

REPORT

TO THE

RIGHT HON. LORD PANMURE, G.C.B., &c.,

MINISTER AT WAR,

OF

THE PROCEEDINGS OF

THE SANITARY COMMISSION

DISPATCHED TO

THE SEAT OF WAR

IN

THE EAST.

1855—56.

*Presented to both Houses of Parliament, by Command of Her Majesty.
March 1857.*

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Directions to the Binder.

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FIG. 6.



CROSS SECTION

HUTS AS THEY SHOULD BE. RIDGE VENTILATED AND PROJECTING EAVES

Recommendations for improving Huts.

127

a second board, as had been done at the Castle Hospital. Side spaces to be opened in the walls of the huts, and protected by hinged or sliding shutters, of which there were examples in the Second Division.

9. To obviate the necessity usually alleged for banking up huts with earth outside, a practice most injurious to health, the huts to be lined inside about three feet in height from the floor, to prevent the wind blowing on the heads of the men. In hospital huts external seats to be provided for convalescents.

10. All huts to be lime-washed externally.

11. Should fever or cholera occur, the numbers in each hut to be reduced, and if the surrounding subsoil be wet, the site should, if possible, be changed.

12. Projecting eaves-boards would reduce the temperature within the huts during hot sunshine.

Fig. 6 shows the full ridge ventilation, and projecting eaves recommended for huts, as they should be.

The hospital huts which were at the time being erected for the Naval Brigade above Cossack Bay, according to the recommendations of the Commission, presented all the necessary improvements, and were recommended as examples.

Existing huts in various parts of the camp were also being improved, the labour for which had been found by commanding officers of regiments.

On the same date on which the suggestions for improving the huts were drawn up, other general recommendations, to be put in force wherever and whenever it might be necessary to do so, were also transmitted to Lord Raglan. They were all required in some part or other of the camp, but such cases were exceptional. The cases, however did exist, and to that extent the health of the army was liable to suffer, and it was part of our duty to deal with them.

We recommended:—

1. That all those parts of the camp where dead animals or offal have been buried, be examined from time to time, and wherever any offensive odour is perceptible, or wherever any animal remains are exposed, a quantity of charcoal be strewed over the whole surface, and an additional foot or more of earth be placed over such remains.



N. TOPOGRAPHICAL SKETCH OF THE ALLIED OCCUPATION BEFORE

Light Division.
 Balaklava
 & Railway Commissariat.

French Camps
 Guards Camp

Inkerman Heights
 Inkerman Lighthouse West
 Inkerman Lighthouse East
 EASTERN EDGE OF THE PLATEAU

FRANCE CAMPS

Summit of Canroberts Hill
 Edge of Redoubt with French Camps

Sardinian Observatory

Sardinian Camps.

Canroberts Hill.

Baidar V.

Samara

PLAIN OF BALAK

10. *Disputed volcanic rocks* form the vast picturesque masses of Upper Rann Georgian. They underlie the upper and lower tertiaries there, and they protrude themselves at intervals among the Jurassic limestones and schists along the south coast of the Crimea to the eastward.

No. II.

NOTES ON FOOD AND DRINK, CANTINA, &c.
By DR. MALLO.

Food and Drink

The supplies were, and had been for many months, abundant. Fresh meat was served out three or four times a week, and vegetables, fresh and preserved, were liberally supplied. A pound and a-half of flour, bread, or a pound of beans, was the daily allowance to each man. The former was always eaten; much of the beans was not, and was thrown away. The ration of salt meat, too, was excessive, and consequently the fresh always was. There was, however, not enough of the fresh always; from the hands, fish, &c., of the slaughtered animals not being used.

Two ounces of rice, and the same quantity of sugar, with one ounce of coffee, or a quarter of an ounce of tea, were also served out daily to each soldier; pepper and salt as required. Cocoa had been occasionally tried, but the men did not relish it, seemingly from the insufficient allowance of sugar, although it is so much liked on board ship.

TOPOGRAPHICAL & GEOLOGICAL
MAP

CRIME A

1856.




Scale of British Miles and

REPORT OF SANITARY COMMISSION APPENDIX IV













Explanations.

BRITISH ARMY

-  Cavalry Camps | The Camps near Balaklava are given as they were
 Infantry Do | occupied during the Summer & Autumn of 1855
 British Burial Grounds
The Camps on the Plateau west of Kamara were those occupied
during the Winter of 1855 and Spring of 1856

GEOLOGICAL FORMATIONS.

- | | |
|---|--|
|  | <i>Upper Portland or Steep Limestone</i> |
|  | <i>Volcanic Sand and Ash</i> |
|  | <i>Lower Portland</i> |
|  | <i>Mammalian Limestone</i> |
|  | <i>Chalk and Green Sand</i> |
|  | <i>Neocomian</i> |
|  | <i>Tertiary Limestone</i> |
|  | <i>Conglomerate</i> |
|  | <i>Schists</i> |
|  | <i>Volcanic</i> |

of Karani. The hill on the south side of the entrance to the valley above the bazaar at Kadikoi also consists of the same formation. Marine Heights and the hills to the east are wholly or partially formed of conglomerate, as are also the southern and western slopes of the Varnoutka basin. Part of the mass of Cape Aia consists of the same rock.

9. *Schists*, apparently belonging to the Lias, underlie the conglomerate beds in the ravine of San George. They reappear on the south and eastern sides of the basin of Balaklava, under the Col, and in the ridge separating Balaklava basin from the valley of the Tcherniaia. They are found in large masses in the valleys to the east of Kamara, from whence they extend southwards to the sea shore. They occur in the basins of Varnoutka and Baidar, and in the undercliff below Laspi.

10. *Erupted volcanic rocks* form the vast picturesque masses of Cape San George. They underlie the upper and lower tertiaries there, and they protrude themselves at intervals among the jurassic limestones and schists along the south coast of the Crimea to the eastward.

No. II.

NOTES ON FOOD AND DRINK, CANTERNS, &c.
By DR. MILROY.

Food and Drink.

The supplies were, and had been for many months, abundant. Fresh meat was served out three or four times a week, and vegetables, fresh and preserved, were liberally supplied. A pound and a-half of soft bread, or a pound of biscuit, was the daily allowance to each man. The former was always eaten; much of the biscuit was not, and was thrown away. The ration of salt meat, too, was often not consumed; the fresh always was. There was, however, at all times no small waste, from the heads, feet, &c., of the slaughtered animals not being used.

Two ounces of rice, and the same quantity of sugar, with one ounce of coffee, or a quarter of an ounce of tea, were also served out daily to each soldier; pepper and salt as required. Cocoa had been occasionally tried, but the men did not relish it, seemingly from the insufficient allowance of sugar, although it is so much liked on board ship.

TOPOGRAPHICAL & GEOLOGICAL
MAPof the Allied Occupation in the
CRIMEA

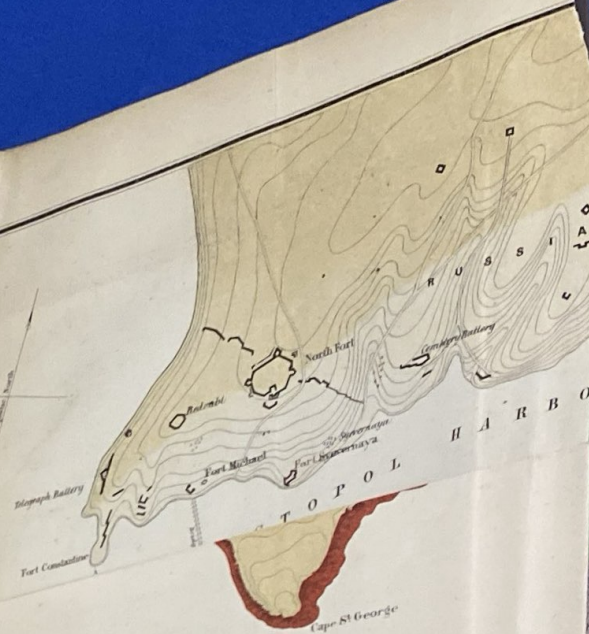
Explanations.

BRITISH ARMY.

- Cavalry Camps } The Camps near Balaklava are given as they were
 Infantry Do } occupied during the Summer & Autumn of 1855
 British Barricade Grounds
 The Camps on the Plateau and at Karana were those occupied
 during the Winter of 1855 and Spring of 1856

GEOLOGICAL FORMATIONS.

- Upper Tertiary or Stoppel Limestone
 Volcanic Sand and Ashes
 Lower Tertiary
 Nummulitic Limestone
 Chalk and Green Sand
 Neocomian
 Jurassic Limestone
 Conglomerate
 Schists
 Volcanic



On being sent away from the camp, they were at once received into an hospital of their own service, in which they were surrounded by objects familiar to them, and essential to their ideas of comfort. On their arrival at Balaklava, labouring under maladies of the severest nature, it often became the duty of the medical officer to supply the means of reanimating the flagging vital powers, by applying general and local warmth, and by the administration of hot diluents, stimulants, or other means that seemed to be most urgently demanded. It was often most satisfactory to him to observe the gradual restoration of energy, during which cases of most aggravated and complicated aspect, almost hopeless on first inspection, assumed milder symptoms, and, at length, came to present the more simple characteristics of definable diseases.

Although this circumstance could have had no influence on "the causation of disease," yet it served more than any other perhaps, to diminish "the ratio of mortality from it."

How very different was the course of events in the case of the disease-stricken soldier, who, through the winter, could not obtain hospital accommodation before he reached Scutari.

In conclusion, I would state, from all that has ever appeared to me, it would be most unjust, and certainly not a likely means of arriving at truth, to fix the sanitary condition of the Royal Naval Brigade as the standard by which that of the army in general is to be estimated and judged.

The facts which I have endeavoured to arrange and to embody in this paper, are to my idea, conclusive, as to the superiority of position, and circumstances, and of sanitary condition as dependent on these, throughout this winter campaign, of the seamen of the Royal Naval Brigade over the Infantry at the front, who were always undergoing a severer degree of exposure, and performing more harassing duties with disproportionate numbers; being, at the same time, as much dependent, as any part of the army, on their own exertions for their supplies.

On the other hand, the Highland Brigade, and the Royal Marine Battalion, stationed around Balaklava, the Cavalry and the Field Artillery, were, in every respect (regarding duties and supplies), in a still more advantageous position than the Naval Brigade; and thus, for opposite reasons, it cannot be brought into legitimate comparison with any of these portions of the army.

In adducing the Royal Marines as an example on the side of superiority of position, and of comparative exemption from disease, exception must be made of that portion of the corps, detached under Major Hopkins, and stationed with the Light Infantry Division on the heights above Sebastopol, from the 4th of November to the 6th of March. It fought in the battle of Inkermann, and took part in the trench duties of the Division to which it was attached, and suffered equally with it by disease and death.

The only body of troops which has been throughout the siege on anything like equal terms with the Royal Naval Brigade, is the Royal Artillery of the Siege Train, of which the duties have been precisely similar in their nature, and in their alternations of intensity and relaxation, the men composing it being well clothed equally early in the season with the seamen of the Brigade. It had, however, always an advan-

tage in the large amount of horse-power at its disposal for the maintenance of a sufficient supply in the camp; but, on the other hand, the Brigade has had the benefit peculiar to itself, of receiving relays of men from the fleet, this being impossible with any military body deriving its reinforcements from England.

Thus by reason of the various positions and duties of the different corps composing the army, it is manifest that any comparison of the sanitary condition of the Royal Naval Brigade with the combined forces with which it fought, to be correct, or of any utility in the estimation of the causes of disease, should be instituted between its returns and those of the Siege Train of the Royal Artillery alone.

