

Balfour (Ed.)

CHOLERA.

ARE THERE TOWNS OR VILLAGES IN INDIA WHERE CHOLERA HAS
NEVER APPEARED FROM THE PERIOD OF ITS FIRST
OUT-BREAK IN 1817?

BEING

A SERIES OF LETTERS

FROM

Asst. Surgeon EDWARD BALFOUR,

In Charge of the Rt. Hon'ble the Governor's Body Guard,

TO THE SUPERINTENDING SURGEON,

PRESIDENCY DIVISION

OF

The Madras Army.



MADRAS :

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1852.

Madras, 10th December 1852.

From Assistant Surgeon EDWARD BALFOUR,
The Right Hon'ble the Governor's Body Guard.

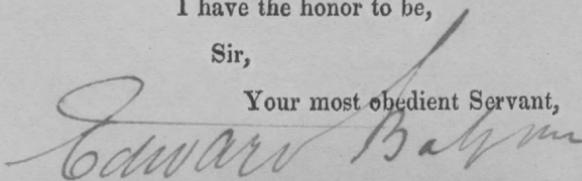
To

SIR,—Should the subject of the following letters be deemed by you worthy of being enquired into, I solicit you to fill up and transmit to me a return in the subjoined Form, with such additional information as you may be able to obtain.

I have the honor to be,

Sir,

Your most obedient Servant,



Assistant Surgeon.

Form of Return showing the names of Villages which have never been attacked with Cholera since its first out-break in 1817.

| Name of Village in which Cholera has never occurred. | Name of the Talook and Zillah in which the Village is situated. | Number of houses in the Village. | Number of inhabitants in the Village. | Have Troops ever marched through this Village. | Distance and name of nearest Village where Cholera has occurred. |
|--|---|----------------------------------|---------------------------------------|--|--|
| | | | | | |

CHOLERA.

Are there towns or villages in India where Cholera has never appeared from the period of its first out-break in 1817?, being a series of letters from Assistant Surgeon EDWARD BALFOUR, the Right Honorable the Governor's Body Guard, to the SUPERINTENDING SURGEON, Presidency Division, Madras Army.

SIR,—I have the honor to bring to your notice that there is an impression on the minds of many of the Natives of this country, as well as amongst many of ourselves, that, though Cholera has been occurring for the past 32 years, there are still some places where it has never appeared, although the villages and hamlets in their immediate neighbourhood have suffered on almost every occasion that the pestilence raged; and I think that, before the present generation pass away, it would be an interesting and might be a highly important matter to ascertain the number of these "refuge" villages, in order that the localities might be examined to observe if the soil, or rocks, or atmosphere around them differ in any respects from those of the neighbourhood where no such immunity has existed.

Collectors and Commissioners could readily obtain from the villages all the requisite information, without incurring any expense, and I solicit the favor of this letter being submitted through the Medical Board to Government, in the hope that the Board may recommend that returns may be called for in the annexed form.

(Signed) EDWARD BALFOUR, Asst. Surgeon,
the Right Honorable the Governor's Body Guard.

(Signed) F. GODFREY, Superintending Surgeon.

Madras, 28th February, 1849.

Form of Return showing the names of Villages which have never been attacked with Cholera since its first out-break in 1817.

| Name of Village in which Cholera has never occurred. | Name of the Talook and Zillah in which the Village is situated. | Number of houses in the Village. | Number of inhabitants in the Village. | Have Troops ever marched through this Village. | Distance and name of nearest Village where Cholera has occurred. |
|--|---|----------------------------------|---------------------------------------|--|--|
| | | | | | |

SIR,—I have the honor to acknowledge the receipt of the letter from the Medical Board of the 3d Instant, and, in reply, beg leave to mention that it is, at all times, difficult for a private individual to collect numerous statistical facts and if these have to be obtained from the villagers of India almost insurmountable obstacles are encountered when any person, except the Civil Servants of the Government, makes the attempt; but, notwithstanding these difficulties, a few facts had come to my knowledge which seemed to me sufficiently authenticated to justify me in forwarding my application of the 28th Ultimo, and in obedience to the Board's request that I should name a few exempted villages, I solicit the favor of your transmitting the following remarks.

2. It is now well known that Cholera has never prevailed to an equal extent in the different stations which our Troops occupy; but, on the contrary, that the ratio of the strength attacked with it has been extremely varied; and this difference has been observable as well between places which are near, as between stations remote from each other; and observable, too, as well amongst the European Soldiers as in the Native Army.

3. Indeed, when examining the tables in the Topographical Reports of this Presidency the attention is almost immediately arrested by the difference in the ratio of admissions from Cholera in places closely adjoining each other. It will be observed, for instance, that the Europeans stationed in Fort St. George from 1829 to 1838 had 28·03 per 1000 of their strength admitted from Cholera, while the Europeans at Poonamallee, 10 miles distant, had only 4·36 per 1000 of their strength admitted during the same period.

4. A similar difference is observable amongst the Europeans at St. Thomas' Mount, the European Horse Artillery, there, having had 13·36 per 1000 admitted from Cholera, in the 10 years from 1829 to 1838, while the European Foot Artillery, a few hundred yards off, had only 2·5 per 1000 admitted during the same years. And instances like these are so numerous that they may be arranged in the following tabular form.

7. And, when examining the Topographical report on the Neilgherry Hills, in the tables (pp. 41, 43, 46, 47, 48 & 49) embracing the period from 1826, to 1843, no case of Cholera is reported from the jail or among the European Soldiers, or the Officers, or their Wives, or Children, residing there; and, although it is rumoured that cases have occurred on the hills, since then, its long absence from the locality demonstrates the effect of physical circumstances in modifying the influence which gives rise to this disease.

8. In continuation of this subject I may mention that there is a Pindaree hamlet on the right bank of the Gutpurba river, about a mile to the westward of the village of Kulladghee, in which I have known Cholera to break out with great virulence, and it was told me that if Cholera appeared in any of the surrounding villages, it was almost certain to break out in that hamlet also:—But there is a village (*Angilkai?) about 500 yards to the westward of it, in which, the villagers assured me, only one case of Cholera had occurred up to 1842; and that, they said, was in the person of the potails brother or son; but, even in his case they stated that the disease had not been contracted in their village for he had been (to Bagracottah?) where Cholera was raging, and died the evening he returned. The villagers (of Angilkai?) ascribed this immunity to their strict observance of the worship of a hindoo deity at the eastern entrance of their village.

9. When passing through the hills between Naggery and Cuddapah, in 1845, Cholera was infecting nearly all the villages in the road, and it, naturally, formed a frequent subject of conversation, and I was, then assured that the people in the village of Nanarm? near Pootoor, in the Northern Division of Arcot, had always enjoyed a complete exemption from Cholera.

10. The only other instance that I can at present remember, came to my knowledge, in 1846, when I visited Ramunnalla, a hill about 3,100 feet above the level of the sea, that separates the Soondoor valley from the valley of the Tumboodra, nearly 30 miles west of Bellary.

The Natives on the platform of the hill are of the Bheder tribe, a branch of the Ramossee family, and have resided there for some generations.

They stated that only four deaths from Cholera had occurred in their recollection, and that all four had contracted the disease in the low country, and died on the day, or day following their re-ascent of the hill.

The absence of Cholera from the plat-form is remarkable because the villagers on the West and East of the hill, at Naglapoor, Hoospet, &c. suffer from it almost every year; and this exemption is not to be accounted for by the mere height of the hill, because Bangalore has a higher elevation above the level of the sea, and yet Cholera has repeatedly broken out there in a virulent, epidemic form.

11. In submitting the foregoing details, I am aware that the information, which the villagers furnished me with, may, possibly, have been given only to mislead, but the different rates at which our European and Native Soldiers have been attacked by Cholera, in adjoining localities, as shown in the preceding table, and its almost total absence from some places within a very short distance of others where it has extensively prevailed, naturally leads to the idea that there may be villages where it has never even appeared; and, if the names of these exempted villages could be ascertained, I think that the knowledge could be turned to great advantage. Indeed, even to ascertain that every hamlet, village and town, has suffered more or less from this fatal disease would be a very interesting fact; and, although we might not, in the present day, be able to turn this to much practical use, yet any addition

* Commonly called Annasawmy's village.

to the knowledge which we now possess regarding this inexplicable disease must be considered of importance, as it may aid us to unravel the mystery which now surrounds it; and when, as in the present instance, the information can be collected without entailing any expense, I trust that the Board will recommend that the enquiry be made.

(Signed) EDWARD BALFOUR, Asst. Surgeon, the Right
Honorable the Governor's Body Guard.
(Signed) F. GODFREY, Superintending Surgeon.

Madras, 19th March, 1849.

To the SUPERINTENDING SURGEON, Presidency Division.

SIR,

In continuation of my letters, I have the honor to report, for the information of the Medical Board, that I solicited Lieutenant General Fraser to favor me with information from the Nizam's Territories, similar to what I had sought, in my letters of the 28th February and 19th March 1849, to obtain from the Madras Presidency, regarding the existence of places in this Country where Cholera had never appeared, from the period of its first out-break in 1817.

2. Of the ten (10) Medical Officers, whose letters General Fraser has so obligingly favored me with the annexed copies of, the Board will observe that five *5 think that there is no exempted place, or know of none such; 1 (a) does not reply

*Officiating Superintending Surgeon R. Riddell thinks that there is not "any situation in the Nizams' Territories exempt from the attacks of the disease (Cholera) in some of its forms."

(b) Surgeon W. Thomson mentions "that a general belief exists, that the Cavalry Lines (at Aurungabad) has, hitherto, been exempt from Cholera, whilst it prevailed epidemically both in the city, Infantry Lines and Bazaars attached to the latter" "and can assert from personal knowledge that such was the case in the years 1837 and 1838 and so far he can ascertain, the exemption still (1850) continues."

(a) Surgeon W. McKenzie does not answer the particular question asked.

(b) Surgeon Morrogh has "made all possible enquiry in this (Wur-rungul) district, and, if the statements of the oldest inhabitants be correct, —Cholera has never been known at the villages of Timumpett and Cum-mapullee."

*Surgeon MacPherson writes "I am sorry to say I know of none" (meaning no exempted places.)

*Senior Surgeon J. Orr is not "aware of any locality that has never yet been visited by Cholera."

*Surgeon Primrose has "not been able to ascertain that there is any town or village in this (Hingolee) part of the country which has been exempt from Cholera since its appearance in 1817."

*Surgeon Bradley's investigations "show no locality laying claim to an immunity."

(b) Surgeon Walker, after stating that, in the Northern part of the Nizam's Telingana, the disease is notoriously of less frequent occurrence than in the Southern, and adding that "the locality (of the Beder district) has always had a character for salubrity" remarks as follows:

to the question he was asked; and the remaining 4 (b) specify six places or districts where to their own knowledge and according to the statements of the oldest inhabitants Cholera had either never been known to occur, or where a comparative immunity has been experienced.

I feel assured that the Board will coincide with me in regarding the information, which these letters contain, as of much value, corroborating, as they do, the views promulgated, in my letters of the 28th February and 19th March 1849, above quoted, that there are refuge places which have continued exempted from the ravages of Cholera during the whole of the 35 years that it has been prevailing in this country. After much reflection on the subject of this disease, it still appears to me that it would be of very great importance to discover all exempted sites, and then,

| | | | | |
|--|--|---|---|---|
| | * Exempted | { | Native Infantry Lines—Palaveram. | should the fact of their existence be definitely settled, send a scientific person to report on their physical features. In the mean time, further information might be collected regarding the exempted sites named on the margin,* the authority for regarding these as such, being given above and in the annexed copies of letters. |
| | | | Neilgherry Hills. | |
| | | | Angelkai?—West of Kulladghee. | |
| | | | Nanarm, near Pootoor in North Arcot. | |
| | | | Ramunmulla Hills, West of Bellary. | |
| | | | Cavalry Lines, Aurungabad. | |
| | Nearly exempted. | { | Timmumpett in Wurrungul. | |
| | | | Cummapully in Wurrungul. | |
| | | | Chikuldah Hills. | |
| | | | Poonamallee. | |
| | | | Foot Artillery Barracks, St. Thomas' Mount. | |
| | | | " " " " Secunderabad. | |
| | " " " " Trichinopoly. | | | |
| | " " " " Bangalore. | | | |
| | " " " " Northern part of Nizam's Telingana. | | | |
| | " " " " Beder District of Nizam's Dominions. | | | |

Should the Board deem this subject deserving of further investigation it would be a gratification to me to be authorized

Para 7. "Timmumpett a village in the sircar with its dependent hamlet of Cummulpullee, a small collection of huts situated about 2 miles to the North-East, bears, over the whole country, the reputation of never having been visited by Cholera; this, however, I have found not to be in strict accordance with fact; as, within the last twenty years, there have been three cases of the disease and as many deaths in the village and among its denizens—a brahmin child, a weaver, and a washerman, all occurring at a time when Cholera was epidemic; still, this comparative exemption is sufficiently remarkable more especially as villages in its neighbourhood have been literally desolated by the disease and that, several times during the period that this village has enjoyed this all but immunity from its attack."

(b) "Senior Surgeon Young reports that the Potal of Chikuldah, who is the oldest inhabitant of these hills, has stated that a case of Cholera has never, within his knowledge or recollection, been heard of on the range of mountains."

to carry it on, and I would suggest, as the mode of doing it, that permission be given to print this letter and to circulate it to whoever may be thought able to afford information on the subject of it.

EDWARD BALFOUR, Asst. Surgeon,
The Right Hon'ble the Governor's
Body Guard.

Body Guard, Hospital, Madras, 26th August, 1852.

Copy, No. 50 of 1850, Supg. Surgeon's Office, Bolarum,
15th May 1850.

From R. F. RIDDELL, Esq., Offg. Supg. Surgeon N. A.
To Major General J. S. FRASER, Resident at Hyderabad.

SIR,—I have now the honor to lay before you the various reports received from the Medical Officers named in the margin whom I addressed on the subject of your letter of the 9th Ultimo, "requesting to be informed if they were acquainted or heard of any places where Cholera, since its first breaking out in 1817, has never appeared."

Surgeon Thomson Auringabad.
Mackenzie Goolburgah.
Morrogh Warrungul.
McPherson Moninabad.
Orr Bolarum.
Primrose Hingolee.

Doctor Thomson seems to think that the Cavalry lines at Aurungabad have hitherto been exempt from the disease, when prevalent in the neighbourhood; this may have been the case at some particular period, but I remember perfectly hearing the same remark made when it had been previously reported to me that three deaths had recently occurred there.

I can only observe, as far as my own knowledge extends over a period of thirty years, after residing at all the principal stations marching, through the country, and from minute inquiries, that I have never heard, or do think there is any situation in the Nizam's territories, exempt from the attacks of the disease in some of its forms.

(Signed) R. RIDDELL,
Offg. Supg. Surgeon Nizam's Army.

(True copy.)

(Signed) GEO. JOHNSTON,
Major, Military Secretary.

From Surgeon THOMSON, 5th Regt. N. C. and Senior
Surgeon, Aurungabad Division.

To the Offg. Supg. Surgeon Nizam's Army, Aurungabad.

2d May, 1850.

SIR,—In acknowledging the receipt of your Circular Letter, No. 25 of 1850, with an Extract of a letter from Edward Balfour, Esq. to the address of Major General Fraser, I greatly regret my inability to reply more fully to an enquiry of so interesting a nature.

1. I made (through the Military Authorities) an application to the Soubah in the hope that some useful information might be obtained by his means from the Native Civil Authorities under his control, but found, in reply, that he had received instructions to institute an investigation of a similar nature and report the result.

2. In regard to the immediate vicinity of Aurungabad, I may mention that a general belief exists that the Cavalry Lines have hitherto been exempt from Cholera whilst it prevailed epidemically both in the City, Infantry Lines and Bazaars attached to the latter. I can assert from personal knowledge that such was the case during the years 1837-38 and, as far as I can ascertain (for there are no documents on the spot) this exemption has since continued; Cholera patients were admitted into Hospital during the two years already mentioned but they were cases of men returning from Command, &c.

3. The Cavalry Lines, as you are aware, are situated nearly a mile from those of the Infantry and are placed East and West, on the crest, and upper portion of a low ridge of undulating ground; which, from its natural slope on both sides, entirely precludes any lodgment of water. The Lines are, also, devoid of all vegetation (beyond some well cropt grass) and are thus free from two of the most powerful causes of malaria. In other respects there is no apparent cause for the exemption that I believe to exist.

4. Although not within the limits defined in your Circular, I may, considering the importance of the subject, be excused for adding that, during the three years the 5th Cavalry was stationed at Goolburgah, no case of Cholera originated in the Lines; and, from inquiries I made, I believe they were equally free from the date of their construction four years previously. Cholera had been prevalent many times during the eight years, both in the Town of Goolburgah and in the villages in the im-

mediate vicinity. The Lines, as here, are East and West, free from all vegetation, and the ground slopes sufficiently to admit of a natural drainage.

(Signed) W. THOMSON,

Senior Surgeon, Aurungabad Division.

(True copy.)

(Signed) GEO. JOHNSTON,

Major, Military Secretary.

—
No. 16 of 1850.

From Surgeon MACKENZIE, 4th Regt. Nizam's Cavalry.

To the Acting Supg. Surgeon Nizam's Army, Bolarum.

Goolburgah, 11th May, 1852.

SIR,—In reply to your Circular letter No. 26 of 1850, I have the honor to forward a statement, as furnished to me by the Naib of Goolburgah, of the several out-breaks of Cholera in this District since the first appearance of the disease in 1817.

Goolburgah, formerly the Capital of the Bahmanee Kings of the Deccan, stands in Lat. $17^{\circ} 20'$ N. Long. $76^{\circ} 54'$ E. on a ridge of trap rock. The soil of the surrounding country, so far as I have seen, is the common "Black Cotton."

I have, &c.

(Signed) W. MACKENZIE, Surgeon,

4th Regiment N. C.

(True copy.)

(Signed) GEO. JOHNSTON, Major,

Military Secretary.

STATEMENT of the several Out-breaks of Cholera, since its first appearance in 1817 in the City of Goolburgah and the neighbouring villages.

| Year | Season. | Duration of Disease. | Deaths. | Remarks. |
|------|-------------|----------------------|--------------|--------------------------|
| 1817 | Hot | 1½ month | 7 or 8 daily | |
| 1818 | Cold | 15 days | A few | |
| 1819 | Hot & rainy | 2 months | Hundreds | |
| 1820 | Hot | ..... | ..... | No Cholera in this year. |
| 1821 | Hot & rainy | Not given | Thousands | |
| 1822 | Cold | 1 month | A few | |
| 1823 | Hot | 1½ month | Thousands | |
| 1824 | ..... | ..... | ..... | No Cholera in this year. |
| 1825 | ..... | ..... | ..... | Do. |
| 1826 | Cold & hot | 2 or 2½ months | Thousands | |
| 1827 | Cold | 1 month | A few | |
| 1828 | ..... | ..... | ..... | No Cholera in this year. |
| 1829 | ..... | ..... | ..... | Do. |
| 1830 | ..... | ..... | ..... | Do. |
| 1831 | Cold | 15 days | Not given | No Cholera in this year. |
| 1832 | ..... | ..... | ..... | Do. |
| 1833 | ..... | ..... | ..... | Do. |
| 1834 | ..... | ..... | ..... | No Cholera in this year. |
| 1835 | Rainy | 1½ month | Thousands | Do. |
| 1836 | do | 15 days | A few | Do. |

| | | | |
|------|---------------------------------------|-------------------|-----------|
| 1837 | Cold & hot | 2 or 2½ months | Not given |
| 1838 | Cold | 1 month & 20 days | Many |
| 1839 | | | |
| 1840 | | | |
| 1841 | Hot | 1 month & 20 days | Many |
| 1842 | Cold & hot | 2 months | Many |
| 1843 | Rainy | A few days | A few |
| 1844 | Hot & rainy | 2 or 3 months | Many |
| 1845 | Cold | Not given | A few |
| 1846 | All the hot weather beginning of rain | 3 or 4 months | Thousands |
| 1847 | | | |
| 1848 | Rainy | Not given | Thousands |
| 1849 | | | |

No Cholera in this year.
Do.

{ The disease was exceedingly severe in this year many places deserted in consequence.

No Cholera in this year.

No Cholera in this year.

N. B.—By “cold and hot,” and “hot and rainy,” is meant that the disease commenced about the end of the first season and continued for a little while during the earlier part of the following.

(Signed) W. MACKENZIE, Surgeon,

4th Regiment N. C.

(True copy.)

(Signed) GEO. JOHNSTON, Major,

Military Secretary.

Goolburgah, 11th May, 1850.

No. 7 of 1850.

From Surgeon G. MORROGH, M. D., 3d Regiment Nizam's
Infantry, Wurrungul.

To the Offg. Supg. Surgeon Nizam's Army, Bolarum.

SIR,—In reply to your Official letter No. 26 of 1850, I beg to state that I have made all possible enquiry in this District, and if the statements of the oldest inhabitants be correct, Cholera has never been known at the villages of Timumpett and Cummapullee.

(Signed) G. MORROGH, M. D., Surgeon,
3d Regiment Nizam's Infantry.

(True copy.)

(Signed) GEO. JOHNSTON, Major,
Military Secretary.

Wurrungul, 4th May 1850.

From Surgeon MCPHERSON, M. D., 2d Regiment Nizam's
Cavalry, Mominabad.

To the Offg. Supg. Surgeon Nizam's Army, Mominabad.

17th April 1852.

SIR,—I have the honor to acknowledge the receipt of your letter No. 26 of 1850, forwarding an extract from a letter from Assistant Surgeon Balfour of the Madras Army, who is desirous to ascertain if there be any peculiar sites where Cholera has not appeared since its first out-break in 1817—and you call upon me to give any information I possess regarding the same.

I am sorry to say I know of none; Cholera has prevailed in every station I have resided in; nor does my own experience, or my enquiries from others lead me to expect that any non-Cholera site will be discovered.

(Signed) D. MCPHERSON, M. D., Surgeon,
2d Regiment Nizam's Cavalry.

(True copy.)

(Signed) GEO. JOHNSTON, Major,
Military Secretary.

No. 20 of 1850.

From Surgeon J. H. ORR, Senior Surgeon, Hyderabad Dn.

To the Offg. Supg. Surgeon Nizam's Army, Bolarum.

SIR,—I have the honor to acknowledge receipt of your letter No. 25 of date the 12th Ultimo, and in reply I beg to state for your information that neither myself or any of the other Medical Officers in this Division are aware of any locality that has never yet been visited by Cholera, and viewing it, which I do, as an epidemic disease, depending in a great measure on atmospheric influences, I am of opinion, that no place, whatever its situation, or locality may be, can be regarded as secure from attacks in some form or other of this scourge.

(Signed) J. H. ORR, Senior Surgeon,

Hyderabad Division.

Bolarum, 6th May 1850.

(True copy.)

(Signed) GEO. JOHNSTON, Major,

Military Secretary.

No. 6 of 1850.

From Surgeon G. F. H. PRIMROSE, 2d Regiment N. I.

To the Offg. Supg. Surgeon, Nizam's Army.

Hingoolee, 26th April 1850.

SIR,—I have had the honor to receive your letter of the 12th Instant with an extract from a private letter received from the Resident.

With regard to the subject of the above extract, from the Resident's letter, I have made enquiry in order to obtain the information desired—and have not been able to ascertain that, there is any town or village in this part of the Country, which has been exempt from Cholera since its first appearance in 1817.

(Signed) G. F. H. PRIMROSE, Surgeon,

2d Regiment Nizam's Infantry.

(True copy.)

(Signed) GEO. JOHNSTON, Major,

Military Secretary.

From Surgeon BRADLEY, on special duty.

To Major General FRASER, Resident at Hyderabad.

SIR,—I have the honor to acknowledge your letter giving cover to an extract of a private letter from Edward Balfour, Esq., to your address, and requesting any information I may be able to furnish on the subject it refers to.

In carrying on my statistical investigations, I have invariably made the prevailing diseases of the Country a special subject for consideration, the results of which, so far as I have hitherto proceeded, show no locality laying claim to an immunity from the attacks of Cholera, or at least what the Natives so designate. Should any exempted places fall under notice, I shall not fail in promptly reporting the circumstance.

(Signed) W. H. BRADLEY, Surgeon, on special duty.

(True copy.)

(Signed)

Offg. Asst. Resident.

Camp Mulcapoer, April 23d, 1850.

To Major General FRASER, Resident at Hyderabad.

From Surgeon WALKER, on special duty.

SIR,—On my arrival here I had the honor to receive your letter of the 9th of April with its enclosure from Dr. Balfour respecting the discovery of certain localities where Cholera has never been known to prevail.

2. I am on the eve of starting to examine a village in this sircar where it has been reported to me the disease has never existed—I shall not fail to report to you the result of my investigation and to state precisely the condition of the village and of the neighbouring country—the name of the village is Timmapett to the eastward of this place at a distance of twenty-five miles—another village in its vicinity bears the same character and these are the only two in this sircar that do so.

(Signed) A. WALKER, Surgeon, on special duty.

(True copy.)

(Signed)

Offg. Assistant Resident.

Wurrungul, 13th May 1850.

From Surgeon A. WALKER, on special duty.

To Major General J. S. FRASER, British Resident, Hyderabad.

SIR,—I have the honor to state that, since writing to you on the 14th Instant regarding the alleged exemption of two villages in this sircar, from the invasion of Epidemic Cholera, I have visited these places and shall now give the results from my enquiries and observation made on the spot. Previous to doing so however permit me to state some facts of a general nature respecting the disease, with reference to the geological structure and nature of the soil where it appears in the southern part of the Hyderabad country.

2. The Nizam's Territory to the south of the Godavery and Manjera may be divided for such a purpose as the present into the 1st granitic tract ; 2d the black soil country ; 3d the sand-stone ; 4th the laterite.

3. Respecting the first, which is by far the most extensive, the soil covering the rock would seem for the most part to be composed of the debris of rock itself decomposed in situ. On this tract fearful outbreaks of the disease have occurred : of this the City of Hyderabad has given too many examples and it was while marching over this Country in 1844 that the 11th and 42d Madras Native Infantry suffered so severely from the epidemic. The first of these Corps proceeding to the westward towards Masulipatam and the other to the southward towards Madras. Other instances of Regiments marching through these Districts being devastated by Cholera might be cited. In the northern part however of the Nizam's Telinganah, the disease is notoriously of less frequent occurrence than in the southern ; there, a period of five, six or even seven years has been observed between its aggressions. The only very marked circumstance of difference between the condition of the two sections is that there is a good deal of merchandize and many travellers that pass through the South while the roads of the North are comparatively speaking but little frequented. The population of both tracts in density and condition is nearly identical.

4. 2d, The black soil country comprehends the greater part of the Doab between the Kistnah and Tomboodra, a large portion of the Mulkair Sircar and the northern Division of the Shorapore state. The sub-jacent rock here is partly granite, partly limestone and partly trap. In these districts Cholera is very prevalent appearing usually once a year either at the Dussarah or in the hot weather, the population here is much denser than in the granitic soil. The villages have high walls of limestone or brick surrounding them ; are situated on loamy flats which would render proper sewerage difficult even were it attempted

which it never is. There is a good deal of traffic too in these districts. This soil is in some parts saliferous yielding not only subcarbonate of soda but common salt—a tract twenty-five miles east of Shorapore is of this nature where there are several brine wells which afford very good culinary salt. At one of these villages, where I observed this salt to be particularly pure and where it was to be had for about a farthing a pound, I found that the inhabitants were as subject to the attacks of Cholera as their neighbours. The village was small not containing above fifty houses and I learnt that while Cholera was last in the country there had been thirteen deaths.

5. 3d, The sand-stone country of the Godavery—a district extending in the Nizam's country West and East from the neighbourhood of Peddapully in the Ramgeer Sircar to Paloucha, and North and South from Chinnoar to the Pakhal lake, is covered by a soil almost entirely of sand on which a forest jungle is rooted. The population here *So in the original. is very sparse.* In some districts as in the Koorwah purgannah of the Warrungul Sircar, not amounting to more than two or three inhabitants to the square mile. The Natives have a notion that this Koorwah country is in a great measure exempt from Cholera and it is very possible that some of the miserable hamlets of its inhabitants the Koorwars may have been passed over by the epidemic when it was desolating the adjacent more populous districts. On making enquiries however I found that every collection of huts worthy the name of a village was subject to the general scourge; indeed it would be strange that one of the most unhealthy tracts in the Deccan should enjoy any such general immunity.

6. 4th, The laterite of Beder and the adjoining districts. The soil is here of a black and red clay and the locality has always had a character for salubrity. In 1847 while at Beder I was informed that during the epidemic of the previous year the few cases that occurred there were chiefly confined to parties who had come to Beder from the direction of Kulburgah or Hyderabad. I regret that at present I have no means of verifying or extending this information but I deem it worthy of note as suggestive of further investigation.

7. Timmumpett a village in this sircar with its dependant hamlet of Cummulpully, a small collection of huts situated about 2 miles to the North-East, bears, over the whole country, the reputation of never having been visited by Cholera, this however I have found not to be in strict accordance with fact; as within the last twenty years there have been three cases of the disease and as many deaths in the village and among its denizens—a brahmin child, a weaver and a washerman, all occurring at a

time when Cholera was epidemic; still this comparative exemption is sufficiently remarkable, more especially as villages in its neighbourhood have been literally desolated by the disease, and that several times during the period that this village has enjoyed this all but immunity from its attack.

8. Timmumpett is situated 18 miles almost due East of Wurrungul and within a distance of ten miles of the Pakhal lake which lies to the West.

By Thermometric admeasurement its height is about 1500 feet about the sea level. It is built in a circular plain slightly elevated towards the centre where the village stands. The houses are of mud, wattle, and dab, or simply of posts of wood with walls and thatch of palmyra leaves. A square martells tower of sun-dried bricks rises in the middle of the village. The soil to the East is a thin sandy loam containing little vegetable or soluble matter with a dash of lime as is evinced by its effervescence with acids. The soil to the West is more sandy. It has one small tank in its immediate neighbourhood to the North East under which rice is cultivated and another much larger about two miles off in the same direction on the margin of which stands the hamlet of Cummulapully. Sienitic rock of the usual ingredients quartz, felspar and hornblend outcrops in several parts. It is a hard grey rock with quartz predominating rendering it less susceptible of decomposition. Some fragments of green-stone and reddish sienite are found scattered about. It is ten miles distant from the nearest sand-stone. There are several pukkah built wells in the village drawn by yatams but the water of these being brackish is not used for drinking or cookery, the supply for such purposes being taken either from a well to the South of the village but principally in the hot weather from the distant tank; the well at that period becoming dry. The drinking water I procured when at Timmumpett on the 25th of this month deposited, after a couple of days' rest, a little muddy sediment, and, on eight ounces of it being evaporated, a scarcely appreciable quantity of soda salt. The circular plain about the village is of the diameter of half a mile and here dry crops are cultivated, chiefly Indian corn and a pulse called the rala moong; this space is enclosed by a tree jungle composed chiefly of the palas (*butea frondosa*) a tree called the premna *intregrifolia* and stunted ebony, the last most abundant in the jungle on the Wurrungul side, besides these trees there grow the cluytia collina, the terminalia bellerica, the cassia fistula and a common species of bignonia with underwood of the trophis aspera, monetia barlerioides and wild date; the palmyra tree over-looking the whole forest. The rude and careless agriculture of the villages is shewn by such shrubs as the cassia auriculata and the

zizyphus exiqua growing up to the very borders of the village. From the Wurrungul side the approach is by a road for carts which as soon as it emerges from the jungle about two furlongs from the village divides itself into three; one leading direct to Timmumpett, another, the Southern road to Pakhal, skirts the jungle leaving the village about 150 yards to the left, while the third to Madanapett runs about the same distance to the North. From the Eastern side no road leads to the village. This distribution of the roads is to be noted, for as soon as Cholera is heard of the village road is forthwith blocked up with trees and thorn bushes. The Dhers get up on the watch tower and warn off by signs all carts and wayfarers from approaching the precincts of the village and pointing out the road to the right or left. To this circumstance and to the protection of the Lion-headed Avatar of Vishna Nursinga, to whom a mean temple has been erected, the population ascribe their deliverance from the pestilence.

9. The number of houses in the village is as follows.

| | |
|--------------------------|----|
| Brahmins | 5 |
| Koonbees | 27 |
| Coolies | 15 |
| Low caste Telingees..... | 15 |
| Weavers | 9 |
| Other Artisans | 5 |
| Washermen | 3 |
| Religious beggars..... | 6 |
| Dhers | 8 |
| Kullals | 6 |

Total. 99

10. According to the usual house average this will give about 470 inhabitants, besides these there are some Dhungurs who look after cattle but live chiefly in the jungle. The cattle belong to Zemindars in the surrounding districts and are sent to graze in the forest during the hot months. There is often a murrain among them—fever, rheumatism and guinea worm are common diseases among the inhabitants; the joowarree which forms the staple of their food is procured from other villages as is also thour, neither is grown on the lands of Timmumpett. No very favorable estimate of their sobriety is to be drawn from the number of Kullal's houses.

(Signed) ALEX. WALKER,
Surgeon on special duty.

(True copy.)

(Signed)

Wurrungul, 29th May 1850.

Offg. Asst. Resident.

No. 55 of 1850.

Supg. Surgeon's Office, Bolarum,
27th May 1850.From Offg. Supg. Surgeon R. F. RIDDELL, Nizam's Army.
To Major Genl. J. S. FRASER, Resident at Hyderabad.

SIR,—I have the honor to forward a report received this day from Senior Surgeon S. A. G. Young, of the Ellichpoor Division on the subject of your letter of the 9th ultimo.

(Signed) R. RIDDELL, Offg. Supg. Surgn.
Nizam's Army.

No. 16 of 1850.

From the Senior Surgeon Ellichpoor Division.
To The Offg. Supg. Surgeon Nizam's Army, Bolarum.
Ellichpoor, 21st May 1850.

SIR,—In reply to your circular letter No. 25 of the 12th ultimo, I have the honor to inform you that the potail of Chikuldah, who is the oldest inhabitant of these hills, having been there for the last 60 years, has stated that a case of Cholera had never, within his knowledge or recollection, been heard of on this range of mountains. I may however observe that a bearer, who came a few days since from Nagpoor, went to Chikuldah, and almost immediately after his arrival there, was attached and carried off in a few hours by Cholera; but as this was an isolated case, and the man had just arrived from another part of the country where the disease was prevalent, it is very evident, he had contracted it before he reached these hills.

I have &c.

(Signed) S. A. G. YOUNG, Senior Surgeon,
Ellichpoor Division.(Signed) R. RIDDELL, Offg. Supg. Surgeon,
Nizam's Army.

(True copy.)

(Signed)

Offg. Asst. Resident.

(True copies of copies.)

EDWARD BALFOUR, Asst. Surgeon,
The Right Hon'ble the Governor's
Body Guard.

Body Guard Hospital, Madras, 25th August 1852.

