the orders will, in their Annual Inspection Reports, in reporting on the condition of medicines, state whether these orders are obeyed in the case of all Poisons, and it is to be understood that in such cases as they may find them unattended to, they will enter the circumstances in their Reports, and (if at an out-station) not leave the place without seeing the order fulfilled. In their weekly visits to Hospitals at Head-quarters, they will occasionally examine the medicines, with reference to this point."

Paragraph 10, Section VIII of the Manual of Rules for the Management of Charitable Dispensaries under the Government of Bengal runs as follows: "In all dispensaries almshouses or chests with lock and key must be provided for medicines and instruments which should be kept separate, and there should be a distinct compartment for poisons."

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**Notes on the Hygiene of Cholera for Ready Reference.** By Surgeon-General Charles Alexander Gordon, M.D., C.B., A.M.D., Gantz Bros., Madras.

These Notes, our author tells us, were in the first instance prepared for the guidance of army medical officers doing duty under his superintendence, and he has in them endeavored to summarize, as far as practicable, what he found written on the subject of cholera. Not only to army medical officers, but also to all medical officers serving in cholera climes, will this book prove useful. They will find in its pages conclusions by International and other Commissions of Inquiry; many facts culled from Blue Books, Reports, and Works on cholera, and arranged in systematic order under distinctive headings; and views or opinions which each man, according to his experience, will either discard or adopt. Cholera in all its aspects is discussed, and the pros and cons in connection with the many-disputed points relating to this disease, are put forward. In a work, chiefly intended for ready reference, a copious and clear index, or list of contents, is an absolute necessity, and such a one Dr. Gordon has given us. The book is divided into three parts, viz., first, index; second, body of the work; and thirdly, deductions from the facts and views recorded. The arrangement of the three parts is well planned, and the number given under each heading in the index corresponds with that for the chapter in the body of the book, and also with the deductions at the end. An extract will show this more clearly and also how Dr. Gordon deals with the subject of cholera under one heading.

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**Chapter LXIX.—Water in Relation to Cholera.**

1. The water of military stations in India is considered to undergo deterioration in proportion to the length of time the station is occupied. This deterioration takes place by stagnation of the soil, as in the case of wells and reservoirs, also by direct introduction of organic matters, as in the case of streams and rivers.

2. In that country the belief exists, that the prevalence of cholera, both in the dry season and in the rainy, has a direct reference to the agency of water in its causation. In the latter part of the hot season the supply is scanty, and hence considered to contain a large proportion of organic matter; in the rains, the wells and tanks are polluted by drainage.

3. International Commissions doubt if boiling or filtration, or both combined, are sufficient to counteract contamination with choleraic poison. This point has an important bearing in reference to so-called analysis of waters in India and elsewhere. Can such analysis determine the presence or absence of the causative influence of cholera in a given water? The Commissions alluded to suggest that, in addition to filtration, percolation of pot-ass, or water, should be added to water mains, or in times of cholera. The sources of water supply should, it is said, be at a distance from cantonments, the conduits being closed channels.

4. The question has been asked: Will filtration alone remove from water the poison of cholera? A similar query has been proposed in regard to those of some other diseases, particularlyague, typhoid fever, and dysentery. So far, the replies given have been negative.

5. As a general principle it is accepted that deficient water supply, so long as the water is of good quality, is less injurious than contaminated water, although the supply is abundant. It is observed by some writers that water impregnated with organic matters, even when it does not actually induce cholera, becomes one of the predisposing causes of the disease. This applies to rivers that flow past large cities, to wells that receive the filtration of soils impregnated with matters from sinks and cess-pools. It is generally admitted that water thus impregnated becomes a ready vehicle of the morbific principle, and serves to propagate the disease. There is every reason to believe that water may become contaminated by effluvia from cholera dejecta, and thus be the means of producing the disease. It is believed that the occurrence of the epidemic of 1866 in the City of London Union Workhouse was due to this cause.

6. In the history of cholera, numerous instances are adduced illustrative of the connection between water and the propagation of the disease.
(a) From 1620 to 1629 a belief was expressed in records, that among the causes of cholera, one was drinking water in that period little comparative care was bestowed upon the purity of the supply.

(b) In 1832, at Exeter, water was raised from a part of the river Exe, that was contaminated by cloaca; 1,000 attacks of cholera, 34 arrests, and 67 deaths occurred during the autumn of that year. Subsequently, the water supply was brought from a distance of two leagues; in 1849 only 44 cases occurred; in 1854 scarcely any. At Hull, although the water supply was defective in quantity, it was good in quality; there, 200 deaths occurred during the epidemic. Shortly afterwards water was brought from the river exposed to the tide and contaminated by cholera excreta, and in the epidemic of 1849 there occurred in the town 1,834 cases of the disease.

(c) During the epidemic of 1849 in Scotland, reports of the disease contain some striking coincidences between the abatement of the disease and the introduction of a pure water supply. (d) In each of the epidemics in America of 1849-52-54-57, all cases are related of cholera being propagated by means of drinking water.

(e) Great importance is attached to the experience of the epidemic of cholera in 1853-54 in the town of Liverpool, that was then observed in the rates of mortality among the population, whose water supply was obtained from the Lambeth Water Company, and in that supplied by the Southwark, the diseases prevailing being 2,500 deaths; the latter more than in the former. The Lambeth water was obtained from the Thames at Teddington lock; that of the Southwark Company from the river at Vauxhall bridge. The former and of those who made use of it the rate of mortality was 37 per 10,000; the latter was impregnated with the sewage of the metropolis, and of those who made use of it the death rate was 130 per 10,000.

(f) is the well-known case of "the Broad Street Pump," which it is not necessary for us to reproduce.

(g) The English sailors at Balchick were supplied with water from springs near which the French soldiers had been encamped, and the ground with the clothing of comrades affected with cholera in the source of supply. Of 12,572 British sailors, 710 were on this occasion attacked by the disease in epidemic form.

(h) In 1855, in the case of the French Division in the Dobrudacha, and English Cavalry at Devna, the water seemed to be the means by which the disease was propagated.

(i) In 1859 at Glass Houghton near Pontefract, a portion only of the village was attacked. It was found that the inhabitants of that part whom made use of water from a well polluted with fecal and other noxious matters.

Other instances are also detailed, but want of space prevents us from giving them.

The results of observations made during the four epidemics in France is to confirm the views entertained, that the occurrence of the disease is favored by the contamination of water. On the other hand, there are writers who assert that water is not contaminated with organic matter, which presents upon its surface molecular matter and vibrios, and is moreover amenable to the permanganate of potassa test. Others assert that water containing cholera matter will alone produce cholera, that impure water foul from other causes, but not containing this matter, will produce dysentery and typhoid fever, but not cholera.

8. In India and elsewhere, many instances are on record of the occurrence of cholera in persons who had drunk water that percolated through graveyards. In 1873, it is stated that of twenty-four cases of the disease in prisoners in the Jail at Yerwada, the subjects had in twenty-two instances drank water from a stagnant pond, into which natives had performed their ablutions, and within twenty yards of which the bodies of twenty persons, who had shortly before died of cholera had been burned. During the epidemic of that year in America, cases where the disease was directly attributable to drinking water from grave yards were reported in Tennessee. An instance is further given, that at the works of labourers employed in an extension of the Mississippi Central Railway were encamped opposite Cairo, III. From the foot of a bluff near them a spring flowed, to the summit of the bluff having for years been used as a cemetery. The men cleared out the spring, after the interval of a day began to use the water, and on the following were attacked with malignant cholera.

9. It is considered that water, which contains fresh cholera vibrios, is less dangerous than that in which molecular changes have taken place. If, however, this be a rule, exceptions to it are of frequent occurrence. Some writers assert that water is capable of producing the disease when consumed during the vibrios are still living. Others have insisted upon this vibrio from cholera contamination of the snow from which the water supply is then obtained. It is believed by some writers that some of the cases of typhoid fever which occurred in Russia, in the latter part of the 19th century, were due to the circumstance that infected water had been taken on board. With the present arrangements for distillation, a similar danger could not arise.

10. Persons who partake of water polluted with cholera poison, the proportion attacked by the disease seems to vary according to circumstances. In India it is considered that one in five so suffers. An instance at Calcutta, in 1861, is related where seventeen persons, who used the contaminated water, were ascertained to have been polluted with recent defects, and of that number five were within three days after being seized by the disease. The remaining fourteen were unaffected. In Russia, in 1873, the proportion attacked after making use of contaminated water was not from 1 to 6 to 1 to 9.

11. Numerous authors assert that contaminated water is rather a predisposing than an exciting cause of cholera, that it provides the disease only when it is epidemic. In Oxford, during the epidemic of 1849, cholera was one of the principal conditions, but it was one but not the only means by which cholera was conveyed. At New Castle, and in the case of the now famous Brown Street Pump it was not until the disease became epidemic in England that the use of contaminated water produced an attack.

12. Other writers adduce facts in support of their views against the theory of cholera even in epidemic seasons being spread by means of water.

13. According to them, the disease has spread in localities where contamination of the water could not possibly have taken place. Before, and during the epidemic at Neemuch, the best water was alone used; it was boiled and filtered, yet no abatement in the disease followed at the time. In 1867, cholera spread in several jails in Bengal, the water of which had been free from contamination. In the same year the epidemic appeared in places where, although the native's water was contaminated, they had drank the same water during twenty-three previous years, and yet all that time continued exempt from the disease.

14. At Peshawur in 1869, the native troops used water that was considered to contain faecal matter and escaped. The British who used the same water were attacked, and at the same time the men of the 16th Regiment, whose supply was obtained from a pure well, suffered severely.

15. When, in 1871, cholera became epidemic in the 18th Hussars at Secunderabad, the men were using the same water that they had previously used without evil result; other persons using it were not likely to cause its spread. In that year the disease was unaltered.

If, therefore, as is supposed, the source had been contaminated by travellers, the fact still remains that, while one set of troops making use of it were attacked, another escaped. At Morar the epidemic was local, being limited to the Royal Artillery who used water from one particular well.

16. During the epidemic of 1872, of troops at the same station making use of the same water, only a small portion were attacked. At Peshawur and Kohat, where the water was obtained from rivers, the course of the epidemic was much the same as at other stations where the supply was obtained from wells. At Khassowile the troops were moved to a short distance from the source, and they continued to use the water they had always used, and yet the disease ceased. The boys in St. Peter's College at Agra used the same well water as a portion of the native community; they suffered terribly by cholera, while no case of the disease occurred among the natives. At Thyet Myo in 1873, cholera ceased among the horse-keepers of the Royal Artillery on their removal to a new site, although they continued to use the water of the well they had always resorted to. The conclusion, that it was stated to have decreased in prevalence before the introduction of recent improvements in the water supply.

17. In Germany, some high authorities are opposed to the theory of cholera water poisoning. They observe that no distinct evidence of its transmission thus occurs in relation to
the outbreaks in Munich, Bavaria, Saxony, Baden, or villages around Vienna.

18. There are also writers whose opinions are adverse to the occurrence of local outbreaks from the use of water, chiefly, as they observe, on account of the difficulty there is in reconciling with this hypothesis, certain exceptional cases both of immunity and attack.

19. The correspondence has been recorded by writers on cholera, that China has been relatively less severely devastated by the disease than India. In explanation it has been observed that the Chinese habitually make use of weak infusion of tea, which they drink hot; whatever degree of truth attaches to the opinion, it deserves attention.

Out of 104 chapters in the book we have given the above on a much disputed point in connection with the causation of cholera, in order, as we said before, to show how Dr. Gordon deals with the subject under one heading. His deductions from the facts given in this chapter are:

"LXIX.—In many instances the connection appears direct between contaminated water and cholera.

(5.) In others no such connection is traceable.

(c.) By some writers contaminated water is looked upon more as a predisposing than an active cause of the disease."

In the Appendix we have:—

A—Résumé of the Report on epidemics of cholera in France in 1832, 1849, 1853, and 1865; and

B—Notes on Asiatic Cholera, from American Journals; and

C—Résumé of Orders in regard to Cholera among Troops.

Dr. Gordon, we are glad to say, intends to continue the study of cholera and to appeal to all those who are also interested in this subject to favour him with such facts, on the several points under investigation, as may come within their own knowledge. Members of the profession in India may address their communications to "The Principal Medical Officer, British Forces, Madras," writing outside the envelope the words—"Facts regarding cholera."

Correspondence.

FERTILITY OF LEPROSY.

TO THE EDITOR, "INDIAN MEDICAL GAZETTE."

Sir,—With reference to your article concerning Leprosy, in the October number of the Gazette and in connexion with the fertility of lepers, the following may be interesting:

There are in the Poorhouse here a man, Hissu Bakshis Mahomed, and woman, Mussamut Ramdhi Korin; the former has been a leper for sixteen years, and the latter for twelve—both are suffering from the anaesthetic variety. Within the last five years the disease has developed considerably in both, ulcerations have occurred on the extremities, and joints come away: eight years ago they met at a fair in the Bombay district and joined forces, and the woman had been discarded by her husband on account of the disease. In 1870 they came here; in 1873 a male child was born to them, which lived for six months. In 1878 another boy was born, which lived only three months; both children were seen and treated by the assistant surgeon, who informs me that "they wasted away." The woman has been pregnant only twice; she has never had any miscarriages; the man asserts that his virile power is not in the least impaired, even now. The woman belongs to a leprous family; her father and two brothers were affected with the disease; the man states that he is the only leper in his family.

I am, yours, &c., &c.,
F. W. HIGGINSON,
Civil Surgeon, Gonda, Oudh.
12th November 1877.

CURIOUS SYMPTOMS FOLLOWING THE ADMINISTRATION OF CINCHONINE.

TO THE EDITOR, "INDIAN MEDICAL GAZETTE."

Sir,—I send the following, as it may be of interest to the readers of the Indian Medical Gazette, especially as information regarding the action of reputed curatives is much sought after at the present time. Last week I was asked to see a lad, aged 5. For the last three years he had been sent up to Mussoorie during the hot season, as previously he was subject to repeated attacks of fever all through the summer months in the plains. He returned early in August, and was in a few days laid up with intermittent fever, which kept off and on till I saw him last week. He was then very warm, drowsy, cheeks flushed, tongue tarred, &c. I gave a teaspoonful of castor-oil which acted on the bowels; subsequently I administered cinchonine purg., grs. v. This was almost immediately rejected, as was a similar dose given six hours later. My ress in for not ordering quinine was that, however small the dose, his mother informed me he invariably ejected it. The feverish symptoms remaining the same as before, I gave another dose of cinchonine, grs. iii. He retained the medicine, and about four hours after his whole appearance became peculiarly altered. His face (except a narrow strip around the mouth, nose, and eyes), the neck, and surface of body suddenly were covered with a deep rose-coloured blush, exactly resembling the inflammation of the skin in scarlet fever, but there was no eruption of any kind visible. The tongue was clean, and no sore-throat. The pupils widely dilated; no headache; great weakness. This lasted for hours, when the redness suddenly disappeared, and all the feverish symptoms left the patient, and he felt perfectly well from that hour.

The question is to what was this peculiar appearance of the skin due? Did the cinchonine cause it? I hardly think so, as the doses were so small; but it is evident the whole system was thoroughly affected by it, as there has been no return of fever up to to-day. Perhaps some of your readers may be able to suggest a reason for this peculiar reaction which I have never seen before amongst hundreds of cases treated.

I am, Sir,
Yours, &c., &c.,
W. CASEY, M.B.,
Surgeon.
DELHI, 15th November 1877.

THE WEARING OF UNIFORM.

TO THE EDITOR, "INDIAN MEDICAL GAZETTE."

Sir,—The wearing of uniform during the morning visit to our European Military Hospitals should be far more general than it is. The changes in our organisation, tending as they do to make the medical officer often personally unknown to the soldier, force on us the necessity of wearing one's official dress to assist the men in recognising their medical officers. Many regimental Surgeons now wear uniform during the morning visit, and it would tend much to regularity if it became the rule.

Certainly, it is quite incorrect for medical officers to make inspections of the men in barracks in plain clothes. It is a parade, and uniform should be worn.

The whole of the subordinate medical service should wear uniform also during the morning visit, but it cannot logically be enforced if the medical officers appear in mufflers. Nothing tends to lower our prestige more than to see the subordinates, in plain clothes, travelling with troops, yet it is constantly seen. Some time since, at the Imperial Assemblage, a definite order was issued by the Surgeon-General that the staff of the General Hospital should wear uniform during the morning duties, and it is certain that such an order will be made general as time passes on. A more in the direction might be made by the voluntary adoption of uniform by medical officers, and the subordinate medical service would necessarily follow. Uniform means order and regularity, and need never interfere with high scientific attainments, or thorough devotion to one's duty.

I am, yours, &c., &c.
A. M. D.
November 1877.

INDIAN MEDICAL OFFICERS' PENSIONS.

TO THE EDITOR, "INDIAN MEDICAL GAZETTE."

Sir,—The letter which appears in your number, November 1st, on the above subject, is worthy of attentive consideration from our profession. If we do not move in the matter ourselves, it is not likely that Government, never very prone to help medical men, will do so for us.