

P. N. D.

Gobt. of (1885) Madras.

JUDICIAL.

N^o. 1146. Wd/14th May 1885.

Communicated to the
Suptg. Engineer VI Circle,
for information and guidance.

(Signed) J. J. [Signature]
[Signature]

S. E. VI Circle

Issued

Recd.

Encl.

G.O., 21st April 1885, No. 1035.

N^o. 1146. Wd/14th May 1885.

APRIL.

Jails.

Appointing a committee to investigate and report on the question of contamination of the well waters in the Trichinopoly Central Jail.

With order

21st APRIL 1885, No. 1035, JUDICIAL.

GOVERNMENT OF MADRAS.

JUDICIAL DEPARTMENT.

READ—again the following papers:—

G.O., dated 21st January 1885, No. 165, Judicial.

G.O., dated 21st March 1885, Mis. No. 767, Judicial.

Read—the following letter from H. R. GRIMES, Esq., Inspector-General of Jails, to the Chief Secretary to Government, dated Madras, 16th February 1885, No. 39:—

With reference to the order of Government, dated 21st January 1885, No. 165, Judicial, I have the honor to submit the following remarks on Dr. O'Hara's memorandum "Causation of the terrible mortality in the Trichinopoly Central Jail." I must first explain the reason for my not forwarding the memorandum to Government when I received it, viz., this—On my return on 29th November 1884 from a tour of inspection of the jails on the western coast I found awaiting me a letter from Dr. O'Hara forwarding the memorandum, in which Dr. O'Hara remarked that as he had heard I was on a distant tour, and as it seemed undesirable to him there should be any delay in making the subject of his memorandum known, he had taken the liberty of sending a copy of it to you direct in a private communication. The following morning, before I had time to forward Dr. O'Hara's memorandum to Government, I received another letter from Dr. O'Hara expressing his regret at having forwarded his memorandum in an irregular and informal manner, and requesting me, in the event of my having forwarded it to Government, that I would be pleased to send his apology also. As I had not forwarded the memorandum I did not send on his second letter of apology, as I considered it tantamount to a withdrawal of his first letter and of the memorandum, but I was not aware at the time that Dr. O'Hara had, on sending you a copy of his memorandum, sent one to the Surgeon-General and to the Sanitary Commissioner, and not until I received the Surgeon-General's letter, dated 20th December 1884, No. 7005, embodied in the Proceedings of Government under reply, was I aware that Dr. O'Hara had circulated his memorandum.

2. Dr. O'Hara's theory or explanation of the cause of the excessive mortality in the Trichinopoly Central Jail is that the water of the south-east angle well, the principal well in the jail from which all the drinking water was obtained, was contaminated owing to nightsoil having been buried in pits within a distance of 24 to 60 yards of it; this circumstance came to his knowledge soon after taking over charge of the jail, and to use his own words "while as yet I had not become acquainted with the correspondence relative to the unusual mortality in the jail." It appears that in

July 1881, just before the time that serious disease broke out, the Superintendent, Mr. Johnston, with the intention of improving the soil in the jail garden caused trenches to be dug and filled with nightsoil; these trenches, as has been already remarked, were close to the well. In July, August, September, November, and December 1881 there was a rainfall of 26 inches, and owing to the sub-soil drainage oozing into the well and fouling the water there were 102 deaths in the jail from September to the end of December 1881, the excessive mortality continued during the year 1882, and only ceased on the source of the water-supply being changed. During the time the heavy mortality was taking place amongst the male convicts, Burmese included, the females who did not drink the water of the south-east angle well, though they ate the same description of food, remained perfectly well. The Surgeon-General does not attach much importance to Dr. O'Hara's theory, because the site of the nightsoil pits is lower than the site of the well and the surface drainage is from the well to the pits; also the ground on which the jail is built, the substratum is solid rock; it is therefore impossible the surface water can ooze through the soil into the well; he is of opinion the wells in the Trichinopoly jail are much the same as those in the Coimbatore jail, except that the rock through which the Trichinopoly wells are pierced is harder than the rock through which the Coimbatore jails are pierced, and that the wells of the latter jail are not affected by surface drainage.

3. I think the Surgeon-General is wrong in his opinion regarding the similarity of the substratum of the soil in the two jails. I have recently inspected the jail at Trichinopoly and found the substratum of the soil to be completely different to that at Coimbatore. In the latter jail, after heavy and even continuous rain, water will not be found except at a great depth from the surface, whereas at Trichinopoly it is readily obtained within a few feet of the surface. At the time I visited Trichinopoly, which was from 19th to 26th January last, there had been no rain since 24th December 1884, and out of nine pits I had dug in various parts of the jail and the land attached to it water was obtained at from 3 feet to 10 feet of the surface, the springs struck, in most of the pits, did not flow from one direction, that is in the lay of the land, but from opposite directions, proving that there is an amount of water lodged between the surface and the hard rock. In the opinion of the Superintending Engineer it is impossible to ascertain the true course of this water; it naturally runs in one direction until it meets some obstruction when it is forced back and finds vent through the weakest part of the steining of the wells. I saw a breach caused by this means in the south-east angle well and in the well in the corner of the solitary cell yard; there was a considerable amount of sub-soil drainage through the steining of the well proceeding in an opposite direction to the lay of the land, in fact apparently "run uphill," but undoubtedly caused from the surface water flowing round the well meeting some obstruction below the well and thus being forced back.

4. Another point that struck me at Trichinopoly is the want of good surface drains to carry the rain water off as have been supplied to the Coimbatore jails; owing to this defect and the nature of the soil at Trichinopoly the rain water soaks into the ground and undoubtedly lodges between the surface and the rock below for a considerable time, for on my return to Trichinopoly on 1st of this month I again visited the jail to look at some cots in one of the wards which I had asked Dr. O'Hara to make, in order to prevent the convicts sleeping on the floors; in digging holes in the floor (an asphalted one) for the legs of the cots to be fixed in the soil was found to be perfectly damp a foot under the surface, showing clearly that the drainage of the jail is imperfect and the soil to be unlike that at Coimbatore, for a pit might be dug there two days after rain and not the least signs of moisture found in the soil.

5. Though Dr. O'Hara may not be perfectly correct in all his surmises, I think it is not impossible that the water in the south-east angle well has been contaminated by surface and sub-soil drainage, and that the situation of the nightsoil pits in the garden has been one of the causes. The steining of the south-east angle, or rather the earth which forms the sides of the well, for there is no proper brick steining to this well, has been forced in on opposite sides, clearly proving the drainage into it is from the direction of the jail itself and from the garden.

6. With reference to paragraph 6 of the Surgeon-General's letter to me, I addressed the Superintending Engineer on the subject of having levels taken and sections prepared showing the levels and depth of porous soil in the jail and in the garden; also the relative position of the solid rock in each situation. The Superintending Engineer replied that his department could not undertake such an extensive work, but that he would, if I wished, procure the services of a temporary surveyor on Rs. 60 a month, who could work under the orders of the Jail Superintendent, the Executive Engineer giving that officer any assistance he needed. I therefore request, if Government approves of the Surgeon-General's suggestions on this point, that the services of a temporary surveyor on Rs. 60 per month be sanctioned, and that besides showing the levels and depths of porous soil and position of solid rock a thorough system of surface drains be also shown and estimated for, as I have little doubt the want of such drainage tends greatly to the unhealthy condition of the Trichinopoly Central Jail.

7. In conclusion I beg to inform the Government of the general satisfactory condition of the prisoners at Trichinopoly now; they are in excellent health; all the arrangements as to diet, their treatment in hospital, their work, &c., are as perfect as they can be, and though Dr. O'Hara has not long since applied for an additional medical subordinate on account of the increase of bowel affections these were of climatic origin and not the dreaded form of disease that had preceded them. The number of men in the convalescent gang was at the time of my inspection 41, but when I left Trichinopoly on 2nd instant the number had been reduced to 25, and there was only one serious case of illness in the hospital of pneumonia amongst 15 patients. The deaths in hospital during the year 1884 were only nine, somewhat under two per cent.—a marked diminution to those in the three previous years.

8. I forward, for the information of the Government, a letter from Dr. O'Hara replying to the various points remarked on by the Surgeon-General. It is to be regretted that Dr. O'Hara was induced to print and circulate the information he had collected in the manner he did, but after his contrite apology I trust that the Government will put his action down to excessive zeal which has outrun his discretion, and that he had not the slightest intention of treating with disrespect the opinions of others, or reflecting on the past management of the jail, either on the part of the executive or administrative officers.

ENCLOSURES.

MEMORANDUM of Pits recently dug at the Central Jail at Trichinopoly showing the Depth at which Water was found and the Nature of the Soil.

Situation of pits.	Depth from surface to water level.	Nature of soil.	Remarks.
West of jail near picket house—			
Two pits north	6 feet	Red gravel.	
Do. south	4 feet 1 inch ..	Red earth.	
New district jail—			
South of spring well	3 feet 2 inches ..	Red gravel.	
Do. do. near jail wall	3 feet 2 inches ..	Do.	
East of spring well	4 feet 8 inches ..	White earth like chunam.	
Central jail enclosure—			
North-east	5 feet	White gravel.	
Saw pit in No. 3 block ..	5 feet	Do.	
Pit near basement of No. 3 block.	4 feet 4 inches ..	Soft rock.	
Hospital near basement of ward.	4 feet 11 inches.	Red gravel.	
South-east angle pit near wall.	10 feet 2 inches.	White and red gravel.	

Pits were dug one month after last rainfall.

TRICHINOPOLY,
31st January 1885.

(Signed) W. O'HARA, Surgeon.

From Surgeon W. O'HARA, Superintendent, Central Jail, Trichinopoly, to the Secretary to the Surgeon-General with the Government of Madras, dated 5th December 1884, No. 1176.

I have the honor to acknowledge with many thanks the receipt of the Surgeon-General's remarks on my paper regarding the recent mortality in this jail.

2. Agreeing with the Surgeon-General in regard to the unreliability of chemical analyses in determining the real hygienic values of potable waters, I admit myself to have been hasty in assigning undue importance to such analyses; but I would remark that, independently of them, the theory put forward by me is mainly founded on the sequence of events, and the explanation of how such sequence was not only possible but to be expected.

3. I regret exceedingly that the Surgeon-General should have found occasion to discredit my general account of the soil in and in the vicinity of the south-east well. It will be apparent from the following that there has been a misconception on his part, and that his description applies to some well other than the one under notice (viz., the south-east well).

4. *South-east well.*—Depth of masonry steining of well built in red soil 10 feet. This steining rests on "decomposed" (disintegrated) rock, which was soft enough to allow its being cut into a regular cylinder. No solid rock is visible at all.

5. If such evidence were not superfluous I might mention that the Superintending Engineer has inspected this well, and that he is of opinion that the steining has been broken in by the action of sub-soil water, and that there can be no doubt that sub-soil water does gain admission into this well by percolation. As previously stated I have satisfied myself by pits dug in the garden that sub-soil water does drain apparently in the direction of the well, after a heavy shower of rain, at depths of 6 and 9 feet, and in none of the pits that I have dug outside have we come upon solid rock. In a saw-pit six feet deep in No. 3 block the sub-soil water drains in so rapidly that two men have to be engaged in baling it out with buckets to keep it under. A water level table kept by me shows unmistakably that the south-east well gained 7 feet of water after heavy rain, while the deep springs in some other wells were not touched.

6. In conclusion I would beg to assure the Surgeon-General that the valuable suggestions made in his remarks will receive my earnest and unremitting attention, particularly that in reference to the quality and quantity of food supply.

EXTRACT from letter, No. 32, dated 10th January 1885, from the Superintendent, Central Jail, Trichinopoly, to the Inspector-General of Jails.

2. In regard to the Surgeon-General's inquiry I beg to state that the subject of Burmese mortality has been previously considered, as will be apparent from the enclosures marked A and B. In obedience to your orders I have searched the hospital records and have gathered the following results:—

Burmese.

No.	Name.	DATES.			Diseases.
		Admitted.	Discharged.	Died.	
2000	Nga Tel	18th Aug. 1881		29th Sept. 1881	General debility.
2471	Nga Kyelal	7th Sept. "	13th Sept. 1881		Ague.
1981	Looh	9th " "	21st " "		Dysentery.
3915	Nga Isac	27th " "	14th Oct. "		Do.
3916	Nga Isana	3rd Oct. "	Do.		Diarrhoea.
2257	Nga Kyanthan	Do. "	5th Oct. "		Do.
2476	Nga Kealoung	14th Nov. "		15th Nov. "	Cholera.
3613	Nga Lanloung	Do. "		14th " "	Do.
3915	Nga Isan	17th Nov. "		17th Dec. "	Dysentery.
3916	Nga Esone	20th " "		23rd Nov. "	Cholera.
2475	Nga Ayee	21st " "		21st " "	Do.
2477	Meayoung	6th April 1882	25th April 1882		Bronchitis.
4947	Ya May	30th " "	11th May "		Diarrhoea.
2477	Meayoung	30th " "		12th June 1882	General debility and diarrhoea.
2003	Nga Kyanzan	12th May "	9th June "		Dysentery.
2257	Nga Kyanshaw	3rd July "	12th July "		Diarrhoea.
2255	Nga Tha	4th Aug. "	15th Aug. "		Dysentery.
2254	Nga Tha Wah	19th " "	23rd " "		General debility.
2474	Ngha	Do. "	Do.		Do.
2255	Ngatha	4th Sept. "		8th Oct. "	General dropsy and diarrhoea.
2251	Nga Nee	7th " "	19th Sept. "		Albuminaria.
2258	Cuppa	14th Nov. "		27th Nov. "	Dysentery.

Whereas the general mortality of the whole jail during the months noted was 237 out of an average population of 924, showing a death-rate of 25.5 per cent., that of the Burmese was 9 out of an average population of 25.5, showing therefore an excessive death-rate of 36 per cent.

(Signed) W. O'HARA, Surgeon,
Superintendent, Central Jail.

From Surgeon A. N. ROGERS-HARRISON, in Medical charge, Central Jail, Trichinopoly, to the Superintendent, Central Jail, Trichinopoly, dated Trichinopoly, 30th June 1884, No. 49.

With reference to your letter, No. 599, dated 24th instant, I have the honor to submit a statement showing cause of death of the five Burmese that occurred in this jail in 1881-82.

2. The records of the hospital show that they died mostly from the same symptoms as the majority that died in the same years.

From Surgeon W. O'HARA, Superintendent, Central Jail, Trichinopoly, to the Inspector-General of Jails, dated Trichinopoly, 4th February 1885, No. 109.

4. With regard to paragraph 13 the Surgeon-General considers that my statement to the effect that the Burmans in the jail suffered in the same ratio as the other prisoners, although they did not partake of the suspected food, will not bear investigation. This subject has on the requisition of the Surgeon-General been most carefully inquired into, and it has been conclusively proved that not only did the Burmans die in the enormous proportion of 36 per cent. as

Enclosure B.

against 25.5 of the others, but that their symptoms were in the main like those of the majority who succumbed during this unusual mortality.

5. Respecting the contamination of the hospital well I cannot undertake to say more than that it has not been free from sources of impurity (since my arrival I have prevented some of the worst), but to those who are acquainted with its position, and with the facts that the storm water from a large receiving surface of the jail overflows the drains and stagnates in its vicinity, that the sub-soil water is within 4½ feet from the surface, and that the soil is absorbent, its contamination will not be surprising.

Order—dated 21st March 1885, Mis. No. 767, Judicial.

The letter of the Inspector-General of Jails read above, together with its enclosures, will be communicated to Dr. Cornish for early remarks.

2. Sanction is accorded for entertaining a temporary surveyor on Rs. 60 per mensem for the purposes specified in paragraph 6 of the Inspector-General's letter.

(True Extract.)

(Signed) E. F. WEBSTER,
Chief Secretary.

To the Surgeon-General with the Government of Madras, with original enclosures, and copy of G.O., dated 21st January 1885, No. 165.

" Inspector-General of Jails.
" Accountant-General, with Inspector-General's letter.

READ—also the following paper:—

From Surgeon-General W. R. CORNISH, F.R.C.S., C.I.E., Surgeon-General with the Government of Madras, to the Chief Secretary to Government, dated Fort St. George, 23rd March 1885, No. 171.

With reference to order of Government, as per margin, I have the honor to state that until the work alluded to in para-

Mis. No. 767, dated 21st March 1885. graph 6 of the Inspector-General of Jail's letter, dated 16th February 1885, has been carried out, the question of contamination of the well waters in the Trichinopoly jail cannot be profitably discussed.

2. Dr. O'Hara's explanations regarding the circulation of his memorandum may I think be accepted. No one doubts the zeal and earnestness of this officer in the discharge of his duties, and it is most satisfactory to know that under his administration the health of the prisoners in the jail has so much improved.

3. My reason for stating that the memorandum has been circulated was that an officer of Government in the course of conversation informed me that he had read it.

ORDER—dated 21st April 1885, No. 1035, Judicial.

In view of the importance of the questions raised in the papers read above, the Right Honorable the Governor in Council resolves to request the gentlemen noted in the margin to form themselves into a committee for the purpose of instituting inquiries into the whole matter, and reporting their opinion to the Government.

(True Extract.)

E. F. WEBSTER,
Chief Secretary.

To the Surgeon-General with the Government of Madras.
 „ Inspector-General of Jails.
 „ Sanitary Commissioner for Madras.
 „ Superintending Engineer, VI Circle, through Public Works department.

Exd. J. Wright.

P. W. D.

Govt. of 1885 Madras.

JUDICIAL.

N^o 1146. W. D. 14 May 1885.

Communicated to
the Supt. Engineer VI
Circle for information
and guidance.

(Signed) J. S.

Issued

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N^o 1146. W. D. 14 May 1885.

APRIL.

Jails.

Appointing a committee to investigate and report on the question of contamination of the well waters in the Trichinopoly Central Jail.

S. E. VI Circle

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July 1881, just before the time that serious disease broke out, the Superintendent, Mr. Johnston, with the intention of improving the soil in the jail garden caused trenches to be dug and filled with nightsoil; these trenches, as has been already remarked, were close to the well. In July, August, September, November, and December 1881 there was a rainfall of 26 inches, and owing to the sub-soil drainage oozing into the well and fouling the water there were 102 deaths in the jail from September to the end of December 1881, the excessive mortality continued during the year 1882, and only ceased on the source of the water-supply being changed. During the time the heavy mortality was taking place amongst the male convicts, Burmese included, the females who did not drink the water of the south-east angle well, though they ate the same description of food, remained perfectly well. The Surgeon-General does not attach much importance to Dr. O'Hara's theory, because the site of the nightsoil pits is lower than the site of the well and the surface drainage is from the well to the pits; also the ground on which the jail is built, the substratum is solid rock; it is therefore impossible the surface water can ooze through the soil into the well; he is of opinion the wells in the Trichinopoly jail are much the same as those in the Coimbatore jail, except that the rock through which the Trichinopoly wells are pierced is harder than the rock through which the Coimbatore jails are pierced, and that the wells of the latter jail are not affected by surface drainage.

3. I think the Surgeon-General is wrong in his opinion regarding the similarity of the substratum of the soil in the two jails. I have recently inspected the jail at Trichinopoly and found the substratum of the soil to be completely different to that at Coimbatore. In the latter jail, after heavy and even continuous rain, water will not be found except at a great depth from the surface, whereas at Trichinopoly it is readily obtained within a few feet of the surface. At the time I visited Trichinopoly, which was from 19th to 26th January last, there had been no rain since 24th December 1884, and out of nine pits I had dug in various parts of the jail and the land attached to it water was obtained at from 3 feet to 10 feet of the surface, the springs struck, in most of the pits, did not flow from one direction, that is in the lay of the land, but from opposite directions, proving that there is an amount of water lodged between the surface and the hard rock. In the opinion of the Superintending Engineer it is impossible to ascertain the true course of this water; it naturally runs in one direction until it meets some obstruction when it is forced back and finds vent through the weakest part of the steining of the wells. I saw a breach caused by this means in the south-east angle well and in the well in the corner of the solitary cell yard; there was a considerable amount of sub-soil drainage through the steining of the well proceeding in an opposite direction to the lay of the land, in fact apparently "run uphill," but undoubtedly caused from the surface water flowing round the well meeting some obstruction below the well and thus being forced back.

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5. Though Dr. O'Hara may not be perfectly correct in all his surmises, I think it is not impossible that the water in the south-east angle well has been contaminated by surface and sub-soil drainage, and that the situation of the nightsoil pits in the garden has been one of the causes. The steining of the south-east angle, or rather the earth which forms the sides of the well, for there is no proper brick steining to this well, has been forced in on opposite sides, clearly proving the drainage into it is from the direction of the jail itself and from the garden.

6. With reference to paragraph 6 of the Surgeon-General's letter to me, I addressed the Superintending Engineer on the subject of having levels taken and sections prepared showing the levels and depth of porous soil in the jail and in the garden; also the relative position of the solid rock in each situation. The Superintending Engineer replied that his department could not undertake such an extensive work, but that he would, if I wished, procure the services of a temporary surveyor on Rs. 60 a month, who could work under the orders of the Jail Superintendent, the Executive Engineer giving that officer any assistance he needed. I therefore request, if Government approves of the Surgeon-General's suggestions on this point, that the services of a temporary surveyor on Rs. 60 per month be sanctioned, and that besides showing the levels and depths of porous soil and position of solid rock a thorough system of surface drains be also shown and estimated for, as I have little doubt the want of such drainage tends greatly to the unhealthy condition of the Trichinopoly Central Jail.

7. In conclusion I beg to inform the Government of the general satisfactory condition of the prisoners at Trichinopoly now; they are in excellent health; all the arrangements as to diet, their treatment in hospital, their work, &c., are as perfect as they can be, and though Dr. O'Hara has not long since applied for an additional medical subordinate on account of the increase of bowel affections these were of climatic origin and not the dreaded form of disease that had preceded them. The number of men in the convalescent gang was at the time of my inspection 41, but when I left Trichinopoly on 2nd instant the number had been reduced to 25, and there was only one serious case of illness in the hospital of pneumonia amongst 15 patients. The deaths in hospital during the year 1884 were only nine, somewhat under two per cent.—a marked diminution to those in the three previous years.

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Saw pit in No. 3 block	5 feet	Do.	
Pit near basement of No. 3 block.	4 feet 4 inches ..	Soft rock.	
Hospital near basement of ward.	4 feet 11 inches.	Red gravel.	
South-east angle pit near wall.	10 feet 2 inches.	White and red gravel.	

Pits were dug one month after last rainfall.

(Signed) W. O'HARA, Surgeon.

TRICHINOPOLY,
31st January 1885.

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2. Agreeing with the Surgeon-General in regard to the unreliability of chemical analyses in determining the real hygienic values of potable waters, I admit myself to have been hasty in assigning undue importance to such analyses; but I would remark that, independently of them, the theory put forward by me is mainly founded on the sequence of events, and the explanation of how such sequence was not only possible but to be expected.

3. I regret exceedingly that the Surgeon-General should have found occasion to discredit my general account of the soil in and in the vicinity of the south-east well. It will be apparent from the following that there has been a misconception on his part, and that his description applies to some well other than the one under notice (viz., the south-east well).

4. *South-east well.*—Depth of masonry steining of well built in red soil 10 feet. This steining rests on "decomposed" (disintegrated) rock, which was soft enough to allow its being cut into a regular cylinder. No solid rock is visible at all.

5. If such evidence were not superfluous I might mention that the Superintending Engineer has inspected this well, and that he is of opinion that the steining has been broken in by the action of sub-soil water, and that there can be no doubt that sub-soil water does gain admission into this well by percolation. As previously stated I have satisfied myself by pits dug in the garden that sub-soil water does drain apparently in the direction of the well, after a heavy shower of rain, at depths of 6 and 9 feet, and in none of the pits that I have dug outside have we come upon solid rock. In a saw-pit six feet deep in No. 3 block the sub-soil water drains in so rapidly that two men have to be engaged in baling it out with buckets to keep it under. A water level table kept by me shows unmistakably that the south-east well gained 7 feet of water after heavy rain, while the deep springs in some other wells were not touched.

6. In conclusion I would beg to assure the Surgeon-General that the valuable suggestions made in his remarks will receive my earnest and unremitting attention, particularly that in reference to the quality and quantity of food supply.

EXTRACT from letter, No. 32, dated 10th January 1885, from the Superintendent, Central Jail, Trichinopoly, to the Inspector-General of Jails.

2. In regard to the Surgeon-General's inquiry I beg to state that the subject of Burmese mortality has been previously considered, as will be apparent from the enclosures marked A and B. In obedience to your orders I have searched the hospital records and have gathered the following results:—

Burmese.

No.	Name.	DATES.			Diseases.
		Admitted.	Discharged.	Died.	
2000	Nga Tel	18th Aug. 1881	.. ..	29th Sept. 1881	General debility.
2471	Nga Kyelal	7th Sept. ..	13th Sept. 1881	.. ..	Ague.
1981	Loo	9th	21st .. ..	.. ..	Dysentery.
3915	Nga Isaac	27th	14th Oct. ..	.. ..	Do.
3916	Nga Isana	3rd Oct. ..	Do. .. ..	.. ..	Diarrhoea.
2257	Nga Kyanthan ..	Do.	5th Oct. ..	.. ..	Do.
2476	Nga Kealoung ..	14th Nov. ..	.. ..	15th Nov. ..	Cholera.
3613	Nga Lanloung ..	Do. .. ..	.. ..	14th	Do.
3915	Nga Isan	17th Nov. ..	.. ..	17th Dec. ..	Dysentery.
3916	Nga Esone	20th .. ..	.. ..	23rd Nov. ..	Cholera.
2475	Nga Ayee	21st .. ..	.. ..	21st	Do.
2477	Meayoung	6th April 1882	25th April 1882	.. ..	Bronchitis.
4947	Ya May	30th	11th May ..	.. ..	Diarrhoea.
2477	Meayoung	30th .. ..	.. ..	12th June 1882	General debility and diarrhoea.
2003	Nga Kyanzan ..	12th May ..	9th June ..	.. ..	Dysentery.
2257	Nga Kyanshaw ..	3rd July ..	12th July ..	.. ..	Diarrhoea.
2255	Nga Tha	4th Aug. ..	15th Aug. ..	.. ..	Dysentery.
2254	Nga Tha Wah ..	19th	23rd .. ..	.. ..	General debility.
2474	Ngha	Do.	Do. .. ..	.. ..	Do.
2255	Ngatha	4th Sept. ..	.. ..	8th Oct. ..	General dropsy and diarrhoea.
2251	Nga Nee	7th	19th Sept. ..	.. ..	Albuminaria.
2258	Cuppa	14th Nov. ..	.. ..	27th Nov. ..	Dysentery.

Whereas the general mortality of the whole jail during the months noted was 237 out of an average population of 924, showing a death-rate of 25.5 per cent., that of the Burmese was 9 out of an average population of 25.5, showing therefore an excessive death-rate of 36 per cent.

(Signed) W. O'HARA, Surgeon,
Superintendent, Central Jail.

From Surgeon A. N. ROGERS-HARRISON, in Medical charge, Central Jail, Trichinopoly, to the Superintendent, Central Jail, Trichinopoly, dated Trichinopoly, 30th June 1884, No. 49.

With reference to your letter, No. 599, dated 24th instant, I have the honor to submit a statement showing cause of death of the five Burmese that occurred in this jail in 1881-82.

2. The records of the hospital show that they died mostly from the same symptoms as the majority that died in the same years.

From Surgeon W. O'HARA, Superintendent, Central Jail, Trichinopoly, to the Inspector-General of Jails, dated Trichinopoly, 4th February 1885, No. 109.

4. With regard to paragraph 13 the Surgeon-General considers that my statement to the effect that the Burmans in the jail suffered in the same ratio as the other prisoners, although they did not partake of the suspected food, will not bear investigation. This subject has on the requisition of the Surgeon-General been most carefully inquired into, and it has been conclusively proved that not only did the Burmans die in the enormous proportion of 36 per cent. as

Enclosure B.

against 25.5 of the others, but that their symptoms were in the main like those of the majority who succumbed during this unusual mortality.

5. Respecting the contamination of the hospital well I cannot undertake to say more than that it has not been free from sources of impurity (since my arrival I have prevented some of the worst), but to those who are acquainted with its position, and with the facts that the storm water from a large receiving surface of the jail overflows the drains and stagnates in its vicinity, that the sub-soil water is within 4½ feet from the surface, and that the soil is absorbent, its contamination will not be surprising.

Order—dated 21st March 1885, Mis. No. 767, Judicial.

The letter of the Inspector-General of Jails read above, together with its enclosures, will be communicated to Dr. Cornish for early remarks.

2. Sanction is accorded for entertaining a temporary surveyor on Rs. 60 per mensm for the purposes specified in paragraph 6 of the Inspector-General's letter.

(True Extract.)

(Signed) E. F. WEBSTER,
Chief Secretary.

To the Surgeon-General with the Government of Madras, with original enclosures, and copy of G.O., dated 21st January 1885, No. 165.

Inspector-General of Jails.
Accountant-General, with Inspector-General's letter.

READ—also the following paper:—

From Surgeon-General W. R. CORNISH, F.R.C.S., C.I.E., Surgeon-General with the Government of Madras, to the Chief Secretary to Government, dated Fort St. George, 23rd March 1885, No. 171.

With reference to order of Government, as per margin, I have the honor to state that until the work alluded to in para-

Mis. No. 767, dated 21st March 1885. graph 6 of the Inspector-General of Jail's letter, dated 16th February 1885, has been carried out, the question of contamination of the well waters in the Trichinopoly jail cannot be profitably discussed.

2. Dr. O'Hara's explanations regarding the circulation of his memorandum may I think be accepted. No one doubts the zeal and earnestness of this officer in the discharge of his duties, and it is most satisfactory to know that under his administration the health of the prisoners in the jail has so much improved.

3. My reason for stating that the memorandum has been circulated was that an officer of Government in the course of conversation informed me that he had read it.

ORDER—dated 21st April 1885, No. 1035, Judicial.

In view of the importance of the questions raised in the papers read above, the Right Honorable the Governor-in-Council resolves to request the gentlemen noted in the margin to form themselves into a committee for the purpose of instituting inquiries into the whole matter, and reporting their opinion to the Government.

(True Extract.)

E. F. WEBSTER,
Chief Secretary.

To the Surgeon-General with the Government of Madras.
 „ Inspector-General of Jails.
 „ Sanitary Commissioner for Madras.
 „ Superintending Engineer, VI Circle, through Public Works department.

Exd. J. Wright.