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MADRAS RECORD OFFICE.

Government of Madras.

Public DEPARTMENT.

G.O. No. 1515	Press Mis.
Dated 23-11-	1870 19

Not to be folded or roughly handled

1/5/37

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*Proceedings of the Madras Government, Public Department,
23rd November 1870.*

No. 119. Read the following Proceedings of Government in the Military Department:—

Passing orders on a letter from the
Adjutant-General, forwarding abstract
return of sickness and mortality } (Dated 26th October 1870, No. 3084).
amongst the Native Troops of this
Presidency for the year 1869.

No. 120. ORDER THEREON, 23rd November 1870, No. 1515.

The remarks made by the Deputy Inspector-General, Southern District, regarding the neglected state of the drainage of the Fort and Town of Trichinopoly, will be referred to the President of the Municipal Commission for early report as to the measures they propose taking for removing the surface drainage which formerly found its way into the Fort ditch.

(True Extract.)

Chief Secretary.

To the President of the Municipal Commission, Trichinopoly.

Exd. J. Wright.

Proceedings of the Madras Government, Military Department.
26th October 1870.

Read the following papers :—

No. 449. From the Adjutant General, to the Secretary to Government, Military Department; dated Head Quarters, Ootacamund, 24th September 1870, No. 462.

I have the honor, by order of the Commander-in-Chief, to forward, for submission to the Right Honorable the Governor in Council, letter No. 220, dated 9th September 1870, from the Inspector General, Indian Medical Department, with abstract return of sickness and mortality in the Native Army of this Presidency, for the year 1869.

From the Deputy Inspector General, Indian Medical Department, Presidency and Northern Districts, for Inspector General, Indian Medical Department, to the Adjutant General; dated Fort Saint George, 9th September 1870, No. 220.

I have the honor to submit, for the information of His Excellency the Commander-in-Chief, the annual abstract return of sickness and mortality in the Native Army of the Madras Presidency, for the year 1869.

2. The health of the troops was less favorable than in 1868, but it is satisfactory to state that they suffered much less from sickness than the general population, amongst whom epidemic disease was extensively prevalent.

3. Cholera was epidemic in all the Divisions except Mysore and the Northern; but notwithstanding this, the Army enjoyed a most remarkable immunity from the disease. Commencing in the north at Kamptee it travelled southwards, along the centre of the Peninsular, through Hyderabad and the Ceded Districts. Here it avoided Mysore, and advancing by Gooty and Cuddapah, that is along the great stream of human intercourse by railway—reached the Carnatic. Late in the year it reached the Southern Division, and regarding the outbreak there the Deputy Inspector General remarks, that when “there is a full average rainfall during the north-east “monsoon, cholera almost invariably prevails throughout the Zillah of Trichinopoly.” In 1869 the rainfall there was considerably above the average. The total deaths from cholera during the year in the Native Army, only amounted to 43, a fact which may be partly accounted for by the superior sanitary conditions under which the sepoy, as compared with the native civil population, is obliged to live.

4. Some of the Corps in the Mysore Division suffered considerably from intermittent fever, more especially the 8th Native Infantry at Mercara. The prevalence of the disease in this regiment is attributed chiefly to the effects of the climate of Coorg, on men whose constitutional vigour had been impaired by the relaxing influences of a residence in Singapore, from which they arrived early in the year. Malarious fevers were also very prevalent amongst the Madras Regiments serving in the Saugor Division.

5. Diseases of the miasmatic class were, as usual, the most prevalent and fatal. The admissions under the first sub-division of general diseases formed more than one-half of the total sickness. This group includes cholera, small-pox, and fevers, but the admissions were almost entirely due to diseases of the last named type.

6. The average strength of the Army during the year was 30,149, while the admissions into hospital numbered 23,684, being 859 in excess of the number recorded in 1868.

7. The mortality during the year was in excess of what took place in 1868, the total deaths having been 362 in the former, and 289 in the latter period.

8. On comparing the general health statistics of the year under review with those of the preceding one, it appears, that during 1869, there was an increase in the per-centage of sickness and of deaths to strength. The actual numbers, in each year, were as follows :—

	1868.	1869.
Per-centage of admission to strength...	76.7	78.55
Do. of deaths do. ...	0.9	1.20

Vol. of 1870 Madras

PUBLIC.

To
THE PRESIDENT OF THE
MUNICIPAL COMMISSION,
Trichinopoly.

Dated November, 23rd.

Recd.

Encl.

G. O., 23rd November 1870, No. 1515.

NOVEMBER.
Nos. 119-120.

Referring to the President the remarks made by the Deputy Inspector-General, Southern District regarding the neglected state of the drainage of the Fort and Town of Trichinopoly for early report to the measures the Commissioners propose taking for removing the surface drainage which timely found its way into the Fort ditch.

Extracts from Annual Sanitary Reports of Deputy Inspectors General of Hospitals on the health of troops serving at the close of the year in the Division.

PASSEMPUR.—"Intermittent fever of which 326 cases are herein recorded, 173 were admissions in the hospital of the 28th Regiment Native Infantry, stationed at Vellore. It prevailed in this regiment most of the year, especially in the cool months, and is attributed to the Corps' previous residence in the malarious station, Kurnool."

SOUTHAM.—"Though the first-half of the year was hotter than usual, this circumstance does not appear to have had any deteriorating influence on the health of troops of the district."

"Since the advent of the north-east monsoon, however, which has been accompanied by an unprecedented heavy rainfall, the health of the community and of the men of the various regiments, stationed on the eastern side of the Peninsula, has been, when compared with the previous portion of the year, and with the same period for a few preceding years, somewhat unfavorable and unsatisfactory. Fever, rheumatism, bronchial and catarrhal affections, diarrhoea and dysentery have been more than usually prevalent. To these may be added the appearance of cholera, to a small extent, among the troops at this place, and in an epidemic form among the population, during the last half of December. The diseases first mentioned may be fairly attributable to the sudden fall of temperature, and to the attendant hygrometrical atmospheric change during the period adverted to."

"In regard to the appearance of cholera, which is noted to have been epidemic in a portion of the Coosery talook, (Trichinopoly District) since the end of October, and at this station since the December, it may be observed, that when there is a full average rainfall during the north-east monsoon, cholera almost invariably prevails throughout the Zillah of Trichinopoly, and it has, under the circumstances mentioned for the period adverted to, been always notably prevalent at this station from some time in December, occasionally sooner, and continuing until the end of February. Disease commences most frequently at Strassungum, when the annual festival is held there, or in the fort at this place. The site of the latter is peculiar, being about the lowest portion of the entire station. In consequence, the surface drainage of the eastern water-shed of this portion of the district is towards the fort, which includes the town, and in that locality accumulation of water is inevitable, from the fact of there being no sufficient means of outward drainage. The filling up of the fort ditch has been recently partially effected, and this procedure would unquestionably have been an act of good conservancy, had provision been made for the drainage and sewerage of the locality formerly received by the ditch. Diverting the liquid refuse of the town, and the rainfall water to a distance formed the most important portion of the scheme of improvement. Yet strange to say, it had never been taken into due consideration. This omission on the part of the Municipality has instituted apparently a greater for a lesser evil. The two operations should have been simultaneous, that is, should have proceeded *'pari passu'*—at the present time no sufficient sewerage or drainage exists. How far such a state of things may be operative in perpetuating the causation of cholera, of an endemic nature, at and around the Fort, where it has prevailed perennially in that form at the season under advertence, is a subject which deserves careful consideration and enquiry. The mistake under reference was twice brought to the notice of the Collector of the District, (President of the Municipality) in October last, who terminated the correspondence with this office by stating that the work suggested was one of great magnitude and extensive outlay. It is unmistakably a very important question, requiring for its solution the enquiry requested. It is to be feared that so long as the drainage and sewerage of the fort and town are left in the neglected state now pointed out, outbreaks of cholera amongst the inhabitants, and extending to the troops in the Cantonment will annually occur in a greater or less degree."

"At Palamcottah during and subsequent to the heavy rainfalls of the north-east monsoon, the Native troops suffered from catarrhal and bronchial affections, diarrhoea and dysentery. No case of cholera occurred."

"The Native troops at Quilon and Trichoor did not suffer in like manner."

"The sanitary improvements have been better drainage, filling excavations, maintaining the ground surface at all stations in a cleaner state. In view to the proper preservation of the latter

TABLE showing the ratios of sickness and mortality in the several

DIVISIONS.	PRESIDENCY.				SOUTHERN.				MYSORE.				CEDED DISTRICTS.				HYDERABAD.				NAGPORE.				NOR.		
	3151.				2788.				5247.				2492.				2697.				3073.						
	Average strength.		Per cent. of		Per cent. of		Per cent. of		Per cent. of		Per cent. of		Per cent. of		Per cent. of		Per cent. of		Per cent. of		Per cent. of						
	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	
I. General Diseases																											
b-Division A.	448	4	14.21	.12	157	4	5.63	.14	739	10	33.14	.19	479	20	19.22	.80	1,306	12	48.42	.44	1,872	18	60.91	.58	1,053	11	
Do. B.	271	10	8.60	.31	139	2	4.98	.07	339	9	6.46	.17	179	2	7.18	.05	116	2	4.30	.07	219	2	7.12	.06	178	10	
II. Local Diseases.																											
1. Nervous system... ..	32	...	1.01	...	17	4	.60	.14	30	1	.57	.01	9	3	.36	.12	16	3	.59	.11	21	...	.68	...	18	2	
2. Diseases of the eye.	64	...	2.03	...	37	...	1.32	...	35	...	2.57	...	90	...	3.61	...	63	...	2.33	...	129	...	4.19	...	24	...	
do. ear.	13	...	.41	...	3	...	.10	...	1	...	.26	...	6	...	.24	...	1	...	.03	...	20	...	.65	...	3	...	
do. nose	...	...	...	...	...	...	...	...	3	...	.05	...	1	...	.04	...	7	...	.25	...	2	1	.06	.03	9	4	
3. Circulatory system	8	2	.25	.06	3	2	.10	.07	3	1	.05	.01	4	...	.16	...	5	...	.18	...	4	...	.13	...	...	...	
4. Absorbant	8	...	.25	...	1	...	.03	...	...	...	...	...	1	...	.04	...	...	...	...	...	1	...	.03	...	...	...	
5. Glands	1	...	.03	...	...	...	...	...	128	9	2.43	.17	51	2	2.04	.08	24	1	.88	.03	54	1	1.75	.03	41	4	
6. Respiratory system	63	5	1.99	.15	42	4	1.50	.14	615	10	11.72	.19	89	2	3.57	.08	126	4	4.67	.14	184	6	5.98	.19	22	1	
7. Digestive system... ..	183	11	5.80	.34	104	4	3.73	.14	43	...	.81	...	19	...	.76	...	24	2	.88	.07	43	...	1.39	...	9	1	
8. Urinary... ..	48	4	1.52	.12	22	...	.73	...	28	...	.53	...	10	...	.40	...	10	...	.37	...	13	...	.42	...	8	...	
1. Generative	31	...	.98	...	12	...	.43	...	24	...	.45	...	3	...	.12	...	2	...	.07	...	4	...	.13	...	44	...	
2. Locomotive	16	...	.50	...	7	...	.25	...	140	...	2.66	...	41	2	1.64	.08	49	...	1.81	...	74	...	2.40	...	139	1	
3. Cellular Tissue	54	1	1.71	.03	41	...	1.47	...	512	1	9.75	.01	192	...	7.70	...	133	...	4.95	...	273	...	8.88	...	...	...	
4. Cutaneous... ..	294	...	7.90	...	166	...	5.95	...	...	...	...	...	...	...	...	...	26	...	.96	...	32	1	1.04	.03	71	1	
III. Conditions.																											
IV. Poisons... ..																											
V. Injuries.																											
1. Battle	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
2. Accidental.	125	1	3.96	.03	123	...	4.41	...	266	2	5.03	.03	73	...	2.92	...	121	1	4.48	.03	152	...	4.94	...	44	...	
3. Homicidal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
4. Self-infliction	1	1	.03	.03	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	
5. Judicial	1	...	.03	...	1	...	.03	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
VI. Surgical Operations.																											
Not yet Diagnosed	4	...	.12	...	1	...	.03	...	1	...	.01	...	...	...	...	...	1	...	.03	...	1	...	.03	...	1	...	
No appreciable disease	...	...	...	...	...	...	...	...	1	...	.01	...	...	...	...	...	3	...	.11	...	...	...	...	...	...	...	
Total...	1,723	40	54.68	1.26	897	21	32.17	.75	1,181	47	79.68	.89	1,273	34	51.08	1.36	2,033	25	75.38	.92	3,101	30	100.91	.97	1,745	37	

N. B.—A Wing of the 15th Regiment Native Infantry at Banda is not included in the above.

divisions of the Army during 1869.

Divisions of the Army during 1869.

NORTH.		PEGU.				STRAITS.				BENGAL.				CHINA.				SAUGOR.				TOTAL.			
1864.		2660.				902.				630.				814.				2731.				30,149.			
Per cent. of		Per cent. of				Per cent. of				Per cent. of				Per cent. of				Per cent. of				Per cent. of			
Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.	Admitted.	Died.	Admitted to strength.	Died to strength.
35.52	6.05	704	282	26.46	10.60	488	110	54.10	12.19	209	50	33.17	7.93	141	51	17.32	6.26	3,611	138	132.22	5.05	12,207	2,072	40.48	6.87
37	33	6	6	22	22	1	1	11	11	1	1	15	15	2	2	24	24	34	1	1.24	0.03	120	48	39	15
60	94	29	36	1.09	1.35	9	23	.90	.54	8	8	1.26	1.26	8	4	.98	.49	11	56	40	2.05	208	669	.68	.21
11	30	10	4	.37	.15	6	1	.66	.11	3	2	.47	.31	1	1	.12	.12	10	3	.36	.10	89	6	.29	.01
30	13	4	3	.15	.11	1	1	.11	.11	2	4	.15	.63	1	1	.12	.12	2	2	.07	.07	47	29	.69	.09
1.38	2.66	79	361	2.96	13.57	24	240	2.66	26.60	33	37	5.23	5.87	28	151	3.48	1.47	61	183	2.23	6.70	628	329	2.08	7.80
74	30	43	16	1.61	.60	26	12	2.88	1.33	3	1	.47	.15	11	3	1.35	...	25	7	.91	.25	2,352	149	.49	.29
27	1.48	12	36	.45	1.35	8	21	.88	2.32	1	16	.15	2.53	17	38	2.08	4.66	5	225	.10	.18	88	538	1.78	.009
4.68	2.39	311	51	11.69	1.91	156	1	17.29	.11	70	6	11.11	.95	38	16	1.96	...	2	35	8.23	.07	2,509	484	8.32	.009
...	...	5	3	.18	.03	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24	3	.07	.009
1.48	...	165	1	6.24	.03	57	1	6.31	.11	12	...	1.90	...	15	...	1.81	...	63	1	2.30	.03	1,217	...	4.03	.02
11	...	1	...	.03	...	...	...	...	...	1	...	.15	...	...	...	...	...	3	...	.10	...	10	...	.003	.003
03	03	7	3	.25	.11	...	...	...	...	...	...	...	...	...	...	...	...	1	...	.03	...	16	...	.05	...
58.97	1.24	2,159	32	81.16	1.20	1,183	9	131.15	.99	464	7	73.65	1.11	482	13	59.21	2.21	4,440	62	162.57	2.27	23,684	332	78.55	1.20

bove Table, its return not having been received as yet.

9. A reference to divisional returns of sickness shews, that the per-centage of sickness to strength was greatest in Saugor, the Straits and Nagpore, and least in the Ceded Districts, and Southern and Presidency Divisions. The two last named divisions were also the healthiest in 1867 and 1868. In 1868 the per-centage of sickness was greatest in Nagpore and Hyderabad.

10. During the year under review, the proportion of deaths to strength was highest amongst troops serving in Saugor and China, and lowest amongst those located in the Southern and Mysore Divisions. In the preceding year the ratio of mortality was highest in Nagpore and the Northern Districts, and lowest in the Ceded Districts and Mysore.

11. In conclusion, I have the honor to submit extracts from some of the Annual Reports of Deputy Inspectors General of Divisions, bearing on the health and sanitary condition of the Army.

RETURN showing the sickness and mortality in hospital and invaliding in Her Majesty's Native troops in the Madras Presidency for the year ending 31st December 1869.

	Average strength.		Admissions into Hospital during the year.		Deaths from ordinary causes.		Deaths from cholera.		Invalided.	Ratio per cent. of ordinary deaths to strength.		Ratio per cent. of deaths by cholera to strength.		Ratio per cent. of deaths generally to strength.		Ratio per cent. of number invalided to strength.
	1869.	1868.	1869.	1868.	1869.	1868.	1869.	1868.		1869.	1868.	1869.	1868.	1869.	1868.	
Her Majesty's Native Troops	30,149	29,722	23,684	22,825	319	270	43	19	877	1.05	0.9	0.14	0.06	1.2	0.9	2.9

from fouling by ordure, I would urge the necessity of erecting public latrines at Palamcottah, Quilon and Trichoor. The drainage of the lines of the 9th Regiment Native Infantry at this place has been greatly ameliorated. The high compound wall of the hospital, which precluded adequate perfilation, has been thrown down to a height of a few feet, and the drainage of the compound improved. The defaulters' room at the place of arms of the 22nd Regiment Native Infantry at Palamcottah has been enlarged, but with a decrease to the dimensions of the quarter-guard room; it has also had additional means of ventilation inserted, viz., two barred windows. It remains to be stated that the quarter-guard room at the barracks or place of arms of the 23rd Regiment Light Infantry at Quilon is very defective in regard to extent of accommodation, even for the guard, whilst it may be mentioned that the defaulters are confined in the same room."

Mysore.—"It would appear, however, that with the exception of the prevalence of cholera to a moderate extent both in the Ceded Districts and Mysore, the state of the public health was good."

"At Bangalore diphtheria and typhoid prevailed for some months, the former principally amongst the civil residents, though some cases occurred amongst the European troops, especially in the Royal Horse Artillery, in which it shewed a tendency to cling; it did not, however, altogether spare the other European troops. The Lancers, European Infantry, (both 2nd, 19th and 3rd 60th Rifles) and the Batteries of Field Artillery had a few cases. The disease is in fact endemic in the place, and still shews itself amongst the troops in sporadic cases. It is doubtless associated with faults of conservancy, which are being rectified."

NATIVE TROOPS.—"The average annual strength of the Native troops within the circle of my superintendence is 7,740.2;—5,454 have been admitted into the different hospitals, 81 have died in hospital, and 54 out of hospital, total 135;—214.06 have been constantly sick, and 72 have been invalided, pensioned, or discharged on account of disease."

"The ratios (per mille) reduced from these figures are as follows":—

Died.	Sick to strength...	...	...	...	704.6
	In hospital...	...	...	...	10.67
	Out of hospital...	...	...	...	6.97
	Average daily sick	...	...	...	27.6
	Invalided, &c.....	...	...	...	9.3
					Total 17.57.

These rates are higher than those pertaining to the year 1868, in the aggregate, thus:—
Rates per mille of strength.

Years.	Sick.	Deaths in and out of hospital.
1868...	693.4	5.29
1869...	704.6	17.57

The death rate is very largely in excess and pertains most to deaths in hospital. This will be enquired into more fully when referring to particular stations and regiments. Separating the figures, so as to exhibit the results in the different districts, we obtain the following results:—
Rates per mille of strength.

Districts.	Sick.	DEATHS.		Average daily sick.	Invalided, Pensioned, &c., &c.
		In	Out		
Mysore...	998.8	9.24	9.92	39.5	1.6
Malabar and Canara.	499.2	8.84	5.65	21.5	29.6
Ceded Districts ...	510.7	13.64	4.41	18.0	1.6

*Proceedings of the Madras Government, Military Department,
26th October 1870.*

Individual regiments contribute the following statistics :—

Corps.	Strength.	Admitted.	DIED.		Average daily sick.	Invalided, &c., &c.
			In	Out		
Head Quarters, Sappers and Miners...	474.51	422	7	6	19.62	2
27th Regiment N. I. ...	708	709	3	1	24	2
39th do. do. ...	696	437	7	4	18	1
Rates per mille of strength.						
Head Quarters, Sappers and Miners...	88.3	14.73	12.65	41.3	4.2	
27th Regiment Native Infantry..	1,001.4	4.23	1.42	33.8	2.8	
39th do. do. ...	627.7	10.05	5.74	25.9	1.4	

Head Quarters, Sappers and Miners.—“The high sick and mortuary rate attaching to this Corps is due mainly to the shattered condition as to health in which the B. and K. Companies returned from Luckady, in the Wynaad, where they were decimated by fever, the effects of which continued to be experienced long after their return to Head Quarters.”

“But independent of fever the men suffered much otherwise. Disease generally was modified and masked by malarious taint.”

27th Regiment Native Infantry.—“During the year, the strength of the regiment has averaged 708. The admissions are 709, the deaths 4;—3 in and 1 out of hospital. These figures give the per mille ratios of admissions and deaths to strength respectively of 1,001.4 and 5.65;—4.23 of which is hospital mortality. These figures indicate a better state of health than in 1868, when the admissions equalled 1,160.5, and the deaths 7.1 per mille. The average daily sick for the year 1869 is 24; for 1868 it was 28.”

“The admissions by fever are still numerous, and the Medical Officer is disposed to attribute it to various causes, the most potent of which is considered to be the closeness of the lines, the smallness of the huts, the consequent over-crowding of the latter, and the imperfect drainage of the streets and court yards.”

39th Regiment Native Infantry.—“The average annual strength of the 39th Regiment is recorded at 696. The sick admissions at 437, and the deaths at 11, of which 7 occurred in and 4 out of hospital. One man only was discharged the service on account of disease, and 17 have obtained sick furlough.”

“These figures give the following per mille ratios” :—

Sick admissions to strength 627.7.

Deaths. {In hospital 10.05. } Total. 15.79.
 {Out of do, 5.74. }

“The death rate is more than double that of the 37th Regiment, while the admission rate is considerably lower. The average daily sick rate is 17½ against 24 in the regiment occupying the adjoining lines.”

“The seven deaths in hospital are recorded under chronic dysentery (1), intermittent fever (1), simple continued fever (3), bronchitis chronic (1), and atrophica (1).”

8th Regiment Native Infantry, Mercara.—“The 8th Regiment Native Infantry is a recent arrival in the Division from the Straits.”

“The average strength of the regiment for the year is returned at 537. The sick admissions are 1,230, the deaths 20,—8 in and 12 out of hospital, the average daily sick 47.5, and invalided, none. These figures give the following very high per mille ratio.”

Sick to strength 2,290.5

Deaths. {In hospital 14.8.9. } Total. 37.23.
 {Out of do. 22.34. }

Average daily sick 88.4

*Madras Government, Military Department, 7
26th October 1870*

d to have returned to India after its three years of foreign service d state, having suffered severely from Zymotic disease.” “It the Medical Officer, “at the commencement of the monsoon, when good deal of exposure to the inclemency of the weather.” railed were fevers, mostly of intermittent type, dysentery, and

to grant sick furlough very liberally, and the report states, that nitted to proceed to their native villages for periods of six and

Infantry, French Rocks.—“This regiment has also returned

f the regiment for the year is returned at 709. There were 323 leaths, 4 in and 8 out of hospital, and an average daily sick of on sick furlough, but none invalided or discharged the service on res give the following per mille ratios.”

ge annual strength 455.15.

us. {In hospital 5.71. } Total. 17.13.
 {Out of do. 11.42. }

/ sick 20.1.

marked contrast with those pertaining to the 8th Regiment also

The prevailing diseases experienced, since arrival at the French t fever, dysentery, and diarrhoea.”

“The average annual strength of the Native troops serving in this 123.2; the admissions into hospital 1060, the deaths 30, of which hospital; the average daily sick 45.7, and the “invalided” 63.”

following per mille ratios :—

age strength... .. 499.2

ital 8.48 } Total... .. 14.13
do. 5.65 }

... .. 21.5

l or discharged the service on account of disease. 29.6

ly with those representing the health of the troops in Mysore and

Infantry.—“The medical report speaks favorably of the general efers to the entire immunity from epidemic cholera enjoyed by it, e at this station. The 4, in hospital, deaths occurred from disease of and general debility.”

Infantry.—“The principal diseases experienced were “debility” suffered “terribly.” Dr. Busteed writes, from the latter in Burmah. om phthisis one, (on board ship) epilepsy one, primary syphilis one, sentery one. The out of hospital deaths are from asthenia one, oea one, phthisis one, one drowned, and one “unknown.” No

iment Native Infantry; half Battery Artillery.—“The regiment fair health, but the Medical Officer writes, that long residence in estern coast is beginning to tell upon the constitutions of the men. ness and mortality are moderate. The former 591.0, and the latter daily sick were 21.9.”

tillery also enjoyed fair health, though the death rate 17.9 in hospital r mille is also high; but the strength of the party is too small to admit Regiment.”

CEDDED DISTRICTS.—"The strength of the troops serving in the Ceded Districts has been 2,492.5, with 1,273 admissions into hospital, 45 deaths; 34 in and 11 out of hospital, 45.09 constantly sick, and 4 pensioned or discharged the service on account of disease."

2nd Regiment Light Cavalry.—"The health of this regiment has been remarkably good."

"There were two deaths one from remittent fever, the other from general dropsy."

16th Regiment Native Infantry.—"The average strength of the regiment is 662. The admissions 321, the deaths 17; 10 in and 7 out of hospital; the average daily sick 11.8, and invaliding nil. The regiment came to Bellary from foreign service in Burmah (at Tougloo) arriving by wings on the 19th of February and 28th March 1868."

"Referring to the epidemic of cholera, Dr. Summerhayes writes, "the only fact in connection with its occurrence that I was able to elicit almost conclusively, was its introduction into our lines, previously uncontaminated, by persons who had travelled through a district in which cholera prevailed. Having satisfied myself that such was indeed the case, I recommended a strict quarantine for periods of five or six days to be enforced upon all new comers from the infected district. Quarantine tents were pitched for this purpose. In all the cases of cholera which occurred afterwards, a connection was established in some way with the first case, excepting in one only."

"One sepoy died of cholera."

34th Regiment Native Infantry.—"The average strength of this regiment is 668, the admissions 292, the deaths 2 in hospital, and 4 out, total 6; the constantly sick 14.2 and the invalided 2."

C Company Sappers and Miners.—"The C Company Sappers, with an average strength of 109.5, had 100 admissions into hospital, an average daily sick of 4.5, without a casualty either in or out of hospital."

19th Regiment Native Infantry, Kurnool.—"This regiment arrived at Kurnool by wings in the earlier part of the year."

"The strength of the regiment has averaged 767, the admissions are 441, the deaths twenty, all in hospital; the average daily sick 10.41, and the invalided one. The admission ratio is 678.8 and the death ratio 26.07 per mille of strength; fifteen of the twenty deaths were by cholera, (out of twenty-eight treated or 53.57 per cent.) and the other five, by fever one, ague one, sun-stroke one, pulmonary extravasation one, hernia one, abscess of cellular tissue one."

NAGPORE FORCE. Native Lines.—"The sanitary condition of the Native Lines at Kamptee, Seetabuldee, Raepore, Hoshungabad, Seroncha, and Chanda leaves little to be desired."

Rations.—"There having been for the most part an average and in some places an abundant monsoon, the price of grain is much less than it was last year."

Water supply.—"Except at Raepore, the supply of water is every where abundant and good. For each of the regiments at Kamptee a well has been coped with masonry and walled, with orders that it will be specially reserved for drinking. I have recommended that the same be done at Seetabuldee. At Raepore the existence of a porous sub-soil presents an almost insuperable obstacle to the storage of water; moreover the water from the tanks percolates through under the bunds, and forms swamps in the vicinity of the tank where the ground is low. The tanks at this station are so little below the average level as to give the impression that they have no catchment area and contain little more than the rain that fell on the confined spaces of the tank. Last hot season many of the wells were deepened with what result remains to be seen."

Conservancy.—"The conservancy for the most part is admirable and leaves nothing to be desired. At Kamptee I am desirous of having the ordure utilized, instead of being thrown into filth pits."

Duties.—"At no station are the duties so severe as to be prejudicial to the health of the men, at most they are unusually light."

Hospitals.—"All the hospitals at Kamptee are well suited for their purpose and call for no remark; with that at Hoshungabad fault might be found, but not such that it would be worth while to spend money on it for its improvement. At Chandah the hospital is nearly large enough to hut the Company; at Seroncha nothing could well be worse in every respect than the hospital

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accommodation, but it is said that an hospital is to be commenced after the 1st April next. At Raepore an hospital has just been completed on the standard plan, and were it a matter of indifference, whether an hospital cost 30,000 or 50,000 Rupees, this building would meet with my unqualified approval; but when I find that other hospitals cannot be built for want of funds, I cannot but lament that so much money should have been expended with no adequate motive. I do not believe that the largeness of the expenditure incurred on this hospital will be the means of saving a single life, or of materially benefitting the health of the sepoys at this station."

From the table it will be seen, that although the number of deaths has diminished, the number of admissions has increased, owing almost entirely to the prevalence of fever in some of the stations, chiefly Raepore. But as the strength has diminished, the increase is greater than at first sight appears. In fact the admissions have been 1001.8 per thousand, last year to 854.1 in 1868, but while the deaths were at the rate of only 9.9 per thousand last year, they were no fewer than 15. per thousand in 1868. The deficient monsoon of 1868 appears to have reduced the number of paroxysmal fevers below the average. There are only 147 admissions from rheumatism in the average season of 1869 to 247 in the comparatively dry season of 1868, a circumstance at variance with prevailing opinion on the subject, there were however 283 in 1867. Ulcers were however 102 to 49, abscesses 70 to 40, and boils 33 to 33 in 1869 and 1868, respectively.

"No other disease appears to call for any remark with the exception of cholera. This disease invaded the bazaar in the middle of April and lasted to the middle of September, but at the end of May it apparently ceased as there were no deaths in June or in July until the 30th; altogether 182 fell victims to this disease. There were a few cases amongst troops."

"Vaccination is regularly practised among the families, &c."

"The following table shows the number of casualties in each regiment, and the diseases by which they occurred."

SAUGOR. 3rd Regiment Light Cavalry.—"The health of the regiment has continued good throughout the year, with the exception of the epidemic of malarious fever, with which it was visited at the beginning of the cold season. The type was chiefly intermittent. There was no peculiarity in any of the cases deserving special notice. A purgative or an emetic was promised when the state of the tongue or bowels indicated it, followed by a diaphoretic mixture, until the fever abated, when advantage was taken of the period of remission for the administration of quinine."

"Cholera was very prevalent in the months of May, June, July and August, both in the city of Saugor, the old and new Sudder bazaars, in the district, but the Cavalry, I am glad to say, was throughout singularly exempt from the disease."

"Seven deaths occurred "in hospital" during the year; two from remittent, and two from typhoid fevers, one dysentery, one splenitis, and one from hypertrophy of the heart."

"One death "out of hospital" from disease of the heart."

SAUGOR. 40th Regiment Native Infantry.—"Intermittent fever prevailed to a very great extent during and after the rains. The disease was very general throughout the district, but its predominance in the lines of the 40th is doubtless to be attributed to the ill chosen site of the lines. The number of admissions from this one disease alone was 1,047, while that from all other causes was 180. The deaths from it were ten."

JUBBULPORE. 21st Regiment Native Infantry.—"Among zymotic diseases, fevers have largely prevailed, intermittent and remittent especially, attributable in my opinion, to the station of Jubbulpore being situated in a kind of crater surrounded on almost all sides by low hills."

(True Extracts.)

(Signed) A. BLACKLOCK,

Dy. Inspr. Genl. Ind. Medl. Dept., Presy. and
Northern Dists., for Inspr. Genl. Ind. Medl. Dept.

No. 450. ORDER THEREON, 26th October 1870, No. 3084.

Communicated to the Right Honorable the Secretary of State for India, and the returns published in the Official Gazette.

2. The remarks made by the Deputy Inspector General of Hospitals, Southern District, regarding the neglected state of the drainage and sewerage of the Fort and town of Trichinopoly, will be referred to the Public Department, in view to the attention of the Municipal authorities being drawn to the necessity for the adoption of measures, to prevent or mitigate the spread of epidemic disease.

No. 451. *Docket to the Secy. to the Govt. of* } Here enter 26th Oct. 1870, No. 3085.
India, Mil. Dept.

(True Extract.)

 Major-General,

Secretary to Government.

To the Adjutant General.
,, Inspector General, Indian Medical Department.
,, Superintendent Government Press.
,, Public Department. *With 54 fine copies.*

1. 1. 1870

Govt. of 1870 Madras.

Public

The Dist. Muz. Comm.
Trichinopoly.

Dated Nov 23.

Recd.

Eng.

G. O. 23 Nov 1870, No. 100

Nos. 100, 101.

Referring to the Dist. Muz. Comm.
Report, the remarks made by
the Dist. Muz. Comm. Southern
District, regarding the neglected
state of the drainage of the
Fort & Town of Trichinopoly, and
to the measures the Comm.
propose taking for removing
the surface drainage which
formerly found its way into the Fort
Ditch.