

Local & Munl. (1898) Department

PRINTED.

G.O., No. 1549 P

DATED 9-12-98

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[Despatch Abstract.]

Disinfection.

Recording letter from the Government of India forwarding copy of despatch from the Secretary of State for India to H.E. the Viceroy, ^{on the subject of} ~~the~~ regarding the disinfection of ordinary mud & covering floor against plague.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

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Government (1898) of Madras.
LOCAL AND MUNICIPAL.

Proof 11-15/12
14/12

Proof for approval 14/12

Strike off as revised 15/12/98

Recd. } 1898. Enclosures
Regd. } Spare copies

G.O., No. 1549 P., 9th December 1898.

DECEMBER.

Disinfection.

Recording letter from the Government of India forwarding copy of despatch from the Secretary of State for India to His Excellency the Viceroy on the subject of the — of ordinary mud and cowdung floor against plague.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers:—

Despatch from the Right Hon'ble Lord GEORGE HAMILTON, Her Majesty's Secretary of State for India, to His Excellency the Right Honourable the Governor-General of India in Council, dated India Office, London, 20th October 1898, No. 182 (Revenue).

I enclose, for the information of your Excellency's Government, copy of a letter dated 20th September 1898, which has been received from Lieutenant-Colonel R. Boustead, I.M.S., retired, on the subject of the disinfection of ordinary mud and cowdung floor against plague.

ENCLOSURE.

From Lieutenant-Colonel R. BOUSTEAD, I.M.S., Retired, to the Under Secretary of State for India, dated London, 20th September 1898.

I have the honour to submit that, in the *Overland Mail* of the 10th September, page 1181, which—through my moving about—I have only now received, I observe a paragraph headed

“Cowdung and the Microbes of Plague,”

in which it is stated that Mr. Hankin and Lieutenant Storrocks, R.A., have carried out a series of experiments with especial reference to “Disinfection against Plague.”

They discovered that it is extremely difficult to disinfect an ordinary mud and cowdung floor, and that instead of eradicating the microbes the ordinary solutions of sublimate, i.e., perchloride of mercury and carbolic acid, are found to lead to an apparent increase to the number of microbes present, and that the resistance to disinfection depends on some substance in the cowdung which protects the microbes from the action of the disinfectants. That substance has not been discovered, and to leave it undiscovered would be to grant immunity to one of the most fertile sources of plague propagation.

May I venture to suggest that there are manifest reasons why those powerful germicides may have failed to destroy the microbes of plague.

First, the cowdung naturally contains a considerable amount of albuminous, coagulable slime which, when spread over a mud floor, in the usual way, becomes dried and almost impervious to water, but when solutions of sublimate are sprayed over this coating of cowdung the slime in it is coagulated (as is albumen) by the action of the sublimate and forms an actual impervious film which is a sufficient protection to almost all the microbes that are beneath it. It encases them as it were in a water-proof covering. No aqueous solution of sublimate or carbolic acid would be able to effectively penetrate this coagulum and disinfect the microbes below, except perhaps

where the coating of cowdung was broken through. Again, in the decomposition of the cowdung on floors (which is continual) ammonia gas is generated, some of it is fixed in organic matters, some of it is free, being given off continually, and this alkali precipitates and renders abortive (useless) the germicidal properties of the sublimate by converting it into the simple ammonia chloride of mercury, which is useless as a germicide, thus, further, the excellent germicidal properties of the sublimate are destroyed by ammonia within the cowdung.

But I would suggest that, if the cowdung (or simple mud) floors of plague-infected dwellings were first saturated with sea water or with an equally strong or stronger solution of common salt and then well sprayed with the sublimate disinfectant, most of the sublimate would be carried in solution through the film, as sublimate is held in perfect solution by common salt and it will permeate the film through the pores and passages which the salt water has caused by dissolving the slimy albuminous film of the cowdung.

Moreover, the chlorine of the sea water—in addition to its rendering the sublimate into a perfect condition for the destruction of microbes—is a disinfectant itself, and it also considerably neutralizes the ammoniacal gas in the ground—whether free or in combination—producing chloride of ammonium, a substance which also holds the sublimate in perfect solution in water and renders it more active as a germicide in earthy matter—floors, woodwork, drains, &c.

The sea water—or salt and water for up-country use—is, I think, equally necessary for a first application to cowdung floors when carbolic acid solutions are used, as it renders the floor more permeable to the disinfectant.

Where disinfection by spraying is undesirable or insufficient it would, perhaps, be advisable to take an inch, or more, deep of the cowdung covering off the floors and burn it to calcination, then dig from eight inches to a foot of the floor, replacing it with fresh earth, well beaten down level, then sprayed with the sublimate and finally well smeared with plenty of coal tar from the gasworks, followed when nearly dry with half an inch layer of dry sea sand which when quite dry could be swept of all superfluity that had not adhered. This would make an impervious solid and perfectly aseptic floor which would be difficult, if not impossible, for any microbes to enter, and ought not to be expensive at all.

The walls of infected dwellings might be sprayed with a one per cent. solution of a 30 Vol. saturation of Formaldehyde or with a 1-500 solution of sublimate.

I cannot but think that among other causes of infection insect life has an important share in propagating the plague by direct inoculation—the virus is most potent. Mosquitoes and flies, bugs and vermin (which abound in the East) by puncturing and feeding upon plague-stricken persons, and subsequently settling upon and puncturing healthy persons with their poison-laden organs, they deposit the virus as effectively as if it were done by the point of a lancet or by an hypodermic syringe and disseminate the disease just as Purulent Ophthalmia is carried broadcast by flies, &c., and I think it would be a wise precaution against such a terrible disease that all mosquito and other bites should be touched as quickly as possible with a 1-500 solution of sublimate especially by nurses and attendants on plague patients.

I shall endeavour to forward a copy of this to the Surgeon-General with the Government of Bombay next mail.

No. 4638.

Copy forwarded to the Government of Madras for information.

(By order.)

HOME DEPARTMENT (Sanitary-Plague),
Simla, 29th November 1898.

(Signed) R. NATHAN,
Under Secy. to the Govt. of India.

4

No. 1549 P., 9TH DECEMBER 1898.

ORDER—No. 1549 P., dated 9th December 1898.

Recorded.

(True Extract.)

for Secretary to Government.

Copy to the Plague Commissioner.
" the Sanitary Commissioner.
" the Surgeon-General.
" the President, Municipal Commission, Madras.
" all Collectors (A-L).

Local & Munl. (1898) Department.

CURRENT No. 2623 P

From The Govt of India
Simla.

Order no 1549 P. dated 9-12-98

Recorded

No. 4638

Dated 29-11-98

Received } 5-12-98

Registered

Enclosures

Spare copies. 7 of cur.

Copy to the Plague Commr.
" Sanitary Commr.
" Surgeon-General
" Presd. M.C., Madras.
" —all Collectors (A-L)

SUBJECT.

Forwarding copy of despatch from the Secretary of State for India to H.E. the Viceroy, the subject of ~~giving~~ the disinfection of ordinary mud and cowdung floor against plague.

BACK PAPERS

G.O.	No.	Department.	Date.
	1273P 944P.	Lm "	29.8.98

FURTHER PAPERS.

G.O.	No.	Department.	Date.

c No 26237
18

INDIA OFFICE;
London, 20th October, 1898.

Revenue,
No. 182.

To His Excellency the Right Honourable the Governor General of India in Council.

My Lord,

I enclose, for the information of Your Excellency's Government, copy of a letter which has been received from Lieutenant-Colonel R. Boustead, I.M.S., retired, on the subject of the disinfection of ordinary mud and cowdung floor against plague.

I have the honour to be,
My Lord,

Your Lordship's most obedient, humble Servant,

GEORGE HAMILTON.

Dated London, the 20th September 1898.

From—LIEUTENANT-COLONEL R. BOUSTEAD, I.M.S., Retired, C/o Messrs. H. S. KING & Co., 45, Pall Mall, London,

To—The Under Secretary of State for India.

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No. 4638

COPY forwarded to the

Government of
Madras
Bombay
Bengal
the North-Western Provinces and Oudh
the Punjab
Barma
the Central Provinces
Assam
Coorg
Resident at Hyderabad
Foreign Department
Secretary to the Plague Commission

for information

[*For Foreign Department only.] [*and communication to Political Officers.]

HOME DEPARTMENT,

SANITARY
Plague

Simla, the 29th November 1898.

By order,

Phelan

Under Secy. to the Govt. of India.

7. The Government of Madras.

6134

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ENCLOSURE TO C. No.

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