

MADRAS RECORD OFFICE.

Government of Madras.

Judicial DEPARTMENT.

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Proceedings of the Madras Government, Judicial Department,

11th March 1867.

No. 116. Read the following letter from the Officiating Under Secretary to the Government of India, to the Chief Secretary to Government, Fort Saint George; dated Fort William, 1st March 1867, No. 2149.

Home Department.

With reference to your letter, No. 117, dated the 1st ultimo, I am directed to forward to you the accompanying copy of this Office letter, No. 1853, dated 14th June, and of the Sanitary Commissioner's Report on Dr. Moule's dry earth sewage system, and to request an early reply thereto.

From the Under Secretary to the Government of India, to the Secretary to the Government of Fort Saint George; dated Simla, 14th June 1866, No. 1853.

I am directed to forward, for the information of the Government of Fort Saint George, copy of a communication, No. 299, dated the 15th ultimo, from the Sanitary Commissioner for Bengal, submitting a Report on Mr. Moule's system of "dry earth sewage," and to request that the Government of India may be informed whether, in respect of all the Provinces of the Madras Presidency, this system has been thoroughly established, and whether it is really a great public benefit.

From the Sanitary Commissioner for Bengal, to the Secretary to the Government of India; dated Simla, 15th May 1866, No. 299.

Having received the necessary information from the Government of the Punjab, I have now the honor to reply to the questions asked in your letter, No. 1048, dated the 1st February 1866.

2. Mr. Moule's system of dry earth sewage was, it appears, introduced into the Jails of the Punjab early in 1864. The Inspector General's Circular directing its adoption is dated the 22nd April, or immediately following the publication of the memorandum on the subject by the Indian Jail Committee which assembled in that year, and its recommendation by the Sanitary Commission for Bengal.

3. Previous to the introduction of Mr. Moule's system, the plan of conservancy in force in the Punjab Jails was that which had been laid down by Dr. Hathaway, when Inspector General of Prisons, and which is generally known by his name.

4. What this system was can be authoritatively learned from the Rules referring to conservancy which were issued in the Punjab Jail Manual, from the references which are made to it by Dr. Hathaway in his Sanitary Report of that Province, and from official descriptions of it, as it was seen in actual operation.

5. In the Manual, the only rules regarding the management of the Privies are to be found in the 3rd Section, which is devoted to the consideration of "conservancy arrangements." They point out the evil of cess-pools, and direct the digging of trenches in the furthest end of the garden, into which the filth should be thrown every day. Rules 37, 38, 39, referring more immediately to the Necessaries themselves, run thus—

"37.—The night-pans and earthen-pots used in the wards are to be well
"washed after the contents are emptied, and to remain in the open air
"until evening, when they will be brought into the barracks, and placed on
"sand down the centre of each ward. The sand should be occasionally taken out
"and dried.

"38.—The same course is to be adopted with the Necessaries, which are not to be
"enclosed or covered by a roof.

"39.—No lime is required to be used in these spots, the most efficient substitute being
"the wood-ashes from the cook-house."

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6. At page 4 of his Sanitary Report, Dr. Hathaway thus describes the advantages of his system—

"The latrines used in the Punjab Jails," he writes, "are perfectly free from any effluvia whatever, and the essential points in which they differ from the majority of those constructed for Military use are as follows:—

"A.—The absence of all masonry or pukka work containing lime cement.

"B.—The prohibition of all cess-pools or reservoirs, and all drains or pipes, whether closed or open, leading in or out of the latrine or urinary.

"C.—The prohibition of water being used to flush the ground or flooring, which is to be kept perfectly dry.

"D.—The flooring being of earth (instead of pukka masonry or stone) on which dry sand, to the depth of four inches over a layer of well-rammed clay, is strewed, and the portable vessels for the reception of both fluid and solid refuse matter being deposited on the sand.

"E.—The immediate removal of all refuse matter from the latrine itself, and the careful burial every evening in trenches dug for the purpose.

"F.—The abolition of the practice of sprinkling powdered lime in the urinaries and latrines, or in any other spot.

"That these differences are very essential ones, and that much advantage, both in a sanitary and financial point of view, would be gained by the practice which obtains in the Punjab Jails being extended to the barracks in which European Troops are located, I will attempt to show *seriatim*."

7. As regards the system formerly pursued in the Punjab Jails, valuable evidence is afforded by the Reports of the Committees which were assembled to examine its actual operation in the prisons, with a view to its being tried in Military Cantonments. And as these Reports have been appended by Dr. Hathaway to his Sanitary Report, which was published under his own supervision, they must be held as correctly to describe the conservancy arrangements of which he approved.

8. The Committee assembled at the Lahore Central Prison thus report:—"The Committee, having assembled, proceeded to examine the arrangements in use in the Lahore Central Jail, and found that, in each yard, a small slightly raised space, enclosed by a mud-wall and without a roof, is set apart as a privy. The flooring consists of a bed of well-rammed clay six inches in thickness, and covered with loose dry sand. The prisoners defecate into an open basket containing some wood-ashes, and pass their urine into a *chatty*, so that neither soil nor urine is allowed to come in contact with the floor. The basket and *chatty* are removed four times a day, and the contents buried in a deep trench in the garden outside the Jail wall. In each dormitory there is a urinary on the same principle. The use of water, for either flushing or cleansing either privy or urinary, is strictly prohibited; the result of these arrangements is that the yards or dormitories are kept quite free from any offensive effluvia.

9. The Report of the Delhi Committee is substantially to the same effect, and the accuracy of the description is borne out by what Dr. Dallas, the present Inspector General of Prisons in the Punjab, and who was for several years Superintendent of the Central Prison at Lahore, writes in his letter, No. 437, of the 26th February, to the Government of the Punjab, copy of which has been forwarded for information. Speaking of the system which was in force under Dr. Hathaway's orders, he says—"The privies for day use were floored with a layer of clay, well-rammed, about six inches in thickness. On this was placed sand, about two inches deep, and over this were sprinkled, when they could be obtained, wood-ashes from the ovens. All the pukka masonry in the latrine was covered with mud plaster, which was daily *leaped*. On the floor of the latrine were placed the baskets to receive the faecal matter, and the earthen vessels for urine. The basket was shallow and saucer-shaped, and was daily *leaped* with cow-dung and mud, or plain mud when cow-dung could not be procured. The vessels for urine consisted of a small vessel, such as is used on a Persian wheel tied to a stick. In this the man passed his

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"urine, and into a large *gumlah* the contents of the smaller vessels were emptied. There was a heap of ashes in the privy, into which the prisoner was ordered to thrust the smaller vessel after using it. No water was allowed about the latrines for any purpose whatever. The excrementitious matter was removed twice a day by the sweepers and buried—the solid matter in trenches, and the urine in wells.

10. If any further evidence be needed, it will be found in a Journal of a tour of inspection of the principal Jails in India made in 1862-63, by the Inspector General of Prisons, Bombay. Writing of his visit to the Lahore Central Prison, on the 7th February 1863, or little more than a year before the introduction of Mr. Moule's system, he says (p. 48)—"The Punjab system of dry conservancy is well known, and has been justly praised; but I was scarcely prepared to witness at once so absolutely simple and inoffensive a system as that in force in this Jail. In a corner of each sub-division formed by the *radū* within the octagon, and close to the central gratings, is a small space, six feet square, partially surrounded by a low mud wall; the enclosed ground is strewed over, to the depth of about an inch, with wood-ashes from the cook-room. Within the enclosure are placed several shallow earthen vessels with covers, which are *leaped* with mud and water, and also sprinkled with wood-ashes. These vessels are for the purpose of defaecation only. Micturition is performed in a separate vessel, eight inches high, covered by a concave lid with a central orifice; this vessel is used either during or after the process of defaecation. By this means, a most important point is gained—separation of the two excreta, the liquid and the solid. But this is not all: so necessary is the total exclusion of water from this literally dry system of conservancy, that ablution is not permitted at the privies, and in its stead a piece of dry earth is used as a personal cleanser."

11. Although there are some trifling discrepancies in these various accounts which have been quoted, all agree in describing Dr. Hathaway's as a system of sewage in which the use of water in the privies was strictly prohibited; in which any evacuations which happened not to fall into the vessels placed for its reception, was absorbed by sand placed on the floor of the latrine; and in which the excreta were frequently removed and buried.

12. Mr. Moule's system, it need hardly be remarked, is a system of earth sewage, and consists in the immediate application of dry sifted earth to the evacuations, which, he maintains, stops the emission of offensive smell, and prevents fermentations; and these are so complete and lasting that, either the same day or after a week, or even a longer period, the mass of soil and earth can be removed from the room and premises without any offence."

13. As regards the points of similarity between the two systems, both agree in avoiding the use of water as a cleansing agent in the latrines,—both are systems of dry sewage; but here all similarity ends.

14. In order to ascertain the difference between the two, it is only necessary to compare the essential conditions of the one with those of the other. The essential conditions for the perfect success of Mr. Moule's system are—that the earth be dry, that it be in a state of fine division, that it be applied immediately to the evacuations, and that in sufficient quantity. The essential conditions of Dr. Hathaway's system, as given by himself, have been already detailed in paragraph 6. The whole value of Mr. Moule's system rests on the deodorizing power of dry earth, but to this power Dr. Hathaway has nowhere referred. Nowhere in the instructions for carrying out his system is dry earth even mentioned. Sand and ashes are indeed spoken of, but not to deodorize the evacuations, but simply to cover the floor of the latrines. In Dr. Hathaway's system, no deodorization was attempted. Deodorization by means of dry earth forms the essence of Mr. Moule's system.

15. Although the addition of sand or ashes to the pans was, so far as the evidence goes, nowhere enjoined, a small quantity was, in practice, often sprinkled over them before use; but this was with no idea of deodorization, but simply, as Dr. Dallas states, "to prevent the feces sticking to the bottom." It was never laid down that sand or ashes should be added to the evacuations; nor was this practice, so far as can be ascertained on reliable evidence, ever practically followed. Dr. Bateson's testimony of what was done in the Umballah Jail may be added to the negative

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evidence of which so much has been already given. He writes—"We never used to add any sand to the receptacles, but those were leaped and sprinkled with wood-ashes. We never used to add any to the evacuations."

16. Further, it may, no doubt, often have occurred in practice that, failing a supply of sand or ashes, loose earth was employed to cover the floor of the latrine, and to sprinkle over the pans before use; but if so, it was done in total ignorance of its deodorizing power, and merely because sand and ashes, *which would have been preferred*, could not be had. In only one of the papers descriptive of Dr. Hathaway's system is "dry earth" even alluded to, and that is, by Dr. Wicke in the statement quoted in the 10th paragraph. It is there mentioned that, in the Lahore Central Prison, "a piece of dry earth was used as a personal cleanser." Considering the exceptional nature of its mention in this particular case, it can only be concluded that earth was employed, not because its deodorizing power was recognized, but because a lump of sand would not have been sufficiently coherent.

17. In the memorandum by the Prison Committee of 1864, recommending Mr. Moule's system, it is, indeed, stated that "the practice of using dry earth to deodorize excrementitious matter has been in use in some of the Punjab Jails for many years." But so far as this statement implies that Mr. Moule's system had been forestalled by Dr. Hathaway, it conveys an erroneous impression, such, as has been shown, was not the case. Were no other evidence available, the mere fact that a special Circular was issued by the Inspector General of Jails in the Punjab, in 1864, in order to introduce the dry earth system of conservancy as a totally new system never before acted in the Province, goes far to prove that, up to April of that year, it had not been in force.

18. Again, to show that Dr. Hathaway's system was not the same as Mr. Moule's system, it is only necessary to compare the memorandum of the Jail Committee, already referred to, with the Conservancy Rules drawn up by Dr. Hathaway in the 3rd Section of the Punjab Jail Manual. In the latter, sand is recommended and wood-ashes; while in the former no mention whatever is made of sand, and the abolition of the use of ashes and any other substitutes, "which do not have the same direct and immediate effect as dry earth," is strongly urged, that is to say, the Jail Committee strongly urge the abolition of the use of what had been strongly recommended by Dr. Hathaway.

19. From all the evidence available, two conclusions appear to be warranted—

1st.—That Dr. Hathaway's system was a very excellent form of conservancy, and a very great advance on any former system which had been in force; but that,

2nd.—It was altogether different from, and inferior to, the dry earth conservancy recommended by Mr. Moule.

20. The Madras Sanitary Commission, in its Annual Report for 1865, thus incidentally expresses a similar opinion. In the 30th paragraph, it is stated—"Dr. Hathaway, in 1852, when Inspector General of Jails in the Punjab, was the first to bring about a real reform in this matter, by the abolition in Jails within his range of all sewage drains and cess-pits, and the substitution of his 'dry system,' or the removal in air-tight receptacles of all filth from the vicinity of Jails and its urinal at a distance from human habitations. Under the system in force prior to this period, owing to the almost immediate commencement of putrefaction, the air around Jails, Barracks, &c., was continually in a state of pollution. But under Dr. Hathaway's plan there were such perfect cleanliness and entire absence of emanations that, in 1861, the Commander-in-Chief of India ordered its adoption in several Military Stations; and in 1863 the system was extended to all our Cantonments, and continued in operation until the Reverend H. Moule, in a paper read before the Society of Arts in May 1862, recommended the application of dry earth as an immediate deodorizer of human excreta; its success has been most remarkable."

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No. 117. ORDER THEREON, 11th March 1867, No. 389.

Ordered to be communicated to the Inspector General of Jails, Municipal Commissioners, Madras, and the Sanitary Commissioner.

(True Extract).

Chief Secretary.

To the Inspector General of Jails.

" Municipal Commissioners for the Town Madras.

" Sanitary Commissioner.

" Military Department.

11 March 1867 n° 389.

Ordered to be communicated to the
Inspector General of Jails, Municipal
Commissioner ^{Mayor} and President of the
Sanitary Commission.

116.117.

To the Inspector General of Jails
Municipal Commissioner for the town of Paris
President of the Sanitary Commission
Military Department. dec 124/3.

116.119 March.

Order
No 107 July 1879
" 21 April 1874 - " - 111-112
" 16 May - " - 87482
No 109 August 1885
" 26 April 1885
" 193-194