

Observations on the report of the Sanitary Commissioners in the Crimea, during the years 1855 and 1856 / by Sir John Hall.

Contributors

Hall, John, Sir, 1795-1866.
Royal College of Surgeons of England

Publication/Creation

London : W. Clowes and Sons, [1857]

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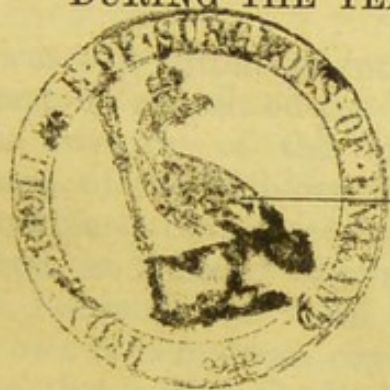




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OBSERVATIONS ON THE REPORT
OF THE
SANITARY COMMISSIONERS
IN THE
CRIMEA,
DURING THE YEARS 1855 AND 1856.



BY
SIR JOHN HALL, M.D., K.C.B.,
INSPECTOR GENERAL OF HOSPITALS.

LONDON:
PUBLISHED BY W. CLOWES AND SONS,
14, CHARING CROSS.

1857

ORIGINATIONS OF THE REPORT

1857

Sanitary Commission

The Editor of the "Times"

Sanitary Commission
15, Abchurch Lane, London, E.C. 4

THURSDAY THE 14TH JAN 1857

It was with astonishment I read in that part of your
Father's speech on the 13th inst., that the ex-
condition of the Military Hospitals in the Crimea was
attributable to the want of suggestions of Dr. Suther-
land and the Sanitary Commissioners.
His Lordship has been misinformed in this matter,
and I owe it to my own reputation and position distinctly
to state that neither Dr. Sutherland, nor any other member
of the Sanitary Commission, had anything whatever to do
with either the organization or management of the Military
Hospitals in the Crimea, and I believe them all to be
gentlemen of too much honor and probity to take credit
for anything of the kind.

What valuable information they may have furnished
to Government I am unable to say, but so far as their
suggestions on sanitary matters in the Crimea are con-
cerned, it was admitted by themselves that almost every
thing they could think of was either in actual operation
or had been recommended by the Medical Department of
the Army before their arrival; but as they were invested
by Government with greater power than was conceded to
the principal Medical Officer of the Army, they thought
they might assist in getting useful measures carried out.
I regretted to find this subject to remain unnoticed
as I have done many others, did it not proceed from a
sanitary which stands in double estimation as a benefit
on the part of Government of any credit due to myself.

The Editor of the "Times."

7, Ormond Terrace, Regent's Park.

14th March, 1857.

SIR,

It was with astonishment I read in that part of Lord Palmerston's speech on the Mc'Neill and Tulloch debate on the evening of the 12th inst., that the excellent condition of the Military Hospitals in the Crimea was attributable to the advice, and suggestions of Dr. Sutherland and the Sanitary Commissioners.

His Lordship has been misinformed in this matter; and I owe it to my own reputation and position distinctly to state, that neither Dr. Sutherland, nor any other member of the Sanitary Commission, had anything whatever to do with either the organization, or management of the Military Hospitals in the Crimea, and I believe them all to be gentlemen of too much honor and probity to take credit for anything of the kind.

What valuable information they may have furnished to Government I am unable to say, but, so far as their suggestions on sanitary matters in the Crimea are concerned, it was admitted by themselves that almost everything they could think of was either in actual operation, or had been recommended by the Medical Department of the Army before their arrival; but as they were invested by Government with greater power than was conceded to the principal Medical Officer of the Army, they thought they might assist in getting useful measures carried out.

I should have allowed this subject to remain unnoticed, as I have done many others, did it not proceed from an authority which stamps it in public estimation as a denial on the part of Government of any credit due to myself, or

the Medical Department, for months of anxiety, toil, and privation in the Crimea ; and it is disheartening to Medical Officers to find that the meed of praise, which is so justly their due, has been given to civilians who arrived after the difficulties of the army had been surmounted.

I am, &c., &c.,

(Signed) JOHN HALL,

Inspector-General of Hospitals (Half Pay.)

Since writing the foregoing I have seen a copy of the Report furnished to Government by the Sanitary Commissioners at the seat of war in Turkey during part of 1855 and 1856, and if my surprise at the laudatory encomiums bestowed on them by Lord Panmure and Lord Palmerston ceases, it is only to be replaced by the astonishment occasioned on reading the Report itself, which ignores the efforts of Army Medical Officers in nearly all sanitary concerns, and attributes either directly or by implication, all merit to the Commissioners themselves in such matters.

With what justice I am unable to say, as, until I read their Report, I was wholly unaware of the extent of their assumed labors, and I am still ignorant how far their recommendations swayed the military authorities in preference to my own, and those of the other members of the Medical Department of the Army, who, according to the report of these gentlemen appear to have remained passive cyphers in the hygienic transactions of the army before Sebastopol ; but who, as I think I shall be able to show by the following statement and correspondence, really initiated, or recommended all measures that were essentially necessary for the health of the army, and this the Commissioners cannot plead ignorance of, as they, on more occasions than one, when obtaining useful hints and information, now apparently forgotten by them, stated both to myself and others, that nearly all they could suggest was either actually in operation, or had been recommended by the Military Medical Officers before their arrival, but that they, with the increased powers with which they were invested would be enabled to assist us in getting those measures carried out, which we ought

to have had authority granted to us by Government to accomplish ourselves ; and that their sole aim and object was to aid us, and strengthen our hands as friends—an apt illustration, I fear, of the old adage of “ Save me from my friends !”

Of the condition of the Hospitals at Scutari, on the arrival of the Commissioners, I am unable to speak from personal knowledge, but they ought not to have been in the dirty state, either within or without, that has been described by them, if the orders which were originally sent down to the principal Medical Officer there had been attended to ; but when they draw the comparison which they do in the table given at page 50 of their Report, and ascribe the decreased mortality in the Hospitals from March to June 1855, to their own trifling sanitary improvements in and around the Barracks at Scutari, one cannot help smiling at their so wilfully shutting their eyes to the fact of the improved health and condition of the army in the Crimea, from whence the sick in the Hospitals on the Bosphorus were supplied. But to place this in an intelligible light, and enable the reader to estimate the labors of the Commissioners at their true value, in reducing the number of sick, and amount of mortality in the Scutari Hospitals, it is only necessary to state the number of sick which was sent down from the Crimea to Scutari, and the number of deaths that occurred on the passage, during the quarters ending 31st March, 1855, and 30th June, 1855.

During the quarter ending 31st March, 1855, 6,284 sick soldiers were sent down from the Crimea to Scutari, and of these 258 died on the passage :

Whereas during the quarter ending 30th June, 1855, to which the labors of the Commissioners, in the table which they have given at page 50 of their Report relate, not more than 3,193 sick were sent down, and of these only 19 died on the passage ! thus proving in an incontestable manner, I think that more powerful agencies were at work in modifying the type of disease under which those men labored who were sent down to the Scutari Hospitals during the second period than is admitted in the Report, and which must have exercised greater influence over the mortality there, than the traps of the privy drains, and other arrangements of the Sanitary

Commissioners, which are spread out *in extenso*, and taken at their utmost value in the account of their transactions. But after all it appears the privies themselves were left in their original state until March and April, 1866, when, after the armistice with Russia had been signed, and it was known to all the world that peace would be proclaimed, they were fitted with patent water closets, which was as wanton a waste of public money, as it was a useless alteration of the building itself; for I was told when I passed through Scutari on my way home in July, 1856, that only two out of the whole number were serviceable.

The description of the outbreak of cholera in the German Legion, and Osmanli Horse Artillery at Scutari, in Nov., 1855, given by Dr. Sutherland, differs considerably from that furnished by Dr. Linton to the Director-General of the Army Medical Department.

At page 55 of the Report it is stated: "The outbreak was a most severe one while it lasted, and death in not a few instances ensued within a short time after the accession of the disease. It lasted altogether about a fortnight during which period there were about 225 cases, nearly three-fourths of which proved fatal. The severity of the attack was over in a few days."

"Immediately on the appearance of the disease, Dr. Linton, Principal Medical Officer at Scutari, communicated with Dr. Sutherland as to sanitary precautions he was desirous of adopting to arrest the progress of the outbreak. Dr. Sutherland accordingly met Dr. Linton and Major-General Storks on the subject, when it was arranged that the troops within the Hospital should be camped out—that the troops in depôt should be thinned—that the barrack rooms should be ventilated, and all the part of the Hospital where the troops were, cleansed and whitewashed. The privies were also to be cleansed and deodorized. Medical Officers were directed to keep up a rigid inspection of the men, for the discovery and treatment of premonitory cases, and warm belts were to be issued to the troops."

"The necessary orders were immediately given by Major-General Storks, who himself selected the encamping ground to which the troops were removed. Every thing having been prepared, the German Legion, and

Osmanli Horse Artillery, were camped out on the 18th November at a distance of about three miles from Scutari, after which the disease speedily disappeared from among the men."

Dr. Linton on the contrary states that he took the initiative in these sanitary arrangements, and that the camping out of the men was carried into effect at his recommendation.*

It is clear both these statements cannot be correct, and I am not in a position to decide between them. It was the duty of the one to recommend what was done on the occasion, and the interest of the other in his position to take as much credit for it, and everything else, as he could—and the Commissioner has certainly seized on the lion's share of laudation—but whether the result of his advice and labors on this, and all other occasions during the whole period of his residence in the East, entitles him to this assumption, I am not prepared to say: the question, however, I think may be left without fear or hesitaton, by the Medical Department, to the decision of the authorities at the seat of war.

The members of the Sanitary Commission arrived in the Crimea in the following order:—

Mr. Newlands, Inspector of Nuisances, 19th March, 1855.

Dr. Gavin, Sanitary Commissioner, 23rd March, 1855.

Dr. Sutherland, Sanitary Commissioner, 6th April, 1855.

Mr. Rawlinson, Civil Engineer, 6th April, 1855.

On the 20th April Dr. Gavin was accidentally shot, and died on the morning of the 21st April, 1855.

On the 10th June Mr. Rawlinson's coat pocket was struck by a round shot which drove his porte-monnaie against his hip and injured it; and he returned to England on the 21st June, 1855.

On the 7th June, 1855, Mr. Newlands, Inspector of Nuisances, left Balaklava for England; and on the 23rd July Messrs. Freenry and Aynstry followed him.

Dr. Milroy, Sanitary Commissioner, arrived 22nd July.

On the 11th of April, 1855, the Sanitary Commissioners made their first Report to Lord Raglan of the condition of Balaklava, and what was, in their opinion, necessary for its sanitary improvement.

* Vide Dr. Linton's letter attached, marked 1.

In this Report they admit that Lt.-Col. Hardinge, the Commandant, and Admiral Boxer, the Port-Admiral had, been using their best endeavours to improve its sanitary state, but by some strange forgetfulness, for they could scarcely have been ignorant of the fact, they overlook the labors and recommendations of Dr. Anderson, Staff Surgeon, 1st class, and Principal Medical Officer of the place, whose urgent representations on all sanitary matters extend as far back as December, 1854, and one of them dated 15th January, 1855, was considered of so much importance, that a Committee, of which no less a person than Lt.-Gen. Sir Colin Campbell was President, was appointed to inquire into the matters complained of, and devise means for remedying the crying evils.

I annex copies of Dr. Anderson's correspondence on sanitary matters, dated 29th December, 30th December, 1854; 8th and 15th January, 16th and 19th February, 13th and 28th March, 28th and 30th April, and 18th May, 1855.*

With reference to the huts in which the Commissioners took up their residence on their arrival in the Crimea, I may be allowed to quote the following extract from one of my letters to the Quartermaster-General, dated 28th January, 1855 :

“While on the subject of health it is necessary I should bring under the notice of the Commander of the Forces, the highly objectionable site that has been selected for erecting barrack huts on at the entrance into Balaklava. They are placed between a newly filled and imperfectly covered Turkish graveyard, and a perpendicular rock; and when hot weather comes on the very worst consequences may naturally be expected.”

Notwithstanding the above warning the huts were proceeded with, and the consequence was, that those who inhabited them suffered much; and in the proceedings of the Military Sanitary Board, which was assembled on the 11th March, 1855, at my request, as Principal Medical Officer of the Army, to report on all matters connected with the health of the army, there is the following remark:—“That, in their opinion, the site of the huted encampment at present occupied by the Coldstream Guards is highly objectionable :

* Vide Dr. Anderson's Letters in Appendix, marked 4.

1st.—On account of the defective ventilation; the huts being crowded into too small a space, and the air being shut out by the rocks in rear.

2nd.—The front is almost entirely closed by the stables of the Land Transport Corps, and the atmosphere tainted by the immediate proximity of a large Turkish burial ground, in which the dead are superficially buried, as well as by the accumulated filth at the head of the harbour.”

“Spotted typhus fever having shown itself in the Battalion of Guards, the Board are decidedly of opinion the huts alluded to should not be occupied by troops. The Board beg further to call attention to the valley on the opposite side of the road, and to the encampments of the 71st Highlanders and Horse Artillery in particular, which must be rendered unhealthy by the large extent of marshy undrained ground in their front, into which dead horses have been thrown and allowed to remain defiling the stream of water that runs through it. This water is used by the troops in the vicinity.”

“It is, therefore, suggested that a large deep trench be dug the whole length of the valley from Kadakoi to the head of the harbour.”

The attention of the Board has been called to the state of the Latrines in the General Hospital at Balaklava, which requires remedying, and as the nature of the soil and absence of water render it impossible to construct privies for so large an establishment, it would be advisable to have small carts and tubs to carry away all impurities daily, with paid laborers to perform this necessary labor.”

The large trunk drain recommended in the foregoing paragraph was carried out at a subsequent period, and, in conjunction with the road and railway ditches, effectually drained the Kadikoi valley.

At page 88 the Commissioners say: “The great mortality which took place in the winter of 1854-5 led to the use of the marsh at the head of the harbour as a place of interment, into which a large number of dead were put close to the line of the road.

“The bodies appear to have been laid almost in water, and sparingly covered with earth; that portions of the clothing, and even of the remains, protruded through the surface at the time we first examined it. Close to this graveyard a number of animals had also been buried.”

I positively deny that the dead of the army were ever buried in this careless manner, from any of the Hospital establishments, and I fearlessly appeal to the whole army on the subject.

The railway from Balaklava to camp had been run along the margin of this graveyard, and if any scenes like those described did occur, the remains of the dead must have been disturbed by the railway workmen; but even that could hardly have brought the clothing of men to the surface who were buried naked, and merely wrapped in a blanket by way of winding sheet.

At page 88 the Commissioners remark: "There had been during the preceding months, an excessive mortality among the Mahomedan part of the population, and the dead had been imperfectly buried in a graveyard of their own at the head of the harbour, but on its west side."

There was no Mahomedan population in Balaklava beyond the Turkish army during the early part of the winter of 1854-5, and so many of them died of an aggravated form of typhus, that Dr. Anderson was apprehensive of its degenerating into plague itself, and on the 15th January, 1855, he applied for their removal from the village, and for the state of their graveyard to be taken into consideration, both of which were of too urgent a nature to be overlooked by the military authorities, and the Committee I have already mentioned, was appointed to take the matter into consideration.

At page 111, in describing the objectionable site of the camp of the 79th Highlanders, the Commissioners say that: "They recommended to the Commander of the Forces, on *the 14th April, 1855*, either to remove the troops to better ground, or improve the drainage and ventilation of the huts, which recommendations were immediately assented to by Lord Raglan. All the huts on the wet ground were abandoned, and those on the better ground improved."

The defects of this camp had been noticed, and their injurious effects on the health of the men of the 79th pointed out by me to Lord Raglan in my weekly Reports of *the 19th and 27th March*, and the necessity of removal urged; but it was stated at that time that the defence of the lines did not admit of the withdrawal of the 79th from its position, but of the propriety of the measure in a

sanitary point of view there could be but one opinion, and when the Commissioners made their recommendation, circumstances admitted of the arrangement being carried out, which I had previously so urgently wished for; and when cholera subsequently appeared in the 31st Regiment, quartered in these very same huts, the number of men in each hut was immediately diminished at my recommendation, by sending a portion into the huts formerly occupied by the 63rd Regiment, which were situated on a higher and drier part of the plateau under the marine heights.

At page 117 the Commissioners state: "That the best manner of destroying organic matter is by burning it in kilns as is done in the cantonments of India."

This is an excellent method of disposing of camp refuse, but it is by no means general in India, and I think I mentioned to the Commissioners that I had seen it adopted at Kurrachee, in Scinde.

At page 118 they say: "As a general principle, it appeared that, at the period of their arrival in the Crimea, camps where there were animals yielded a greater amount of sickness than others."

At the period of their arrival in the Crimea, (March 1855) the admissions from disease in the cavalry were 7 per cent less than they were in the infantry; and the deaths 3.72 per cent lower in the cavalry than in the infantry.

In continuation they say: "During the early part of the warm season, from the beginning of May to the middle of July, 1855, there was an excess of sickness among the cavalry and artillery over that of the infantry."

In this observation the Commissioners are correct so far as diseases of a zymotic character are concerned, but, in their anxiety to establish a particular doctrine, they have omitted to state that 41 per cent of these two arms of the service arrived in the Crimea during the period specified, and as cholera was then very prevalent, and particularly fatal amongst new comers, this excess of mortality is easily accounted for. Indeed 72 per cent of the deaths which occurred were from that cause alone, whereas in the infantry it did not exceed 53.77 per cent; but if we take the admissions from all causes in the cavalry and artillery during the same period, we find that they amount to 59.50 per cent, and the deaths to 3.70 per cent. In the infantry the admissions were 59.73, and the deaths 4.62 per cent,

which is so near an approximation of the ratio of admissions in the several branches of the service, that the difference is scarcely worth mentioning, and it would be unfair to lay much stress on the excess of mortality in the infantry, as that was owing chiefly to the accidents of war, to which neither the cavalry nor the artillery were at that time so much exposed as the infantry were.

At page 119 the Commissioners say: "The 3rd and 4th divisions were encamped on an elevated part of the plateau to the N.W. of the Guards. It was nearly surrounded by depressions and deep ravines, affording ample facilities for surface drainage. In some places occupied by Hospitals and camps the surface was more deeply covered with wet retentive clay. These camps were not so healthy as others on the plateau, and when cholera first appeared in May, 1855, it attacked them by preference."

In the outbreak of cholera at the end of April and beginning of May, the two first fatal cases which occurred took place in two wounded men of the Light Division, who had been brought down to the Castle Hospital, at Balaklava, for the treatment of their wounds, and were attacked soon after their arrival there: it then appeared in the B. S. and P. batteries of artillery, in the 2nd battalion of the Royals, and Buffs belonging to the 2nd Division; and in the 48th and 71st belonging to the 4th Division; but the 3rd Division escaped almost entirely from the visitation.

The description given at page 120 of the position of the 2nd Division is erroneous. It was part of the 4th and not the 2nd Division that was located on the slope of Cathcart's Hill.

The Commissioners state at page 120: "That they deemed it necessary to recommend the removal of the camp of the Naval Brigade from the ravine in the rear of the 3rd Division to higher ground."

They may have done this, but I remember perfectly well Dr. Deas, Inspector of Naval Hospitals, coming up to camp to urge this very change, and his mentioning the circumstance to me, and my coinciding in opinion with him as to the propriety of the measure.

Neither Dr. Deas, nor Rear Admiral Sir Stephen Lushington, Commandant of the Naval Brigade, has any recollection of this recommendation of the Commissioners

as will be seen on reference to their letters in the appendix numbered 2 and 3.

From page 126 to page 130 the Commissioners embody under date of the 17th of May, 1855, the suggestions, which they submitted to the Commander in Chief on the construction and ventilation of huts, and concerning the general sanitary regulations to be observed in camp, to which no reasonable objections can be offered, as the most essential of them were either in operation or had been already recommended by the officers of the Medical department of the army. And the Commissioners conclude this part of their report by stating that: "After having completed the enquiry (inspection of the camp) Dr. Sutherland with the concurrence of Mr. Rawlinson addressed two communications to Dr Hall on the 16th of May. In one of which, the removal of the affected camps to better ground, (alluding to those of the Buffs 71st, and 48th Regiments), the diminution of overcrowding by serving out a larger supply of Tents to the affected Regiments, and examination, deodorization, and covering up of old Latrines, and other offensive matters, within half-a-mile of the affected Tents was recommended."

"In the other communication it was pointed out that the existing means of discovering, and treating diarrhoea cases were insufficient, and that it was necessary to take steps for discovering the disease at the very commencement either by inspection of the troops, by setting a watch over the Latrines, or by any method consistent with the rules of the service, whereby the malady may be discovered, and the medical treatment carried to the patient without waiting for his applying for it."

It is quite true these two letters were written, but Dr. Sutherland knew perfectly well when he wrote them that they were sent *pro forma* so far as the arrangements in camp were concerned, but I see now that they were intended to answer an ulterior purpose which I was not then aware of.

I say that the letters were not necessary, because Dr. Sutherland, when he accompanied me to the camp of the 48th regiment, on the 15th of May, was distinctly told by me, that it, as well as those of the Buffs, and 71st, had been ordered, on my recommendation, to be removed to the dry ridge to the S.E., and he could hardly have

avoided noticing that the change was actually taking place when he was there. I not only mentioned those changes to him, but I told him that the 2nd Battallion of the Royals, which was suffering from cholera, and the Camp of which I had also been anxious to get removed, could not be changed for strategic reasons. Great, therefore, was my surprise at receiving Dr. Sutherland's letter of the 16th, recommending changes which he knew perfectly well had already taken place; and his second letter was nearly as unnecessary as his first, as he was informed that the pointed attention of Medical Officers had been called by a Medical Department Circular Memorandum, issued by me on the 30th of April, 1855, to the importance of watching the approach of cholera, and treating it in its diarrhœal stage. Not only was this caution given to Medical Officers on the 30th of April, but the same subject had been strongly impressed on their minds the previous July, when cholera prevailed so extensively and so fatally in Bulgaria. The men were also made fully aware of the necessity of applying at once for medical aid when their bowels became relaxed, and this was as likely to be efficacious as harrassing them with additional, and useless parades, or setting a watch over the Latrines in camp.

The suggestion made by Dr. Sutherland of increased tentage during periods of epidemic sickness is a good one, but it is not always available on service, nor can the Commissioners' recommendation of bolting the huts to the rock beneath for security at all times be carried out. It must also be borne in mind, that when the imperfectly constructed Portsmouth huts arrived in the Crimea at the begining of 1855, their immediate erection was considered a matter of great moment to the army, and this had frequently to be accomplished in a hurried manner, and, for military reasons, on sites that were not the most desirable. The ventilation, which had been overlooked in the original construction of the huts in England, attracted the attention of both Lord Raglan, and myself, at a very early period, and many experiments were resorted to, to remedy the defect. In the first instance, a couple of rows of large auger holes were bored through the bottom of each door, and double rows of smaller holes through the upper board just under the eaves, and under the windows of

of auger holes through the bottoms of the doors, an ample supply of fresh air was at all times provided.

each hut. This was tried in the huts of the general Hospital at Balaklava, and recommended by me officially on the 14th of March, 1855, for all the huts in camp.

The Military Medical Board of Health which sat in March recommended roof ventilation, by means of three wooden tubes, eight inches square, and eighteen inches long, with louvered sides and penthouse tops, placed in the roof of each hut, in addition to holes bored through the bottoms of the doors, and under the windows; but the Engineer department said they had not the means for carrying the proposed plan into effect.

A very effectual mode of roof ventilation was then suggested by 2nd class Staff Surgeon Dr. Jephson, at the Castle Hospital, Balaklava, from what he had seen in India, which consisted in raising and louvering a couple of planks, to the extent of six feet on each side of the ridge pole, and formed a ventilator of the simplest, and most efficient kind, which any one with the slightest knowledge of mechanics could make. The penthouse ventilators were tried in the Hospitals of the light division where workmen could be obtained, but I think they were inferior to the Indian plan. Side ventilation was made by cutting square windows out of the boarding, and securing them by means of buttons, and leather hinges; at other times a plank was raised the whole length of the hut, and secured in the same way. Others, where workmen could be found in the regiments to perform the work, made sliding pannel ventilators. In this way, simple and inexpensive as the means were, the Medical Officers were enabled to flood the huts with fresh air during the warm weather, but during the winter these side ventilators could not be used.

At the General Hospital at St. George's Monastery, in addition to the Indian mode of roof ventilation, ventilators were cut just above the ground on each side, and, as the huts were double boarded, by cutting the inner holes between the outer spaces, a free circulation of fresh air was obtained without any injurious draft.

In the General Hospital at Balaklava the most perfect ventilation was secured by ripping up a board in the ceiling along each side of the wards, so as to allow the heated and vitiated air to escape through the dormer windows in the roof above, and by boring double rows of auger holes through the bottoms of the doors, an ample supply of fresh air was at all times provided.

In the front rooms of the General Hospital, which were nearly square, a board in the centre required to be raised, as well as one on each side, to complete the ventilation. This Hospital became a model of cleanliness and neatness, under the unwearied zeal of Mr. Fitzgerald, the Purveyor, and was the admiration of all visitors, both of our own army and that of our allies. Some Officers of rank of the Sardinian Army solicited to be accommodated in it when sick, and several Russian Officers of superior rank, the chief of the Staff for one who visited it, were unbounded in their praise and admiration of its cleanliness and arrangements.

This Hospital, though the Sanitary Commissioners, I see affect to look down with pity and contempt on it, continued a most useful, and efficient establishment to the very last, and as the mortality in it, notwithstanding the severity, and variety of the cases admitted into its wards, amounted only to 7·7 per cent, it could hardly have merited the condemnation they bestow on it.

At page 132, the Commissioners say, "The chief removable sanitary defect in this Hospital, was the condition of the Latrines, the worst of which was filled up at our request."

In January 1855, the state of the Latrines in the General Hospital at Balaklava, was brought under notice by the medical department of the army, and a new one was dug by the engineer department, which was long before the arrival of the sanitary Commissioners in the Crimea; but as they eventually had all the available labour in Balaklava placed at their disposal, it is possible that some of it may have been employed in filling up the privy at the General Hospital when the new mode of removing the filth, which had been recommended by the Military Sanitary Board, came into operation.

The Commissioners say, "A proposal was subsequently made for removing to a distance the whole filth of the Hospital to which we gave our approval."

This proposition was not subsequently made, but formed one of the recommendations of the Military Board of Health, submitted to the Commander-in-Chief before the arrival of the Commissioners in the Crimea, as will be seen on reference to the extract from Board's report given at page 9 of these observations, and until I saw this report, I had no idea

that their opinion had ever been asked, or that their approval was at all necessary for such an arrangement. But the richest morceau is the following:—"The sanitary condition, (speaking of the General Hospital, Balaklava), except in the points already mentioned, was as satisfactory as could have been expected, and the Commissioners deemed it sufficient to inspect it from time to time, in case anything should arise requiring their notice."

The Commissioners allude to complaints that were made about the accumulation of stable manure, and other refuse among the huts in the vicinity of the General Hospital, which they say were represented by them to Lieu. Col. Harding, Commandant of Balaklava, and removed. Dung hills of this nature certainly accumulated rapidly, and on the 1st of March I find those in the immediate neighbourhood of the Hospital were removed at my request. This was prior to the arrival of the Commissioners, indeed before I had ever heard of their appointment, and I mention the subject to show that such matters had not escaped my observation, and that steps had been taken to remedy the evil as soon as ever it was known; but it is very possible similar accumulations may have subsequently taken place at more distant points, as it required constant watchfulness on the part of the local authorities to guard against them, owing to the negligence of the occupants of the huts, and the laziness of their attendants and followers. Even the vicinity of the dwelling of the Commissioners itself, report says, was complained of by the Commandant on account of its accumulated dirt. And if they, with hired labor at their command, became subject to such an observation, what indulgence might not others, less favorably situated, reasonably claim?

The Castle Hospital, Balaklava.

This establishment met with the approval of the Commissioners, and he must have been a fastidious man indeed who would not have approved of it. But envious of its good fame, I suppose, or over-cautious for the safety of the sick accommodated in it, some one wrote home to the Secretary of State for War, to inform him I had placed the huts in such an insecure position that the lives of the inmates were endangered, and an order came out to have them secured; and to my disgust and dismay I found

on the 15th October, 1855, when I went down to visit the Hospital, that a huge rampart had been erected within eighteen inches of the ends of the huts, which consisted of three tiers of gabions filled with earth, reaching as high as the tops of the huts themselves. I endeavoured to arrest this monstrous piece of barbarism by writing a strong protest to the authorities, but all I could obtain was the removal of the gabion rampart a few inches more distant from the huts; and having failed in my efforts, I brought the matter under the notice of Dr. Milroy, one of the Sanitary Commissioners, who happened then to be in the Crimea, thinking, from the superior power the Commissioners said they possessed, he might effect more than I had been able to accomplish, but the rampart remained until the following spring, when I ordered it to be kicked over the precipice. Fortunately the army was so healthy during the winter, we had little occasion for the Castle Hospital: but had it been otherwise this obstruction to the ventilation would have been a serious drawback to its usefulness. During the autumn of 1855 we had the interspace between the inner and outer boarding of the hospital huts both at the Castle, Balaklava, and St. George's Monastery filled with clay and chopped straw, which made them not only warmer dwellings during the winter, but gave the buildings a stability which they did not otherwise possess, and I cannot help thinking, notwithstanding the opinion of the officer of engineers who examined the Castle huts, that the barricade put up there was unnecessary. It was found to be so at St. George's Monastery, where the huts were higher above the level of the sea, and quite as much exposed as those at the Castle Hospital were: indeed, if anything, more so.

Of the General Hospital in camp the Commissioners say:—"The space it occupied was considerably raised above the general level of that part of the plateau, and it had ample means of natural drainage. Unfortunately, however, the ground consisted of a deep tenacious clay, hardly admitting of improvement by drainage, and becoming a complete swamp after rain."

"The huts were too close together, and were too nearly encroached on by regimental camps—they were undrained—they had earth raised against their sides, and were imperfectly ventilated. Considered as a whole, this Hospital

was therefore less favourably situated than the other General Hospitals."

The General Hospital in camp consisted of a certain number of regimental huts, which were received over from the 14th and 39th Regiments, in April, 1855, for the purpose of forming an hospital establishment in camp, for the reception, and treatment of primary cases of wounds, when the Regimental Hospitals were full, and further accommodation on the spot was required. The huts were built on the crest of a hill, sloping east and west, and with a considerable decline to the south; and how such a position could, under any circumstances, become a "complete swamp" is to me inexplicable. When the site was first selected the huts were detached and open on all sides, and it was considered as desirable a place for an Hospital as any in camp, but as the force increased, the open space was encroached on on all sides but the south west, which remained unoccupied to the last. The situation of this Hospital was not so desirable as that of either the Castle or Monastery Hospitals. No one required Special Sanitary Commissioners to tell them that; but it was a temporary expedient, and the Commissioners have unfairly selected the period for their report when the huts were in a transition state from barracks to Hospitals, because at the end of April, 1855, when it was made, the Hospital was scarcely open for the reception of patients of any kind, and no wounded had been sent into it at that time; and if they mean to say that the huts were not properly ventilated, and the ground deeply trenched afterwards to carry off the surface water, I have no hesitation in stating that they must have wilfully shut their eyes whenever they passed the General Hospital in camp after their first visit; and I fearlessly appeal to every one, either civil or military, who was employed in it for confirmation of my statement. So far from not being ventilated, the huts were absolutely flooded with fresh air on every side as soon as they became the receptacles of sick and wounded men. This is matter of notoriety; and I am bound for my own credit's sake, and that of Mr. Mouat, Principal Medical Officer of the Hospital, to make this statement, and to give, however unpleasant it may be to my feelings, the most pointed, and positive contradiction to the Commissioners' Report on this subject.

The Commissioners in their communication of the 17th

of May, 1855, at page 126, and seqr., which is so frequently referred to by them, as containing all the elementary knowledge on camp hygiene that is necessary to be known or practised, innocently propound this as something novel, and unthought of before their arrival, not knowing, I suppose, that much of what they recommend is enjoined by the practice, if not by the printed Regulations of the Service, and that nearly all their suggestions had been previously submitted to the military authorities by the Principal Medical Officer of the Army either in verbal or written communications made to the Commander-in-Chief, or to the Adjutant and Quarter-Master Generals; and,

1stly. With regard to Latrines, and the general cleanliness and supervision of the different camps, general orders had been issued bearing date 12th May and 28th June, 1854, a whole twelvemonth before the Commissioners made their suggestions.

2ndly. With regard to other sanitary matters, the following may be quoted as some of the suggestions offered by myself, as Principal Medical Officer, to the military authorities.

On the 21st June, 1854, an application was made to Major Sillery, Commandant of Scutari, for a daily fatigue party of 15 men to attend morning and evening at the General Hospital there, to keep it and its precincts clean. Measures were taken to clear the pipes of the water-closets, which had become obstructed by foreign bodies thrust down them.

6th July, 1854.—I wrote to Dr. Menzies, Principal Medical Officer at Scutari, requesting him to attend to the pipes of the water-closets, informing him that application had been made by Lord Raglan to the Seraskir to get the offensive catgut manufactory removed from the neighbourhood of the General Hospital, and directing him to apply to the Commandant at Scutari to have the open sewer between the General Hospital, and the main barrack cleaned out.

13th August, 1854.—I wrote to Dr. Menzies to get the rooms in the main barrack, which had been given over for hospital purposes, properly cleaned, whitewashed, and fitted up.

The sanitary arrangements and recommendations in Bulgaria not having come under the notice of the Sanitary Commissioners, it is unnecessary to advert to them here: and with regard to those in the Crimea, it was not neces-

sary to do much so long as the country was locked up in frost and snow, and the temperature so much diminished as to prevent offensive emanations from being given off by decaying substances; but immediately the weather became a little more open, towards the end of January, 1855, the following official communication was addressed to the Adjutant-General on the 24th of that month by me, in addition to several verbal representations that had previously been made, which, with those that followed on the same subject, together with the report of the Military Board of Health of the 11th March, 1855, will, I think, be considered by almost every one as fully anticipating the suggestions given at page 127 of the Sanitary Commissioners' report, and numbered from 1 to 6, viz.:

Nos. 1 and 2. Regarding the burial of dead animals and offal.

No. 3. Destruction of refuse matter by means of fire.

No. 4. On Latrines.

No. 5. Picketting places of animals, and

No. 6. Recommending tents to be struck.

Copy of Letter from Dr. Hall to Major-General Estcourt, dated 24th January, 1855.

"I have the honor to enclose a communication from Dr. Hume, Staff Surgeon, in medical charge of the 3d Division, pointing out a nuisance in the immediate vicinity of the hospital marquees and huts, which ought most certainly to be removed, and the drivers and their ponies placed more immediately under the eye of the Quartermaster, or whoever has charge of the baggage animals of the division; for, to say nothing of the dirt they create, and the nuisance they are to the Field Hospitals of the division, I myself saw an artilleryman brought from the direction of the huts two days ago in a state of intoxication at mid-day.

"When on the subject of camp nuisances, I may mention that proper Latrines should be dug in the camps, and the soil covered over daily with earth.

"All dead animals ought to be buried in place of being allowed to decay above ground, and taint the air.

"It would also be highly desirable to direct the pioneers to clear round the hospital marquees, and men's tents daily, collect all offal, dirty, and condemned clothes, and

rags, which are now merely thrown outside the tents, and there allowed to rot.

“ The trenches round all the Hospitals should be deepened, so as to carry off the surface water, and drain the interior of the tents.

“ When the surgeons or superintending medical officers are spoken to by me on these subjects, they invariably excuse themselves on the plea of not being able to procure fatigue-men to perform the duty, so that the matter will have to be enforced by authority, because no regiment can possibly be so pressed for duty-men as not to be able to spare a party for a short time daily to perform these essential offices of camp economy.

“ If the present system be allowed to go on diseases of a graver nature than even those now prevailing amongst the men will make their appearance, and carry off thousands.

“ It has been communicated to me by the Director-General of the Army Medical Department, that 30 tons of soap have been ordered out by Government for the use of the army; and when it arrives the men ought to be compelled to wash and clean themselves two or three times a week at least; and I would recommend some kind of cravat to be worn by the men, as their bare throats with either very dirty shirts, or no shirts at all, has an unseemly look, and gives them an unnecessary appearance of misery and destitution.”

In consequence of the foregoing communication to the Adjutant-General, I was asked what quantity of lime would be necessary to consume the dead horses in camp, and on my replying that some definite number should be stated, I received a letter from the Quarter-Master General naming one hundred, to which I sent the following reply on the 28th January, 1855:—

“ With reference to your letter of the 26th instant, requesting to know what quantity of quick lime, I think, would be sufficient to consume the carcasses of 100 dead horses, I have the honor to state that much would depend whether the bodies were collected together or detached. If detached, it would require one bushel of lime at least for each (100 bushels), and even that would only temporarily correct the stench which would arise as the process of putrefaction went on in warm weather.

“ The best and most effectual way of getting rid of this dangerous nuisance would be, in my opinion, to bury the bodies, and throw some quick lime over them in their graves. But if the process of burying be adopted, it must be done effectually, and the bodies covered at least three feet deep—not a little loose earth sprinkled over them, as I notice is the practice now in many instances where an attempt has been made to bury animals. This imperfect manner of disposing of dead animals is worse than useless, as it only prolongs the period of generation of noxious gases, which would be more speedily dissipated if the bodies remained exposed in the open air.

“ With regard to the Latrines in camp, if the trenches were dug sufficiently deep, and a portion of earth thrown over the soil every morning by the pioneers of the regiments, quick lime would scarcely be required; but as they are constructed at present, the men have no accommodation to sit on,—in many cases trenches are not dug, or not dug deep enough, and the men obey the calls of nature in every direction. As the Latrines are constructed now, it would require half a bushel of lime to each daily to correct the nuisance which they will become in warm and open weather.

“ It is necessary to remove not only these two sources of evil, but all the offal, dirty clothes, blankets, and rags that are now allowed to lie and rot about the different camps should be collected daily, and either burnt or buried.”

In consequence of the above communications to the Adjutant and Quarter-Master Generals, supported by verbal communications to Lord Raglan himself, steps were immediately taken for burying all dead animals and cleansing the different camps, and either burning or burying all refuse matter.

On the 8th March, 1855, a Board of Health was applied for by me, as Principal Medical Officer of the Army, and appointed to sit by paragraph 6 of the general order of the 11th March. The object of this board was to inquire into the diet, supply of water, clothing, duty, and encamping of the army; and under the head of camps there is the following observation:—

“ The localities of many of the camps are objectionable from the immediate vicinity of ravines, containing dead animal remains superficially buried, and other impurities;

but this the board is aware, from the military position taken up for the siege of the fortress, is to a great extent unavoidable, but they consider it necessary to advise that immediate steps be taken to cover all animal remains with an additional quantity of earth, as well as lime, and prevent the recurrence of any nuisances. As we are in a standing camp, in which impurities must collect, it becomes in the highest degree important that the utmost cleanliness should be preserved in the camps and their vicinities—that great attention should be paid to the Latrines, which ought to be dug sufficiently deep, at least four feet, to admit of their being covered in with earth daily, and for the purpose of deodorizing, ashes and refuse charcoal, as well as lime should be frequently used.

“ In conclusion, the board have observed in passing through the various camps and roads leading to Balaklava, that dead horses are still lying about, in some instances unburied, in others scarcely covered, and beg to call attention to the circumstance as likely to be productive of disease.

“ And in order to stop irregularities, such as the sale of spirits, and other camp nuisances, they strongly recommend that an efficient camp police be established, which should be directed to exercise thorough surveillance of the Bazaar establishment near Kadakoi, complaints of which have been brought to the notice of the board.”

On the 1st March, 1855, I applied officially to the Quarter-Master General, as has been already stated, to have a dung-hill removed from the south side of the General Hospital at Balaklava, and on the 14th of the same month I sent a protest to the same officer against the Land Transport Corps pitching their encampment of animals close to the Hospital huts of the 4th Division.

On the 12th May, finding that many of the graves of animals had fallen in from the heavy rains of the two preceding days, I addressed the following letter to the Quarter-Master General:—

“ I beg to draw attention to the graves of dead animals in camp, many of which, from the decay of the bodies, and falling in of the earth since the heavy rain set in will become very offensive and injurious to health on the return of hot-weather.

“ Cholera has manifested itself in the 2d Division, and

in some of the newly-arrived regiments—the Buffs, 71st, 48th, and 2d Battalion of Royal, for instance; and I would recommend the coarse waterproof blankets which have been sent out to be issued to them for the men to sleep on.

“The graves of dead animals and the cemeteries of the different divisions should be covered at once with a stratum of earth, lime, or charcoal; and, in future, when bodies are buried it would be desirable to cover them with lime or charcoal.”

This recommendation was immediately attended to, and effectual measures were taken to remedy the evil.

On the 30th April, 1855, when symptoms of cholera had made their appearance in camp, I addressed the following to the Quarter-Master General, in consequence of representations which had been made to me.

“Some cases of cholera have taken place in front, all admitted from the trenches. The stench in the advanced trench of Green Hill, and about the caves, where the men are sheltered in the day time, is described to be very great, arising partly from human excrement, and partly from the decomposition of bodies buried there. If practicable, I would recommend the graves to be covered with more earth and quick lime, and earth and lime to be spread over the surface that has been used by the men as a Latrine. Perhaps Latrines could be dug in some sheltered spot that would prevent the present practice of men obeying the calls of nature in every direction.”

On the 1st May, 1855, I had occasion to bring under the notice of the authorities the dirty condition of the precincts of the Croat Hospital huts, which were at the very door of the Sanitary Commissioners at Balaklava, and on the 2nd of May, Mr. Fitzgerald, Purveyor, submitted his plan of getting rid of the hospital filth at Balaklava, which I approved, and recommended for the Commander-in-Chief's favourable consideration.

On the 5th April, 1855, I had occasion to bring under the notice of the military authorities the nuisance that the Latrines and bat animals of the Scots Fusilier Guards were to the 2nd and 6th Dragoons, at Kadekoi.

These are given as examples of some of the recommendations that had been made by the Army Medical Officers in anticipation of the Commissioners suggestions—1, 2, and 3, inserted at pages 127 and 128 of their report.

These recommendations, and many other verbal ones, were made to the military authorities, irrespective of the Sanitary Commissioners, who were more likely to borrow hints from the Army Medical Officers than they to require instruction from them in such matters. I say this advisedly, and I shall be able to shew by subsequent correspondence that at no period of their residence in the Crimea was their advice or assistance necessary, so far as the local sanitary affairs of the army were concerned. Even the practical conclusions they have arrived at, though unexceptionable, are so common place, so well known, and so generally admitted that it is amusing to see them paraded as the result of so many months' deliberation on the part of functionaries invested with almost unlimited power to correct bad smells and other sanitary defects.

All admit the advantages of space and ventilation in barracks, hospitals, and tents, and when the Commissioners were about it, like children wishing, why did they not at once recommend the Indian scale of accommodation of 1,200 cubic feet of space for men in barracks, and 1,800 for the sick in hospital? It is all very fine to say the sick should have this or that amount of space, every one knows that; but in the early part of the winter of 1854-5 it was a question of shelter of any kind, and very often both Hospitals, huts, and tents were overcrowded; but this was neither unknown to, nor unnoticed by, the Medical Department, as will be shewn by the following communications addressed to the military authorities by myself and the other officers of the Medical Department of the Army prior to the arrival of the Commissioners—I may say before they had been heard of, and which are given in answer to proposition No. 6, page 128 of their report.

On the 21st February, 1855, in writing to Dr. Pine, Medical Superintendent of the 2nd Division, about supplies, there is the following passage in my letter:—“I am urging on the completion of the huts at the Castle Hospital, Balaklava, for really the mortality from fever at Scutari is so great that I send men down with great reluctance. Within the last few days the fever cases at Balaklava have been doing much better. Have you noticed any favorable change in the cases under treatment in camp?”

And in a letter of the same date, addressed to Dr. Hume,

Superintendent of the 3rd Division, there is a paragraph of the same purport as that addressed to Dr. Pine, which is followed by this observation:—"I hope you insist on the walls of the hospital marquees being lowered whenever the weather will admit of it, and that you urge on the attention of Medical Officers the necessity of moving and cleaning under every patient daily, or every second day at the outside, to prevent accumulation of filth of every kind, which is so apt to take place if this be not attended to.

"It would be a good thing for you to recommend through the divisional authorities the men's tents to be struck occasionally during moderate weather, that the ground where they stand and the interior of the tents themselves may be purified by free exposure to the air.

"As low fever, you say, is on the increase, I think it would be well to have all the filth near the Hospital establishments and near the men's tents collected daily, and either burnt or buried."

Considering that febrile disease was generated by want of personal cleanliness, and that other complaints, such as itch, scurvy, and ulcers remained undetected for want of the usual weekly inspection of the men by their own Medical Officers, I issued a circular memorandum on the subject, dated 17th February, 1855, in which there is the following passage:—"He therefore requests superintending Medical Officers will see that this duty is performed weekly; and so important does he consider personal cleanliness on the part of the men, as a preventive of disease, that he directs a certificate may be added on the back of the weekly state of sick that this duty has been performed. Government has provided soap, and there is no excuse for the men going about from one week's end to another without either washing their persons or changing their flannels or shirts."

This order was taken exception to by some of the Medical Officers, and some one took the trouble to publish a copy of it in the newspapers, with the sneering remark, that "the Doctor must have mistaken the date." Sarcasm is double edged, and the man who published this forgot that as the order referred solely to an established, and, in a sanitary point of view, an important regulation of the service, it was to be regretted the Inspector General of Hospitals had occasion to issue it all.

On the 27th March, 1855, in a letter to the Quarter-Master General, calling attention to a report of Staff-Surgeon Roberts, on the over-crowded, and ill-ventilated state of the men's tents in the 4th Division, I make the following remark:—"The men generally are extremely dirty in their persons, and are likely to continue so unless some well-regulated coercive measures be adopted to compel them to pay attention to this all-important sanitary measure.

"With fever prevalent in camp, and on the increase, crowding of the men ought to be specially guarded against. The walls of the tents should be raised daily, and the men's clothes and bedding exposed to the open air, when the weather will permit of it; and the tents should be struck once a week to purify the ground where they stand.

"If measures of this kind, and personal cleanliness be not enforced by authority, the fevers which now prevail will in all probability become infectious, and spread extensively through the camp."

The above, I think, will be admitted as sufficient evidence of the attention of Army Medical Officers to what the Commissioners recommend at page 128, paragraph 6, viz.:—"It would be very advantageous to strike the tents, and remove them a short distance from the ground they occupy, so as to leave it exposed to air and sunshine."

At page 148, the Commissioners say:—"On the 18th July, another communication was addressed by Dr. Sutherland to General Simpson, respecting the bad sanitary condition of certain parts of the trenches. At one point the works had to be advanced through places where interments had been made, and offensive emanations had arisen in consequence.

"It was difficult to dig graves deep enough for the burial of those who fell. From the nature of the service it was found to be impossible to make any proper Latrine arrangements, and the effluvia arising from this cause was highly dangerous to the health of the troops, and there was reason to believe that cholera and diarrhœa had arisen in consequence. To remedy these evils, it was suggested that peat charcoal might be carried in bags to the trenches and spread over all graves or accumulations of offensive matter. General Simpson at once agreed to and adopted the precaution."

It will be remembered that on the *30th of April*, when cholera re-appeared in camp, I recommended quick lime to be used in the trenches, to correct the stench there; and on the *4th June*, in a letter to the Adjutant-General of the Army on the subject of cholera, I advised charcoal to be used night and morning for the same purpose: so that the Commissioner was late with his suggestion, as by the time it was made cholera had nearly disappeared from that part of the camp.

The mode of clearing sites for the huts, recommended by the Commissioners at page 126, paragraph 2, is unexceptionable; but the mode of securing them, suggested in paragraph 7—"To secure each hut to the site in exposed situations, holding down bolts or timbers should be inserted in the rock or earth, as the case may be"—is easier given than it would have been found practicable to carry out in the winter of 1854-5, when both means and labour were wanting, and the readier mode of banking up earth and stones was resorted to; and though this may not be the most scientific manner of securing huts, its simplicity recommended it, and it was, in many instances, continued to the very last without any material detriment to the men's health, as the condition of the interior of the huts depended more on the surrounding surface drainage than on any trifling embankment of this nature placed round the base of the huts themselves.

Of the different modes of ventilation adopted, the merit, if any, is entirely due to the Medical Department of the Army, as not a single one of them was originated by the Sanitary Commissioners.

The only notable expedient I heard of was that of covering all the huts in camp with white calico! but that I believe, was the suggestion of Sir John M'Neill, and not of the Sanitary Commissioners; and as it was brought officially under my notice by Staff-Surgeon Wood, I felt bound to submit it for Lord Raglan's consideration. His Lordship appointed a committee to report on the recommendation, and as the suggestion was not adopted, I presume, he did not consider it expedient to incur so heavy an expense for so questionable an advantage.

On the 14th March, 1855, after my official inspection of all the Hospitals in camp, I issued the following

medical memorandum to all the Superintending Medical Officers of Divisions:—

“Many of the Hospital huts in the divisions are overcrowded with sick, particularly as fever is the prevalent disease. Dr. Hall requests that the number in each hut may be limited to 16 with fever patients, and 18 or 20 with other complaints, and that these numbers be never exceeded.”

On the 14th March, 1855, I made an official application through the Quarter-Master General to have all the huts in camp ventilated.

This application was made in anticipation of the report of the Medical Committee then sitting, so important and pressing was the subject considered by me. On the 25th March the Medical Committee reported as follows:—

“The Board have observed that the Hospital accommodation, although very considerable, consisting of huts, marquees, and bell tents, for every regiment, will scarcely prove adequate to the comfortable accommodation of the sick in warm weather, and the avoidance of that degree of crowding, which may convert simple into infectious fevers, and therefore strongly urge that an unlimited amount of Hospital accommodation be placed at the disposal of the Medical Department, and that steps be taken, without delay, to have all the huts ventilated in such a manner as to adapt them to any vicissitudes of climate or temperature we are likely to experience, and that cannot be tampered with by the men themselves.

“The plan of ventilation proposed is as follows:—Three wooden tubes, 6 inches square, and 18 inches long, to be inserted in the roof of each hut, 12 inches projecting outside, and 6 inches within, with a penthouse covering; that holes be bored at the bottoms of the doors, and a ventilator placed over the fixed windows.”

On the 27th May, 1855, the subject of ventilating the huts was again brought under the notice of the Quarter-Master General, on returning the proceedings of a board of officers, which had been assembled to consider the subject of Sir John M'Neill's proposition for covering all the huts in camp with white calico.

On the 8th July, cholera having made its appearance in the 13th Foot, quartered at Kadekoi, I recommended that the neighbourhood of the huts, which was

covered with rank vegetation, should be cleared, and that the men should be thinned as much as possible in the huts; and, if the service would admit of it, that a portion of them should be sent to the Balaklava heights, either to the huts formerly occupied by the Guards, or to those in which the 63rd Regiment had been located.

On the 11th July, 1855, a special report was made to the Quarter-Master General by me, of the number of dead animals lying about the General Hospital at St. George's Monastery.

18th July, 1855.—Application was made to have the surface drainage of the General Hospital in camp improved, and the obstruction of officers' kitchens, between the Hospital huts, removed.

25th August, 1855.—Letter from me to Major-General Airey, representing the offensive state of the privy at the General Hospital, Balaklavæ, and applying to have it filled up, and the plan pursued in India, of having the soil tubs removed daily, adopted.

27th August, 1855.—Letter from me to the Quarter-Master General, representing the over-crowded state of the men's tents in the Cavalry Division.

On the 11th February, 1855, I submitted to the Quarter-Master General a copy of a representation which had been made by Dr. Hume, Staff-Surgeon, to the military authorities of the 3rd Division, of the unserviceable condition of the bell tents in use in the 28th, 38th, and 88th Regiments, and that the men of F Battery of Artillery had no boards to sleep on.

On the 13th of the same month, I brought the subject again under the notice of the Quarter-Master General in the following terms:—"Huts should at once be got up for the sick, and if no tents are in store at Balaklava great facilities exist, by the constant running of steamers, to get them up from Constantinople. Proper shelter for the men is a thing of so much importance, I cannot too strongly urge it on the notice of the Field Marshal Commanding-in-Chief."

At page 76, the Commissioners say:—"These various points connected with the water supply were brought under the notice of the late Field Marshal Lord Raglan, in communications on the subject addressed to his Lordship on the 16th and 26th May, 1855.

“In making these recommendations the Commissioners were aware of the want of certain materials required for carrying them out. The Commander of the Forces was desirous of giving effect to any improvement the Commissioners might suggest, and he directed Captain Ewart, Royal Engineers, to consult with Mr. Rawlinson on the subject, but, unfortunately, before an appointment could be kept Mr. Rawlinson was obliged to return to England.”

These suggestions the Commissioners say were made to Lord Raglan on the 16th and 26th May, 1855, and as Mr. Rawlinson did not leave the Crimea until the 21st June, it is to be presumed that his Lordship could not have considered the Commissioners' suggestions of immediate practical urgency, or that the arrangements for the supply of water, which had been brought under his notice by the Military Board of Health in the month of March, were beyond the skill of the Royal Engineers to carry out.

The following is the Report of the Military Board of Health made to Lord Raglan in March, 1855, on the supply of water for the camp in front of Sebastopol.

“Too little attention appears to be paid to the supply of water, which, although limited, is allowed to run to waste, and from the absence of tanks or proper means of collecting, is often charged with mud and animal and vegetable impurities. It is, therefore, suggested that immediate steps be taken to husband the water, and dig new wells in different directions before the summer season, or the effects of a dearth may be experienced.”

“Referring to the water supply of the 3rd Division in particular (but the same principle applies to all the other Divisions) it is recommended that tank No. 1, nearest the spring, be cleared and reserved for the hot weather; the next, or No. 2, to be used for domestic purposes; that a trough be constructed between Nos. 2 and 3 for watering horses; and that No. 3 be appropriated for the purposes of ablution.”

“As these tanks are on different levels, and fall one into the other, this arrangement can easily be effected. At present there is a great waste of both time and water, the latter is polluted and rendered unfit for use by washing clothes, &c. in the tanks.”

In the course of the early part of the summer attention was paid to the water supply of all the Divisions; the

springs were covered in, and the water led by iron piping (an abundance of which was on the spot) to the tanks or reservoirs, which were all cleaned and repaired. Some fresh sources of supply were opened up, and in this manner a sufficiency of water was secured for the army during the summer.

These arrangements were carried out by the Engineer Department, and no very great merit is due either to the Sanitary Commissioners or to any one else for bringing such a common-sense matter of fact under notice.

At page 72 the Commissioners say of the water supply: "Several of the springs combined in a ravine near the monastery, we gauged on the 15th May, 1855, and found them to yield 35,000 gallons per day of 24 hours, and this yield could have been much increased by simple engineering contrivances."

Very possibly these springs might have produced the number of gallons per day as stated, when they were examined by the Commissioners in the month of May, but of what use were they to the British army beyond supplying two batteries of artillery which were subsequently encamped not far from them, as they were distant, at least, three miles from the nearest point of our lines.

At page 73 the Commissioners say: "Descending towards Balaclava the upper part of that valley towards the 'Col' had a stream of water running down it, derived from springs flowing from the lofty hill sides south of the 'Col.' This water if properly economised would have supplied a large number of troops. Near its source, however, it was fouled by both Turks and French, and, for want of care, became so polluted in a very short time as to be unfit for consumption."

"Below this point a number of dead animals had been thrown into the bed of the stream, and by the time the stream arrived at Kadikoi it was useless."

There were springs under the 'Col,' or rather Middle Hill, above Mrs. Seacole's hut, which supplied water all the year round, and were preserved for domestic use, but the feeble surface water rill here alluded to by the Commissioners ceased to run in the summer.

Lower down the ravine, about mid-way between the 'Col' and Kadakoi, there were abundant and never-failing springs, capable of furnishing almost any quantity of water,

which was preserved pure in tanks at three different places, and from these the camp of the Land Transport Corps, and that of the Army Works Corps, at the stationary engine, as well as the cavalry horses were supplied.

Neither French nor Turkish troops were encamped near the springs here alluded to under the 'Col' for many months prior to the army quitting the Crimea, and when they were, encamped there in the spring and summer of 1855, no British troops were near them, nor was the water of the springs in question required; but when a division of the Land Transport Corps subsequently occupied the ground the springs were properly protected.

In like manner the Commissioners description of dead animals thrown *into the bed of the stream* might lead strangers into error, as they would be apt to infer from such grandiloquent terms that there was a regular rivulet at least, whereas it consisted of nothing more than a simple gutter which drained the surface water from the high ground into the ravine below during the winter. And as for the dead animals which were thrown into the ravine, the Commissioners could only have seen those on their arrival, when some French artillery occupied the ground near its upper part, because care was taken to bury them all at a later period. But at all events, buried or unburied, they could have had no influence over the supply of water at Kadakoi which was drawn from springs on the spot, quite distinct from the run produced by the surplus water of the springs higher up the ravine.

The description of the supply of water for the cavalry camp, given by the Commissioners at page 73, only holds good during the winter months, as the small stream from the Karani valley had no existence during the summer, and the horses were watered either at the tanks already mentioned in the ravine leading from Middle Hill, Mrs. Seacole's, or at Kadakoi.

At page 131, the Commissioners say:—"On the 3rd May the Commission was applied to by Dr. Hall to examine a site for a fourth General Hospital, which he had selected near the Monastery of San Georgio, and of which we entirely approved."

A strange construction seems to have been put on what was merely meant as an act of courtesy towards the Commissioners on the part of Dr. Hall, for to say nothing of

his ability to select a proper site for an hospital, after 40 years' service and experience in every quarter of the globe, the Commissioners must remember that part of the hutting material was already on the ground at the period of their visit, so that he could have had no serious intention of consulting them on the matter; nor was it any vanity on his part to suppose that he was as good a judge in such affairs as either Dr. Sutherland or Mr. Rawlinson, when left freedom of choice.

At page 141, it is stated:—"We examined the hospital arrangements on board the ships "Orient," "Poitiers," "St. Hilda," "Clifton," and "William Jackson." We found them generally good, and sufficient for conveying sick to a distance, but we were decidedly of opinion that in the existing condition of the port no ship could be used there as an hospital with safety. We accordingly stated this opinion to the Commander of the Forces on the 19th April."

This is in every way creating a giant on the part of the Commissioners for the sole purpose of slaying him, for it was perfectly well known that these ships were fitted up by the Army Medical Department, on authority from the Secretary of State for War, as a measure of precaution in case of the army meeting with any reverse, and were never intended to be used as floating hospitals in the harbour of Balaklava, so that the forethought and precaution of the Commissioners were unnecessary; and one is only astonished at seeing such statements put forth as useful information afforded by them to the military authorities in the Crimea. It is possible they may have laboured under some such delusion at the time they wrote their despatch, as despatch-writing seems to have been their anxiety and forte; but they might have had that corrected had they asked the question of Dr. Anderson, Principal Medical Officer at Balaklava, who superintended the fitting up of these ships, or applied to Dr. Hall, Principal Medical Officer of the Army, for information on the subject; but, "Where ignorance is bliss it is folly to be wise."

At page 230, the Commissioners give the rations of the men, which they admit were abundant, but they recommend flour, peas, and cheese to be added.

The subject of diet, however, had not escaped the notice of the Military Board of Health, and the following is a

copy of their remark:—"So far as the board have been able to ascertain, the rations at present furnished to the troops by the Commissariat appear ample, more than sufficient in quantity, and good in quality; indeed, so far as the quantity is concerned, it is well known that a great waste of food takes place—the biscuit and salt meat is not only thrown away, but frequently sold to our allies for spirits, which, owing to the absence of any camp police, cannot be prevented. This may be attributed to two causes, a distaste or dislike for food which offers little variety, and the well known penchant of the British soldier for spirits. Although fresh meat is now (March, 1855) regularly and daily issued to all the Hospitals the supply to the troops generally is rather limited, but, this varies in some regiments and divisions.

"This report refers to the present month, March, but the Board are aware that in the winter the troops were for too long a period on salt rations exclusively, which sometimes were eaten half raw, or quite so, for want of adequate means of cooking.

"This contributed undoubtedly to the generation of scurvy, and a deterioration of the general health of the men.

"To remedy this, and afford what appears to be the essential requisite, viz. a sufficient variety of animal and vegetable food, it is recommended, if practicable, that bread be substituted four times a week for biscuit, that fresh meat be issued regularly at least three times a week, alternating with salt, and that the salt meat be soaked—the pork 12, and the beef 24 hours; that a proportion of fresh, or preserved vegetables, as well as lime juice, be given daily, so long as scurvy exists. That condiments, such as pepper and salt be issued as part of the ration, and that mustard and vinegar be purchased by the messes. Beer and porter, while the army remains in its present position, might be advantageously substituted for half the ration of rum, which, when taken on an empty stomach, as is too frequently the case, must be injurious. Tea to be issued alternately with coffee, as was recommended by the Special Board, which was assembled on the 19th March, 1855, to consider and report on the subject."

The above, with the many recommendations, both verbal and written, which had from time to time been made to

the Commander-in-Chief by Dr. Hall, the Principal Medical Officer of the Army, on the subject of diet, some of them dating as far back as July, 1854, show that due attention was paid to this important subject by the Medical Department of the Army, so far as they were concerned; and if the ameliorations which they recommended could not, from the nature of the service, and the position the army was placed in, be carried fully into effect, it was not their fault.

In like manner the following remarks of the Military Board of Health made on clothing, in March, 1855, may be contrasted with those given at page 234 of the Sanitary Commissioners' report:—

“That all superfluous warm clothing, such as sheepskins, buffaloe robes, fur caps, &c. be discontinued the moment the weather will admit of it—such things harbouring dirt and vermin, as well as being a means of propagating infectious diseases. It would be advisable to have them all collected into store, and sent to Constantinople, or elsewhere, to be thoroughly cleaned and fumigated, so as to be again fit for re-issue if required.

“The urgent necessity of introducing some regimental arrangement throughout the army for washing men's clothes both in and out of Hospital is so obvious as to need no recommendation from the Board. At present, except in a very few regiments, the men are left to themselves.

“In recommending a return to the ordinary clothing, it is requisite that steps be taken to get rid of all clothing and blankets infested with vermin, that the men, if possible, have a change both of boots and clothes, and be compelled to appear at least once a week in clean undergarments; and that personal ablution be enforced.”

These suggestions were adopted—places of ablution were provided, and the army soon assumed its ordinary appearance.

From an early period of the campaign the clothing of the army occupied the attention of the Medical Department of the Army. Dr. Dumbreck, Deputy Inspector General of Hospitals, in his topographical report of Servia and Bulgaria in the spring of 1854, described the bedding and clothing used in Northern Turkey; and on the 17th and 21st August, 1854, Dr. Hall furnished Dr. Smith with an account of the winter clothing worn by the Austrian

and Russian armies, and recommended a waterproof piece of cloth for the men to sleep on in their tents, to protect them from terrestrial exhalations. Subsequently waterproof blankets were furnished in abundance, but the mischief that was apprehended when the suggestion was made had then been done. Even 120 tarpawlings that had been shipped by the provident foresight of the Director-General of the Army Medical Department, on board the Mauritius steamer, for the use of the sick, were seized on by other departments, and appropriated for other purposes, such as the protection of gunpowder, &c.; and when Dr. Hall remonstrated, he was told the services they had been applied to were of more importance. The services might be important, but whether more so than those of protecting human life admits of doubt; but be that as it may, the departments that required tarpawlings should have had them provided in some other manner than by trenching on the resources of the Medical Department.

At page 83, the Commissioners say:—"While inquiring into the sanitary state of the troops, we were struck with the comparatively small amount of sickness in the Naval Brigade serving in camp before Sebastopol."

This is accounted for by Dr. Smart, at page 298 of the report, in his statement of the duties the Brigade had to perform, their superior shelter, diet, and means of cooking, from the period of their landing in October, 1854. All casualties, it appears, were immediately replaced from the fleet, and the greater part of the force was changed altogether in the course of the winter of 1854-5; so that in place of the constant and harassing duty of twelve hours in and twelve hours out of the trenches, with other laborious duties, which the troops of the line had to perform, with no reserve to replace those that were killed or fell sick. The Naval Brigade had to man one battery, which admitted of the men enjoying always two, and often three uninterrupted nights' sleep out of four in their tents. These, that is, rest, less duty, and more comforts are the great secrets of the superior health of the Naval Brigade; and Dr. Smart states them fairly and candidly, and does not attempt to draw the disparaging inference which the Commissioners do.

With reference to the selection of sites for the erection of convalescent establishments on, I may quote the follow-

ing to show that the Army Medical Department were as fully alive to that important subject as the Sanitary Commissioners could be.

From Dr. Hall to the Quarter-Master General, dated 4th April, 1855.

“I have the honor to submit for the favorable consideration of the Field Marshal Commanding-in-Chief a report and rough sketch of Sinope, by Mr. Cruikshank of the Commissariat Department; and as the advantages of the place are so apparently superior to many others that have been named as convalescent stations, I beg to recommend that one of the Sanitary Commissioners sent out by Government to the Crimea be directed to report on the advantage or disadvantage of forming Hospital establishments there.”

At page 143, the Commissioners say:—“That soon after their arrival at Balaklava they received a request from Lord Raglan, asking them to examine the Peninsula of Sinope, as a site for an Hospital. On the 30th May they sailed from Balaklava for Sinope, and they remark:—‘The anchorage at Sinope was carefully examined, and found to be good, and jetties for landing the sick could easily have been constructed. There were no buildings in the town of Sinope itself which could have been rendered available for an Hospital, but there were several excellent sites on the Peninsula. The mass of the peninsula consists chiefly of igneous and tertiary rocks, the natural drainage is sufficient, there are no marshes, or local sources of malaria, and the sea almost surrounds the lofty table land of which it is composed. It is, perhaps, the most healthy site along the north coast of Asia Minor. Fevers were stated to be unknown, and invalids came from the neighbouring districts to recover their health. The supplies are abundant, except in the matter of fresh vegetables. The water was good, but limited in quantity, and a sufficient amount could not be obtained for an Hospital of any large size without incurring considerable cost for engineering works.’

“This was the main objection to Sinope, which in other respects was a good place for a large Hospital as could have been desired.”

Never having been at Sinope, I am unable to speak

from my own observation, but Mr. Cruikshank, in his report, described the supply of water from some springs, not far distant, as ample, and that there were old Roman cisterns in the place which could easily be cleared and repaired.

That want of water could not have been a valid objection to the place is proved by the number of men and animals belonging to the Commissariat and Land Transport Corps, which were subsequently stationed there without any inconvenience on that score having been felt.

On the 23rd April, 1855, Dr. Hall, in reply to a letter from Dr. Parkes, of the 19th of the same month, informing him that he had been sent out by Lord Panmure to establish an Hospital on the shores of the Bosphorus, drew his attention to Sinope as a desirable site for an Hospital, both on account of its reputed salubrity, and its proximity to the seat of war.

The suggestion was not entertained by Dr. Parkes, for fear of incurring demurrage, and he fixed his establishment at Renkeoi, nearly the most distant point of the Dardanelles from the Crimea, and there, in addition to the enormous expense of erecting this temporary establishment, water had to be led down from the neighbouring hills, at an expense far greater than would have been required at Sinope for the same purpose.

In April, 1855, there is the following reply from Dr. Hall to a communication from the Quarter-Master General, informing him that 40 Hospital huts had just arrived from England, and requesting to know how he wished them to be disposed of:—

“ I have the honor to state, as I have done on a former occasion, that much will depend on the length of time it is probable the army will remain in its present position. If there is a probability of its remaining during the summer and autumn in front of Sebastopol, it will be absolutely necessary to erect Hospital establishments on distant and uncontaminated sites. Such as the neighbourhood of the Monastery, and on the plateau to the westward of the entrance into Balaklava harbour, both of which are good, and would be desirable localities. The situation of Cossack Bay, on the west side of the entrance into Balaklava harbour, I have already pointed out as an eligible place for an Hospital establishment; and the neighbourhood of the

Monastery would depend greatly on permission being obtainable or not to take water either from the fountain within the precincts of the Monastery itself, or draw it from the well in front of the outbuildings.

“From all accounts Sinope would make a most desirable convalescent station, and it has the additional advantage of being equally applicable, whether the army remain in its present position, or move to a distance to act against the enemy.”

On the 5th May, 1855, a question was raised about Cossack Bay by the Quarter-Master General, to which Dr. Hall made the following reply:—

“In returning the enclosed correspondence between Rear-Admiral Boxer and Sir E. Lyons, concerning Cossack Bay as a convalescent station, I have the honor to state that I consider the site a very eligible one for the purpose, but the objections raised when I proposed it were want of water, and difficulty of landing when the wind was from the south, owing to the swell that then sets into the harbour. Though the site is desirable, as the military did not avail themselves of it, it would not be fair to attempt to interfere with the navy, who have taken possession of it, and have already erected huts there.

“The site near the Monastery is, in my opinion, a more eligible one on the score of health than Cossack Bay, and the supply of water is more abundant, but the trouble of transporting other stores will be much greater.”

On the 10th May, 1855, the attention of the Quarter-Master General was drawn by Dr. Hall to the leaky condition of the Hospital huts at the Castle, Balaklava, and a request made that they might be repaired as speedily as possible.

On the 12th May, 1855, a report having been made to Dr. Hall, Inspector General of Hospitals, by the Surgeon of the 68th Regt., of the injurious quality of the wine allowed to be sold in the canteen of the 4th Division, he transmitted it to the Adjutant General of the Army, with the following remark and recommendation:—

“This is a subject of very serious importance, because the canteen man, whose object naturally is to make as much money as he can, will purchase and sell inferior articles, if his establishment be not placed under strict military supervision.

“ I would, therefore, recommend that all canteens should be visited at uncertain periods by a committee, composed of a captain, a quarter-master, and a medical officer, and that they be empowered to condemn all articles found to be of a quality dangerous to the health of the troops.

“ It would be well if a tariff of prices could be established in the canteens, on the plan that is adopted in the bazaars in India, and, I believe, in the French camp here.”

The subject of canteens is a vexed one, and many officers have a fancy for them. Major Whitmore, who had been appointed Commandant of the Monastery Hospital, established one there, contrary to the wish of Dr. Jameson, the Principal Medical Officer of the Hospital. The subject was referred to Dr. Hall by Dr. Jameson, on the 10th December, 1855, and submitted by him to the Chief of the Staff, with a request that the nuisance might be abated, and the answer he received to a question of so much sanitary importance was the following laconic reply, written on the margin of his letter, “ Left to the discretion of the Commandant.”

The result of the Commandant’s discretion was, as might have been anticipated, drunkenness amongst the Hospital attendants, which was represented in the following letter from Dr. Jameson to Dr. Hall, dated 31st January, 1856 :—“ With reference to my letter, No. 491, 10th December, 1855, on the subject of the inexpediency of establishing a canteen in the immediate neighbourhood of the General Hospital, more especially when that Hospital is unprotected by a single sentry. I have now the honor to submit—I am credibly informed, that contrary to the original instructions, spirituous liquors are constantly sold in the canteen of the Monastery. Indeed, only this morning, an orderly of the Medical Staff Corps, confined at my request, at the night visit of the Staff Surgeon, for drunkenness, alleged to me in his defence he had only drank two glasses of cogniac he had purchased thereat.”

The above letter was transmitted to the Chief of the Staff by Dr. Hall with the following communication :—“ I have the honor to submit a communication which I have received from Dr. Jameson, Principal Medical Officer at the General Hospital, Monastery, pointing out the ill effects of having a canteen on the spot to tempt the men to drunkenness, and I can only repeat what I stated before,

that such an establishment is not, in my opinion, needed there, and ought never to have been established by the Commandant."

No attention was paid to this, and on the 15th March, 1856, Dr. Hall had occasion to forward a third remonstrance from Dr. Jameson on the same subject. Besides the orderlies and people about the General Hospital, there was only a small detachment of about 30 men at the Monastery, so that the canteen was unnecessarily mischievous, and shows in a striking manner the impolicy of giving uncontrolled power to local commandants unless they are men of sound judgment, prudence, and discretion, which this transaction leads one naturally to infer all are not.

During the winter of 1856 much drunkenness prevailed in the Army in the Crimea, and several men died from the direct effects of it. There was reason to believe that liquor of a deleterious nature was sold to the men, and on bringing under the notice of the authorities a statement made by Surgeon Watt, of the 23rd Fusiliers, that one man had died under the apparent effects of some narcotic poison, and that another had very narrowly escaped the same fate from drinking liquor purchased at the regimental canteen under the denomination of rum.

This letter was submitted by Dr. Hall, Principal Medical Officer of the Army, with the following one from himself, dated 8th April, 1856:—

"I have the honor to enclose a letter from Surgeon Watt, 23rd Fusiliers, dated 7th inst., calling attention to the deleterious nature and fatal effects of the spirits sold in the canteen of that regiment.

"So many deaths have occurred from the direct effects of drunkenness in the course of the winter, and what Dr. Watt hints at is of such fearful import, that it is of importance all canteens should be placed under strict control, and no liquor be permitted to be sold in them that has not been approved by a board appointed for that purpose, and I take leave to suggest for the favorable consideration of the Commander of the Forces, that a permanent board, composed of a captain, a medical officer, and a quartermaster, be appointed in each regiment. That this board, or any member of it, be empowered, and enjoined to visit the canteen frequently, and at uncertain periods, to ascertain the nature and quality of the liquors sold to the

soldiers, and that all liquors bought by the canteen man for sale to the soldiers be submitted for the examination and approval of the board previously to its issue. By these precautionary measures it is to be presumed the sale of drugged liquors would be prevented; and by placing a non-commissioned officer over the canteen, as is the usual custom in quarters, the sale of liquor to men in a state of intoxication would be prevented.

“All canteens not belonging to regiments should be abolished, and if any arrangements could be entered into with our allies on this subject it would be desirable.”

The foregoing communication was returned with the following marginal note, in the Commander-in-Chief's own handwriting:—“How does Dr. Hall wish to prevent French canteens selling brandy and bad spirits?”

“All regimental canteens are in the direct power of regimental commanding officers at this moment.”

If the canteens were in the power of commanding officers of regiments it was very clear, from what had occurred in the 23rd Regiment, that they did not exercise sufficient control over them, at least, that was my opinion at the time, and the Commander-in-Chief's remark did not alter it. Nor did I see that there would have been much difficulty in his coming to an understanding with the French Marshal on a point of so much importance to both armies.

On the 1st of August, 1855, the following letter was addressed to the Quarter-Master General by Dr. Hall, the Principal Medical Officer:—

“I have the honor to acquaint you that loud and almost universal complaints have been made of the leaky condition of the Hospital huts, and of the inconvenience and injury the sick have sustained from that cause. I request, therefore, you will be good enough to give instructions to have this very serious defect remedied with as little delay as possible.

“It is true we may fairly calculate on rain not continuing for any length of time at this period of the year; but we all know, from past experience, that the season is fast approaching when heavy and continuous rain may be expected.”

On the same day the following estimate of hutting for the Medical Department was sent in:—

HOSPITAL HUTS.		Huts.
50 Regiments of Infantry		100
14 „ Cavalry		14
Royal Artillery and Royal Sappers and Miners		30
Ambulance Corps		2
Land Transport Corps		12
		<u>158</u>
STORE HUTS.		
6 Divisions of Infantry		12
1 „ Cavalry		2
Royal Artillery and Royal Sappers and Miners		4
Ambulance Corps		1
Land Transport Corps		2
Head-quarters Camp		1
		<u>22</u>
OFFICERS' HUTS.		
Head-quarters Principal Medical Officer		1
„ „ for office		1
„ „ for Clerks and Medical Officers		3
Cavalry Division Principal Medical Officer		1
„ „ Staff Surgeon		1
„ „ Purveyor and Dispenser		1
Royal Artillery Principal Medical Officer		1
„ „ Right Siege Train		2
„ „ Left		2
Royal Sappers and Miners		1
6 Divisions of Infantry, 6 Principal Medical Officers		6
„ „ 12 Staff Surgeons, 1st Class		12
„ „ 48 Staff Asst. Surgeons		24
„ „ Purveyors and Dispensers		6
BALAKLAVA.		
Principal Medical Officer		1
General Hospital		1
Castle „		1
Purveyor		1
Purveyor's Clerks		4
Medical Officers		10
		<u>260</u>

On the 3rd August, 1855, Dr. Hall addressed the following letter to the Quarter-Master General, on the subject of hutting :—

“With reference to my memorandum of the 1st inst., of the number of Hospital huts required for the army during the ensuing winter, I have the honor to inform you that timber and boarding will be required to make kitchens, and Latrines for the use of the Hospitals and sick, and as I am unacquainted with the process of calculating and estimating for timber for building, I think it would be desirable for an engineer officer, or clerk of the works to go round and ascertain the probable quantity required.

“The old huts now in use, if retained for the winter, would require to have their walls doubled, or covered with blanketing or felt, and the roofs should be thoroughly repaired, and the felting more carefully put on, so as to make allowance for its shrinking. Proper drains and causeways should be made around, and leading to the Hospitals before the wet weather sets in. The same measures should be adopted with the men’s tents, and every precaution taken to keep the men from damp. For this purpose boarded platforms should be used for sleeping on, and better means for ventilating the tents adopted than now exists.

“The mode of ventilation used in the tents of the French Imperial Guard might be adopted in the British service with great advantage.”

On the 27th August, 1855, Dr. Hall made the following remark on a communication from the Sanitary Commissioners, representing the over-crowded tents of the Cavalry Division, which was submitted to him by the Quarter-Master General :—“Six men in a hut calculated to hold fifteen is a liberal allowance, but during periods of epidemic sickness it is of the utmost importance to prevent crowding; and if 12 tents for every 100 men were issued when sickness prevails in any corps, I think, it would be sufficient. The misappropriation of tentage should be strictly prohibited.”

This reference was made in consequence of a representation which had been forwarded to head-quarters by the Sanitary Commissioners, stating that the men in the Cavalry Division were over-crowded in their tents; but on inquiry it was found that there were not more than six

men in each, which is a smaller number than the transport of any army on service would admit of.

To show that the sanitary concerns of the army were not neglected by the Principal Medical Officer, the following letter from Dr. Hall to the Chief of the Staff, dated 30th August, 1855, may be quoted:—

“ Being of opinion that it is not desirable for men to go on duty in the morning fasting during unhealthy seasons of the year, and more especially when any disease prevails in an epidemic form, as cholera does at present, I called the attention of Medical Officers to the subject, but a difficulty has been started about sugar, and it has been proposed to add one ounce more to the daily ration, which would raise it to $2\frac{3}{4}$ ozs. per man daily. This quantity I consider too large for the purpose, but if the daily ration were raised from $1\frac{3}{4}$ oz. to 2 ozs. per day, I think, it would be found amply sufficient.”

On the 3rd of October, 1855, the Principal Medical Officer of the Army made the following representation to the Quarter-Master General of the Army:—

“ I beg to call your attention to the objectionable site that has been selected for the camp of the Royal Regiment. It is close to, and has within its precincts, numerous large mounds of imperfectly buried and half-decayed horses and offal. The Hospital marquees are very unfortunately placed, indeed the whole regiment is; and if there are no urgent military reasons for retaining it in its present situation I would advise its immediate removal, or we may look for the appearance of typhus fever.”

The Royal Regiment was removed to the Highland Division, at Kamara, soon afterwards, and no great damage was done.

But it may be fairly asked where were the highly-paid Sanitary Commissioners on this occasion, and what were they doing that they did not attend to this, or to the slaughter-yard and offal pits at Kadekoi, which were in a measure at their own door, that Dr. Hall, Principal Medical Officer of the Army, had to see to and get regulated at a later period.

On the 25th October, 1855, the Principal Medical Officer of the Army had occasion to address the following communication to the Quarter-Master General on the subject of the Hospital huts:—

“ With reference to my letters of the 1st and 3rd of August last, pointing out the repairs that would be necessary to render the present Hospital huts habitable during the winter, I have the honor to observe that no steps have been taken to carry out my recommendations ; and as we may look for wet and stormy weather in a few days now, I entreat that the subject may have prompt attention paid to it, for there is little prospect, I fear, of the regular Hospital huts, which were demanded on the 1st August, arriving in time to be made available before the winter sets in. Porches to the huts are essential, and I beg to recommend their erection in addition to what I recommended in my former letters.”

On the 15th October, 1855, Dr. Hall, Principal Medical Officer of the Army, in a letter addressed to the Commander-in-Chief, called his attention to works that had been commenced at the Castle Hospital, calculated to impede the ventilation, and prove injurious to the sanitary condition of the establishment. At whose recommendation this highly objectionable measure had been commenced is not known to the Medical Department, as Dr. Hall, the Principal Medical Officer, was not consulted about it, and knew nothing of it until it was commenced, and he felt called on to enter his protest against such a monstrous piece of absurdity. Even essential repairs were neglected to carry out a measure that was not wanted, and was practically mischievous, as will be seen by the following letter from Dr. Hall to the Quarter-Master General, dated 27th October, 1855 :—

“ I beg to call attention to the defective state of the roofs of the huts at the Castle General Hospital, at Balaklava, and to entreat that immediate steps may be taken to render them weather tight before the rains set in, which cannot be long delayed now.

“ This I consider of vital importance to the welfare of the sick, and I am of opinion that some of the labor which is being expended to damage the sanitary condition of the Castle huts might be more profitably employed in making these repairs, which are really necessary. But to raise a gabion rampart of loose earth at this season of the year six feet wide and nine feet high, within two feet of huts of only ten feet elevation, is a proceeding I cannot comprehend. If it be intended as a measure of safety, the work

has been undertaken too late in the season, and will not, at the rate it is progressing, be finished on this side of Christmas, when a similar rampart will be required to protect the huts from violent snow storms, which blow from the north.

“Whatever security, real or assumed, this rampart may afford to the huts, it will most assuredly impair their sanitary condition.”

On the 1st of December, 1855, Dr. Hall, Principal Medical Officer, had occasion to call the attention of the Chief of the Staff to certain repairs required in the General Hospital in camp; and on the 2nd of December, after an official visit of inspection to the Hospital huts of X Battery of Artillery, in the Karani Valley, and I Troop of Horse Artillery, in the Kadekoi Valley, he addressed another communication to the Chief of the Staff on their condition, in which there was the following passage:—“No attempt has been made either to line the walls, or repair the roofs, and the wet comes through in every direction. It is to be regretted, I think, that the Commanding Officer of Artillery declines to receive representations of the condition of the Hospitals, and requirements of the sick, except through the commanding officers of batteries and colonels of divisions, as by that means, without imputing any intentional neglect to those officers, whose minds are naturally occupied with their own peculiar duties, the interests of the sick suffer.

“The present condition of these huts cannot be permitted to remain longer unremedied; and I consider it to be my duty to bring the subject under the notice of the Commander-in-Chief.”

This state of the Hospital huts had arisen from the Commanding Officer of Artillery declining to receive representations from the Superintending Surgeon of Artillery concerning them unless they came through the several commanding officers of batteries and division. And as the Commander-in-Chief, to whom the subject was referred, seemed to think that the duty of the Medical Officers consisted in the purely medical treatment of their patients, that all other arrangements should be made by or through the military authorities, and any deviation from this he viewed as an effort of independence on the part of the Medical Officers. This doctrine, which is applicable to

the regulations of the French army, where the Intendant provides all supplies for the Hospitals, and the Medical Officers' duties are confined to those of his profession, does not hold good with regard to the British, where a totally different system prevails; and so long as the Principal Medical Officer is held accountable for the condition of the Hospitals both by the Government and the public, it is but fair that he should be allowed to resort to the most direct way of getting defects in them remedied. It would be a relief to the Principal Medical Officer, but, from what I have seen and heard of the working of the French system, I apprehend no advantage to the sick to have the present plan altered.

So far as independence is concerned, no one can read the Principal Medical Officer's voluminous correspondence during the last war without, I think, coming to the conclusion that it would be for the benefit of the service were he invested with more authority, and had the military authorities been enjoined by regulation to ask his opinion on many points, Special Sanitary Commissioners would not, in all probability, have been considered necessary, and there would have been no occasion for these remarks.

At page 164, the Commissioners say:—"During the depth of winter the ventilation of many of the Hospital huts was unquestionably defective; and in some instances there was none, except from the chance opening of the door."

The censure here broadly put forth, I have no hesitation in stating, was not deserved; and, as the Commissioners accompanied Dr. Hall in his official inspection of all the Hospitals and camps at the end of 1855 and beginning of 1856, they had an opportunity of seeing the sanitary arrangements of the army in detail, it is neither candid nor fair of them to conceal that fact, and merely state in their report, as they do at page 165:—"During the first week of January, 1856, we made a detailed inspection of the Hospitals throughout the camp:"—as if their visit had been special, and their letter of the 15th January, 1856, to Sir William Codrington, which, they say, was sent by him to Dr. Hall, called for—whereas they knew perfectly well that in every instance where there was evidence of either over-crowding in the barrack room, or tampering with the ventilation, which soldiers are apt to

do if it is left within their power, the attention of the medical officers of the corps was drawn to it at the time by Dr. Hall. Not only was the attention of medical officers drawn to it at the time, but special letters were written by him to the military authorities on these and other matters on the 27th December, 1855, and 16th January, 1856, which anticipated, on all points, the Commissioners' recommendations, with the exception of their suggestions for the ensuing summer, which Dr. Hall did not consider necessary, as it was not probable the army would remain so long in front of Sebastopol if the war continued.

The Commissioners, I see, think it necessary to state that their letter to Sir W. Codrington of the 15th January, 1856, was sent to Dr. Hall. They are, perhaps, not aware that all their communications to the Commander-in-Chief were submitted for his opinion.

Having thus in a cursory manner passed in review the report of the Sanitary Commissioners, I think all dispassionate people will see and admit that the benefit of their labors was more assumed than real, and the result of their mission not commensurate with the expense it cost the British public; for, in my opinion, neither the health nor mortality of the British army was in any appreciable manner affected by any measures adopted at their recommendation: and had they never set foot in the Crimea the result would have been the same; and in proof of this I may appeal to the following statement,* by which it will appear the sickness and mortality were lower in 1855, before their operations came into effect, than they were afterwards. I will not, however, be so uncharitable as to ascribe it to them, but to causes over which neither they

	Dec., 1854.	Jan., 1855.	Feb., 1855.	March, 1855.	April, 1855.
*Admissions into Regi- mental Hospitals	10,632	11,282	7,108	5,813	4,497
Deaths in all Hospitals	2,005	3,179	2,529	1,415	581
	May, 1855.	June, 1855.	July, 1855.	August, 1855.	
Admissions into Regi- mental Hospitals	5,701	11,118	10,165	10,211	
Deaths in all Hospitals	563	*1,052	549	678	

* 211 were from wounds.

nor their arrangements had any control—though they have certainly most skilfully assumed to themselves the whole merit of the labors of others, and allowing them the advantage of pleading ignorance to the suggestions of the army medical officers, they cannot well do the same to the published report of the Medical Commissioners on the Hospitals, &c. at the seat of war.

JOHN HALL,

Inspector General of Hospitals, Half Pay.

London, May, 1857.

Note.—On the 26th March, 1855, the Sanitary Commissioners commenced their labors at Scutari, and on the 3rd of April, 1855, in Balaklava, so that the decrease of sickness and mortality which had taken place in the army before their arrival could not have been influenced in any way by their suggestions.

J. HALL.

1st September, 1857.

I have this day been furnished with a copy of a letter from Dr. Sutherland, Sanitary Commissioner in the Crimea, to Lord Shaftesbury, dated Balaklava, 19th July, 1855, which was published in the *Times* newspaper on the 22nd August, 1855. In that letter Dr. Sutherland makes admissions which so fully bear out what I have endeavoured to impress on the reader's mind in the course of the preceding remarks, that I am tempted to quote his own words; and in doing so I violate no confidence, as the letter in question has been before the public for two years, though I had never seen it previously to the receipt of the present copy.

At the commencement of his letter the Doctor states that—"About 20,000 men went in and out of Balaklava every day. Nothing could be worse than its condition. It is a small port, land-locked, lying among lofty hills, crowded with ships; the margins of the harbour formed with dead animals and filth of all kinds; the upper end a marsh, which has been used as a graveyard, where some thousands of carcasses of men and animals had been buried, mostly in water, and hardly covered with earth; carcasses floating in the harbour, and also the refuse and blood of cattle slaughtered on board ship; no Latrines but the hill sides; and backyards of houses covered with filth in consequence."

This description is more graphic than real, and I fear the Doctor must have drawn on his imagination regarding both the number of daily visitants to Balaklava, and the formation of the margin of the harbour. The first reminds one of Falstaff's men in buckram, and Kendal Green; and the second is answered by the Doctor himself in a subsequent part of his letter, where he says:—"It will assist you further to estimate our sanitary condition if I compare it with things at home familiar to you. Balaklava harbour is much sweeter than the Thames, and the town is cleaner than nine-tenths of the lower districts of London, Manchester, or Liverpool. Liverpool dock basins smell worse every day than Balaklava did at the worst, when the town itself was held up to the reprobation of the civilized world, from its unburied carcasses and filth—it was not worse than entire villages I could name in our own country; and it was about on a par with the districts where

knacker's yards, private slaughter-houses, and unwholesome trades exist in the Borough, and where cholera was so fatal last year.

"I think it right to mention this comparison, in order that the truth should be known.

"The same may be said of the sanitary condition of the camp. Putting out of sight the local malaria, the camp is in a much better state than the towns and villages at home, out of which the men have come.

"*It is also very satisfactory to state THAT ALMOST EVERY PRACTICABLE IMPROVEMENT WE HAVE ADVISED FOR THE CAMP WE HAVE FOUND ALREADY IN OPERATION IN SOME PART OF IT. We have only wished the worst practices to be avoided, and the best systematically adopted; but in doing this all depends on the commanding officers of regiments, and hence different regiments show different degrees of improvement. We have also found the medical officers thoroughly alive to the nature of the changes required, REPRESENTING THEM TO THE AUTHORITIES, but without power to carry them out. And hence I have heard the most useful suggestions coming from military medical officers, called 'doctor's crotchets,' and thrown aside.*

"At present, I believe, little if anything more can be done here in the way of initiation of camp sanitary measures; the only difficulty is in ensuring the continued application of these measures, and this the military authorities alone can do. It might be well to vest the decisions of medical boards with something like authority."

This extract from Dr. Sutherland's letter is, to a certain extent, a confirmation of what I have stated, viz., that in nearly everything which was really essential for the welfare and sanitary condition of the army, the Sanitary Commissioners had been anticipated by the recommendations of the Army Medical Department. But explicit as the Doctor's statement to Lord Shaftesbury is, it falls far short of what he and his fellow Commissioners personally expressed to the military medical officers in the Crimea; and neither he nor they would have lost anything in public estimation had it been as freely and candidly stated in his official report to Government, which has since been published, as it was to the military medical authorities themselves. He might even have added what is stated in his letter to Lord Shaftesbury:—"We have all learned

much, perhaps, more than we have advised ;” without either damaging the reputation of the Commissioners, or either flattering, or in any way benefiting us, for we all felt it to be a truism. It was not likely that I, or others who had spent their lives in camps and barracks could have much to learn from Sanitary Commissioners who were entering on a new field of observation, and brought with them the ideas and technicalities appropriate for cities and the permanent abodes of men, which all were either acquainted with, or had the means of becoming so through the popular and cheap publications of the day, but which were not applicable in all cases to an army in the field.

Speaking of the camp before Sebastopol, Dr. Sutherland says in his letter :—“ It is clean, and well attended to ; but here again there are malarial spots to which the troops are tied by the exigencies of the service.”

“ In regard to the burial of the dead in our camp, it appears to be properly done, judging at least from any instances I have seen of interments. The proper authorities say it is always done in conformity with the regulations.

“ The burial of animals is, or rather has hitherto been, well attended to. I have not seen an unburied carcass in our camp for months before a day or two ago. I saw two at that time, and instantly reported them to head-quarters.

“ There are, however, plenty of unburied carcasses about—they are not ours, but belong to the other armies. It speaks volumes for the care and attention of the authorities that the loss from disease has been so little during the summer, because, do what they can, our troops are exposed to the exhalations from the foul encampments of the other armies, which have suffered far more from disease than our men have.

“ The winter mortality was a far different thing to the summer mortality. Hardly any of the causes, viz., bad food, want of rest, over work, want of clothing and shelter, and exposure to the elements which caused scorbutus over the whole army, exist now. I do not think it can be fairly said that any of these causes now exist to any extent ; all the cases then were scorbutic, and hence the fearful mortality in the Hospitals at Scutari ; it was exactly like the Irish famine fever ; now we have malarial diseases, fever,

and cholera—the intensity of which in our camp has been no doubt most materially lessened by the great care bestowed on the men. I have myself gone among them, and asked about their provisions and clothing, &c. I have never been able to elicit a single complaint, except one, viz., that they were not in Sebastopol; they have always told me they had nothing else in the world to complain of.

“Considering the local circumstances, I am of opinion that the epidemics I have named have been mild in character, and that we have certainly not suffered more than in such a climate we had a right to expect. Diarrhæa has been prevalent, *but there is a system of inspection in use for its discovery and treatment, which appears to work as well as could be expected.*

“Another element of evil should not be overlooked. Our great mortality from epidemics arises among the young unacclimatised troops. The men have to change rapidly their country, climate, habits, and food, as well as their occupations, and a large per centage must inevitably perish.”

Considering that Dr. Sutherland stated publicly in a letter which was printed in the *Times* newspaper in March last, that the Sanitary Commissioners had nothing whatever to do with either the organization or management of the Military Hospitals, that in fact they were precluded by their instructions from interfering with these matters—the following passage in his letter to Lord Shaftesbury may be fairly taken as a tribute due to the Medical Officers of the army, under whose care the Hospitals and all their concerns were immediately placed:—“Our Hospitals are the one point I am proud of; we have first-rate men, and everything clean and beautifully ordered, I only wish we had a permanent staff of orderlies thoroughly trained, and kept at their work, instead of the useless vagabonds who are too often sent to attend the sick, because they are fit for nothing else. The present arrangements for the sick and wounded are to treat the latter entirely here, at least, until they are convalescent, and then to send only convalescents or sick who had arrived at the best possible point, to Scutari. From the latter place I have just returned. The Hospitals are really beautiful; we have nothing in London to compare to them in their sanitary

relations. It is a perfect treat to walk through them—the air is as pure inside as out.”

With this extract I will close my observations on Dr. Sutherland's letter, and leave the public to draw their own conclusions.

J. HALL.

“Considering the local circumstances, I am of opinion that the epidemics I have named have been mild in character, and that we have certainly not suffered more than in such a climate we had a right to expect. Diarrhea has been prevalent, but there is a system of inspection in use for its discovery and treatment, which appears to work as well as could be expected.

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APPENDIX, No. 1.

Near Dumfries, May 26, 1857.

My dear Sir John Hall,

Your letter of the 22nd instant has this moment been received.

The particulars of the outbreak of cholera at Scutari in Nov., 1855, are these:—Sporadic cases of cholera had been occurring from the beginning of the month, and even before it, in the neighbourhood and garrison; and several days previous to the 14th stringent sanitary measures were commenced, viz., cleansing, purification, and ventilation, &c.; but notwithstanding which there was an increase in the number of cases on the morning of the 14th, when corridor G was at once selected for the accommodation and isolation of the cholera patients, all communication with the other parts of the Hospital being cut off from it.

Medical officers and orderlies were appointed for their attendance, and extra orderly medical officers for their reception during the night.

The rooms occupied by troops in the eastern part of the Hospital were recommended to be thinned, and an extra blanket given to each person—and I contemplated encamping them, but the weather became so severe as not to render it advisable.

The huts occupied by the cavalry were also attended to, as far as possible—but the thinning *generally* not being so much as I thought necessary, I went to Major-General Storcks again on the 15th on the subject; and in the same evening, or the following morning, it appeared in orders, that “the rooms and wards in barracks and Hospital will be thinned and ventilated as much as possible.”

Subsequently the medical officers that could be spared were sent for from the different Hospitals, and Major-General Storcks suggested that Dr. Sutherland should be made acquainted with the outbreak of cholera, which I did by note. He was living at Pera, and did not come to Scutari until the second day after my note had been dispatched, when, in the course of conversation with him, I recollect “camping” being mentioned as impossible

during such weather, which continued blowing cold and harsh with rain; but on the morning of the 18th, it appearing to me, before daybreak, somewhat more settled, I went immediately to Major-General Storke, and recommended that the troops should at once be marched out of barracks and encamped, which he readily assented to, and immediately gave an order to this effect. He then rode out, and selected ground about 2½ miles off, and of which selection I afterwards approved.

Dr. Sutherland came at this period from Pera generally, when the weather permitted, on the morning of the day on which the mail for England was made up, and when, of course, he had ready access to my office, and was furnished with all the particulars of the admissions and deaths from cholera, &c. in the different Hospitals.

It will thus be seen that the necessary sanitary measures were in operation before Dr. Sutherland was made acquainted with the matter; and the encamping which I mentioned took place on my own responsibility.

Believe me,
Very sincerely yours,
W. LINTON.

APPENDIX, No. 2.

Aspenden Hall, Buntington, Herts,
August 1, 1857.

My dear Sir,

I never had any communication with the Sanitary Commission either verbally or by letter, nor indeed did I know of their existence till long after I shifted my camp.

I chose the sight of my camp myself, with a view to occupying the higher ground in the summer; and, indeed, obtained Lord Raglan's permission myself to do so,—this was in November, 1854. When the 39th, Colonel Munroe, encamped above us early in the spring, the Deputy Quarter-Master General marked out the boundary of our summer camp, and no troops were allowed to encroach upon it.

Dr. Deas on one occasion suggested to me it was time to go

up, but I declined doing so at that moment, as I had *no* sick, and I wanted the ground for other purposes. When the weather became hot in June I shifted up, but without reference to any one's opinion, but that of my own excellent surgeon, Dr. Jenkins.

With regard to the site itself, it was the best in the camp, being well sheltered from the north east, with far more mud above than below us; and the stream, though it accumulated a small quantity of mud and occasionally much snow, carried off the dirt of the camp in the winter, and was dry and hard in the summer. The inconvenience of crossing at night to the Latrines on the opposite side was rectified by throwing over it a small suspension bridge. We were remarkably healthy from the day we occupied it.

I remain, dear Sir,

Very truly yours,

STEPHEN LUSHINGTON.

Sir John Hall, K.C.B.

APPENDIX, No. 3.

The following is an extract of a note from Dr. Deas, Inspector of Naval Hospitals, dated 23rd May, 1857, in answer to one of mine, sending him an extract from page 120 of the Sanitary Commissioners' report, regarding the removal of the camp of the Naval Brigade:—

“No suggestion was ever made to me by the Sanitary Commissioners on the subject referred to, or any other, their statements to me invariably being that I had left them nothing to suggest.”

APPENDIX, No. 4.

(Copies.)

December 29th, 1854.

Sir,

I beg leave most respectfully to protest against the establishment of the Commissariat Transport camp behind, or the bazaar upon the right of the Hospital, as it is *very* necessary in a sanitary point of view that those spaces should be kept clear of malaria, either human or animal.

(Signed)

A. ANDERSON, M.D., Staff Surgeon.

To Lt.-Col. Haines, Commandant,
Balaklava.

December 30th, 1854, Balaklava.

Sir,

I beg to call your pointed attention to the prevalence of one or two nuisances, the removal of which would, in my opinion, tend considerably to the improvement of the sanitary condition of the town. And first, let me bring before you the filthy state of that part occupied by the Turkish troops. Death seems now busy with its victims, and of what the unfortunate die I have no means of ascertaining—judging from appearances, I should say typhus; and this will, I have no doubt, eventually degenerate into plague, whereby Christians as well as Turks would be swept off wholesale.

Another very crying nuisance is the existence of that sea of fœtid mud near the wharf, where the sick are embarked. This emits a malaria highly prejudicial to the health of the town, extremely deleterious to the sick, who may have to wait there for embarkation, and likely to be productive of the worst effects to the health of those two energetic officers, Lieutenant Gosse, R.N., and Staff Asst.-Surgeon Tarrant, who, in the exercise of their duties have to remain there many hours each day.

(Signed)

A. ANDERSON, M.D., Staff Surgeon.

Lt.-Col. Haines, Commandant.

8th January, 1855, Balaklava.

Sir,

I beg respectfully to call your attention to the state of the harbour near the Hospital ship, "the Pride of the Ocean." The carcasses of bullocks and horses are floating about in all directions; and I am informed that two days ago one animal was shot and immediately consigned to the tide. The smell is now very offensive, and I think Captain Christie ought to be applied to, to give orders to have the bodies towed out to sea.

(Signed)

A. ANDERSON, M.D., Staff Surgeon.

Lieut. Col. Haines, Commandant.

Balaklava, January 15th, 1855.

Sir,

I beg leave through you to call the pointed attention of the authorities to a subject which I represented to them in a letter, dated 30th December.

The number of deaths amongst the Turkish soldiery here has increased to such an extent as *imperatively* to call for an inquiry, and I would also suggest that their burial-ground should be

brought under observation, as I have been assured by the Rev. Mr. Haward and Captain Ross, the D. A. Qr. Master General, that the bodies are barely covered, and in some cases the lower extremities are projecting from the ground.

When the warm weather sets in, or when the temperature becomes even a little milder than it is at present, should nothing be done in the meantime in the way of removing the above-mentioned fertile sources of disease, and in clearing that portion of Balaklava now occupied by the Turks, I am confident that we shall have plague in its worst form.

(Signed)

A. ANDERSON, M.D., Staff Surgeon.

Dr. Hall, Inspector General of Hospitals.

16th February, 1855.

Sir,

I have the honor to inform you that there are now floating in the harbour, opposite my window, the carcasses of at least 20 bullocks; I have also to call your attention to the fact of there being a quantity of carrion lying along the beach near the entrance of the harbour, and would suggest that this be represented to Captain Christie. Steamers are occasionally employed to tug the dead animals to sea, but I consider this very necessary operation ought to be a daily one.

(Signed)

A. ANDERSON, M.D., Staff Surgeon.

Lieut.-Col. Hardinge, Commandant.

Balaklava, February 19th, 1855.

Sir,

I regret to have to state that the new privy at the Hospital appears to be for the present left half-finished. I would also suggest that small wooden conveniences should be erected near the huts, in the vineyard of the Hospital, capable of accommodating three patients, with moveable seats placed over pits, so that when the pits become offensive they may be filled up, and new ones dug. At present the open pits are particularly offensive to the inmates of the wooden huts and to those passing by.

(Signed)

A. ANDERSON.

Dr. Hall, Inspector General of Hospitals.

Balaklava, 13th March, 1855.
 Sir, I beg leave to call your attention to the filthy state of the beach and the encampment behind and beside the cattle wharf. This is, in my opinion, one of the few remaining abominations of Balaklava; and I am sure you will agree with me that its speedy removal (at a time when there is so much fever about) would be of the highest importance to the health of both those afloat and on shore.

(Signed)

A. ANDERSON, M.D., Staff Surgeon.

Lieut.-Col. Hardinge, Commandant.

Balaklava, 28th March, 1855.

Sir, As I cannot get the carcase of a dead horse, in the vicinity of my house, removed in any other way than by applying to you, I would feel obliged by your ordering the officer whose duty it is to cause such nuisances to be removed, to have it done forthwith, as at present it is exhaling a most pestiferous odour.

(Signed)

A. ANDERSON, M.D., Staff Surgeon.

Lieut.-Col. Hardinge, Commandant of Balaklava.

Balaklava, April 28th, 1855.

Sir, I beg most respectfully to call your attention to the insufficient ventilation in the huts at the General Hospital, and to suggest that, now that the warm weather is approaching, the roof should have openings similar to those in the huts at the Castle. I beg further to mention that this has already been suggested, but that no notice has been taken of it, and, in my opinion, it is now absolutely necessary.

I have the honor to be,
 (Signed) A. ANDERSON, M.D., Staff Surgeon.

Dr. Hall, Inspector General of Hospitals.

Balaklava, April 30th, 1855.

Sir, I beg leave to call your attention to the state of the huts occupied by the sick of the Croats, and those used as Hospitals huts behind the Land Transport camp.

There being no Latrines either for the camp or the Hospitals, human excrements are copiously deposited in the immediate vicinity, and the stench from this and from putrefying urine is pestiferous.

Of the state of the interior of the Hospitals, I regret I cannot make a favourable report. The medical officers work hard, but I consider it quite impossible for them to do their duty, or properly treat men with whose language they are totally unacquainted. An interpreter has certainly been provided, but though he talks Turkish, he explains in French, a language of which the medical officers know as little as the interpreter does of English.

Moreover, as only (I believe) 2 English orderlies are allowed for the whole, instead of one to each hut, and as the other orderlies are foreigners or Turks, it stands to reason that the attendance of the unfortunate sick must be very much neglected, as under the circumstances the orderlies cannot be instructed in their duties.

I am aware (though I trust not) that an objection might be raised to the employment of soldiers in attending sick Turks. *
* * * * *

I consider the site of the Hospital in the immediate rear of a large number of sick mules, many of them with open sores, a very objectionable one.

(Signed) A. ANDERSON, M.D., Staff Surgeon.

Balaklava, 18th May, 1855.

Relative to the filthy and crowded state of the Black hut, occupied by the Commissariat drivers, in rear of the General Hospital, and nuisances round about it—7 cases of cholera admitted from this hut within the week. House in centre of town occupied by 4 C. Clerks; a foul privy on the premises; fever prevalent in the house.

(Signed) A. ANDERSON.

Lieut.-Col Hardinge, Commandant.

Balaklava, 11th June, 1855.

Relative to the state of the huts used as Hospital for the sick Europeans and Turks of the Land Transport Corps.

(Signed) DR. HADLEY.

Dr. Hall, Inspector General of Hospitals.



