Reply to Sir John Hall's 'Observations' on the report of the Sanitary Commission, despatched to the seat of war in the East, 1855-56 / by John Sutherland.

REPLY

TO

SIR JOHN HALL'S "OBSERVATIONS"

ON THE

REPORT

OF THE

Sanitary Commission,

DESPATCHED TO THE SEAT OF WAR IN THE EAST,

1855-56.

By JOHN SUTHERLAND, M.D.,

LATE MEMBER OF THE COMMISSION.

LONDON:

HARRISON, 59, PALL MALL.

1857.

REPLY.

Any one reading Sir John Hall's observations on the Report of the Sanitary Commission despatched by Her Majesty's Government to Constantinople and the Crimea, in February, 1855, without having read the Report itself, might be led to believe that the Commissioners had been guilty of some great injustice to the Medical Department of the Army, and more especially to Sir John Hall: that they had suppressed facts, kept back documents, indulged in self-laudation, and appropriated to themselves the credit due to others, for he appears to consider that the gaining of credit is the main end of public service, and he does not disguise his opinion that the whole affair was an intrusion into his field of duties, that the Commissioners did no good, and that the Government might as well have left him to himself to pursue his own sanitary reforms in his own way.

Now the fact is, that the Sanitary Commissioners had nothing whatever to do with Sir John Hall. His name does not occur in their instructions. They were directed to communicate officially with Lord Raglan and the Commandant at Scutari only; they were directed to execute certain duties and no others, and their Report is simply a reply to their instructions prefixed to the Report.

Sir John Hall complains that recommendations made by him and others are not mentioned in the Report, and he adduces, in proof of his assertion, that

the sanitary requirements of the army were not neglected, certain documents sent by himself and others to the military authorities, documents which have come under our notice for the first time in his pamphlet. The reply to all this is simple enough.

The Sanitary Commission was not a Commission of Inquiry. It had nothing to do with such questions as these: "What sanitary recommendations have been made regarding the Hospitals at Scutari, or the occupation in the Crimea?" "Were those recommendations sufficient?" "By whom were they made?" "Were they carried out?" "If not, who was to blame?"

These might have been very fit subjects of inquiry, and if the Commission had been sent out for such a purpose, it would have been justly chargeable with neglect of duty if it had overlooked them. Its functions, however, were of a totally different character, and might be summed up in the following words: "Examine for yourselves what sanitary defects, likely to interfere injuriously with the sick or the healthy, exist in the Hospitals at Scutari, at Balaklava, or in the occupation before Sebastopol: represent these, with your recommendations for their removal, to Lord Raglan, or Lord William Paulet, without delay, urge their adoption, and see that they are carried out."

The Commission was in reality an Executive Commission, sent out to see to the execution of sanitary improvements, of a nature presumed to be similar to those which the members had long been engaged in carrying out at home, under Her Majesty's Government. For anything we knew, every necessary recommendation had been made, and notwithstanding the universal complaints at home, on account of the enormous loss of life in the Hospitals at Scutari, these Hospitals might have been in the very best possible sanitary state. Had it been so, we should simply have reported the fact; but as it was quite otherwise, we did our best to carry out our instructions, and in

reporting the result, we have done nothing more than describe the sanitary defects we found at Scutari and in the Crimea, without comment or reflection on Sir John Hall or any one else — the recommendations we made, and the gradual progress of sanitary improvement, with the final results to health. If, in replying to our instructions, we have incidentally shown, without expressly stating it, that the improvements did some public good, and that, however perfect in theory the sanitary system of the army may be, it was, as judged by the results in the East, to a great extent a nullity, such a conclusion was perhaps unavoidable.

It certainly never occurred to us, that the Medical Department of the Army was chargeable with the state of things we found on going out, for that department is in reality a medical and not a sanitary department. We have made no charge against it in our Report, but on the contrary, we have, in several places, borne our testimony to the perfection of the Hospital arrangements, as well as to the single-minded devotion of the medical officers to their public duties, although beyond the scope of our instructions to take cognizance of such matters. But notwithstanding this, Sir John Hall, in his zeal to show that no blame was attributable to himself for sanitary neglect, with which we have not charged him, has not scrupled to brand with implied dishonesty, those who were public servants as well as himself.

We feel compelled to protest against his "Observations" being taken as a representation either of the spirit or contents of our Report. He has adduced certain instances of alleged inaccuracy, in matters of fact, which we have replied to in the Appendix, because they are of no public interest. What we are mainly interested in, are the sanitary documents, produced for the first time in the "Obsertions." These documents are of importance to the public service, as showing to what extent the health

of the army is likely to be protected or sacrificed, by the sanitary *régime* at present in operation.

Every system purporting to protect the health of troops must be tried by its results, not by any recommendations that may have been made under it. Recommendations may be merely a means of shifting responsibility from one's own shoulders. Sanitary requirements, which ought to have been foreseen, may be delayed until it is impossible to fulfil them, or until they are no longer necessary. Recommendation may be little else than pointing out nuisances which everybody knows, or they may be altogether inadequate to remedy the evils complained of.

But whatever may have been done in the way of recommendation, the fact remains, that during the seven months of the Crimean war, from October, 1854 to April, 1855, above a third part of the army was swept away by disease, mainly of the zymotic or mitigable class:—that of the sick shipped for Scutari, between the middle of September, 1854, and the end of January, 1855, there was a mortality in the transports, during an average stay on board of 8½ days, of 80 deaths to every 1000 sick landed alive at Scutari, while on board one transport, the "Caduceus," the deaths in 6 days, were in the ratio of 36 per cent. landed:—that after the remaining sick had arrived at Scutari, and were lodged in magnificent buildings, apparently well suited for their reception and care, there died out of the sick treated, a proportion varying from 138 per 1000 in October, 1854, to 427 per 1000 in February, 1855.

With these facts before us, is there not great reason to doubt whether the hygiène of the army during the winter of 1854—55, was efficient, notwithstanding the recommendations made by Sir John Hall, and whether, in fact, the results were not as bad as if there had been no recommendations made at all?

The causes which led to the enormous amount of zymotic disease during the winter months have been

fully examined by others. With these special causes we have nothing further to do here, than to state that they existed, and to express our conviction that if army hygiène, in the widest acceptation of that term, had been part and parcel of the constitution of the British army, the loss of life from these diseases, during that disastrous winter, would have been very greatly mitigated.

It is of importance, however, to know what recommendations of a sanitary kind really were made by the Principal Medical Officer of the army, with the view of ascertaining how far these could have aided in diminishing the mortality from zymotic disease, and we are now, for the first time, furnished with the means of doing so.

In the remarks we are about to make respecting these documents, we beg, once for all, to state that we desire to attach blame to no one. We have to deal with a system, not with individuals.

The Army Medical Department is, as its name imports, charged with the treatment of the sick and wounded of the army. So far as our opportunities of observation went, it discharged itself of that duty nobly and well. But, as already stated, it is not a sanitary department, as we in civil life would understand such a term, although there are certain very imperfect advising functions of a sanitary kind, included in the Army Regulations, but without any form of procedure, whereby good advice if given, necessarily becomes effective.

Again, there are no means in use for ensuring special sanitary acquirements in the medical officers. There are no lectures on sanitary science in our colleges, and sanitary knowledge is not required for admission to the service. There is no examination upon it. In short, the Army Medical Officer has to acquire sanitary knowledge as he best can, although of all members of the medical profession he requires to be best instructed on the subject,—*prevention* of disease, not successful *treatment*, being that

on which the numerical strength and efficiency of an army depends.

But while pointing out these deficiencies, we cannot forget the debt of gratitude due in times past, to such men as Pringle, Ferguson, and others who might be named, from whom some of the clearest lights in sanitary science have been derived. By these lights we have profited in our application of sanitary arrangements to civil life, and what is now imperatively demanded by the public interest, is that similar benefits should be extended to the army. This can only be done by raising the whole subject of hygiène, both as regards barracks, camps, hospitals, and diet, drink, clothing, &c., to that importance which is due to it, as the only real conservator of the health and efficiency of armies.

We next proceed to analyze the sanitary documents in Sir John Hall's "Observations," adopting the arrangement of subjects contained in the instructions issued to the Sanitary Commission by the War Department.

MILITARY HOSPITALS ON THE BOSPHORUS.

Our Commission began the inspection of the Hospitals at Scutari on the 6th March, 1855, about 9 months after the General Hospital was occupied, and about 6 months after the Barrack was first set apart for the reception of sick. We have described in our Report the bad sanitary condition of all the Hospitals, at the period when we made our first examination of them. The defects then existing were so very obvious, that they could hardly have escaped the notice of any one accustomed to sanitary problems connected with large structures. Considering the peculiarly defective nature of the sanitary arrangements in Turkish buildings, nothing short of a most minute and searching

inquiry and examination into the entire condition of those given over to Her Majesty's forces, and the carrying out of every requisite improvement before a single sick man was placed within their walls, would have rendered any of them safe for Hospital purposes.

So far as we can judge from the information on this subject contained in Sir John Hall's "Observations," no such preliminary examination appears to have been made. He gives at page 20 the following: "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."

These pipes, be it remembered, were numerous open tubes, communicating with cesspool-sewers full of filth, at the bases of the building, and opening into out buildings at each angle, and on each flat of the Hospital. There was a direct communication between the outbuildings and the interior, so that the sewers were ventilated solely into the Hospital. There were no water closets in any of the Hospitals.

The following is the only other recommendation given for the General Hospital.

"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 cat-gut manufactory removed from the neighbourhood of the General Hospital, and directing him to have the open sewer between the General Hospital and the main Barrack cleaned out."

The Barrack was in a worse sanitary condition than the General Hospital, and had greater structural defects. About the beginning of autumn 1854, it

became necessary to prepare it for the reception of sick, and the following communication on the subject was made by Dr. Hall, about 6 weeks before the battle of the Alma.

"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 cleansed, whitewashed and fitted up."*

The drainage defects at the Barrack and Kululi Hospitals were the same in character, but greater in degree, than those of the General Hospital.

There appears to have been no sanitary advice given by any one, regarding the Kululi, Palace, or Stable Hospitals.

Such, so far as can be learned from the "Observations," was the entire sanitary procedure which it was deemed necessary to recommend in regard to vast buildings, the sanitary condition of which appears never to have been inquired into. There is nothing about the drainage of the buildings, nothing about cleansing, trapping, and flushing sewers belonging to them, so as to prevent sewer-air, that most fatal of all sources of atmospheric pollution, from diffusing itself through the air breathed by the sick,—nothing even about opening the windows of the privies to allow the sewer-air to escape before it could reach the corridors, nothing about ventilating the buildings—nothing about apportioning a proper cubic space for each patient, nothing about the proper burial of the dead.

Of the very few recommendations contained in the extracts given above, the best appear to have been made by Lord Raglan's advice; but allowing them every possible value, they never touched or even recognised the chief defects, which eventually rendered these otherwise magnificent buildings little else than pest-houses for the sick, before the numbers

* Sir John Hall ought to have stated that the cleansing and white-washing of the Barrack were written about by request of Lord Raglan.

admitted even approached to what the wards were capable of containing.

Sir John Hall visited these Hospitals in October 1854, and reported to the Director-General on the 20th of the month, that they were in a very satisfactory condition, and this at a time when all England was roused to indignation about them, and just before the arrival of Miss Nightingale with the nurses at Scutari. Even at that period, and while the catastrophe which followed from the sanitary defects was pending, the importance of these defects was not even recognized.

We have stated in our Report the measures we put in force to remedy the sanitary evils at all the Hospitals, and we have given a table showing the immense falling off in the mortality on the remaining and admissions up to June 30, 1855, at which period the mortality on the remaining and admissions had fallen to nearly a tenth part of what it was when the works were commenced.

We gave the results in our Report as they occurred; but at the same time expressed an opinion, that part was due to the improved health of the army in the Crimea.

These results, however, are in themselves so condemnatory of the previous neglect, that Sir John Hall, while expressing his contempt for the "trifling sanitary improvements"* which he had moreover on

* The following were the "trifling sanitary improvements," he alludes to, directed by the Commission, and carried out at the Hospitals on the Bosphorus, partly by their own officers, 1. Daily cleansing the vicinity and squares of all the Hospitals, and the burial of dead animals. 2. Opening, deodorizing, and cleansing of drains of Hospitals. 3. Erecting flushing tanks at the head of all the drains, and at the privies in the Barrack-square, and flushing out the entire drainage and sewerage three and four times a day. 4. Diverting the privy drains from under the General Hospital. 5. Trapping and ventilating all the sewers, and placing flaps over their open mouths, to prevent sewer-air blowing into the Hospitals. 6. Removing the upper part of the windows in the privies and galleries to allow sewer-air to escape before entering the wards and corridors. 7. Closing 50 Turkish privies, and

his own shewing no means whatever of estimating, for he was not again at the Hospitals till the end of the war, has considered it necessary to adduce statistical proof that the results were due to a totally different cause.

He says, page 5, "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 labours 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!" and this statistical fact is adduced as proving "in an incontestable manner" that other influences were at work in diminishing the mortality, besides the sanitary improvements in the Hospitals.

The number of sick that died on board the transports, it will be perceived, is taken by itself as a test of the health of the army, and of the character of the cases sent to Scutari! The argument from it may be stated thus: between such and such dates, on account of the unhealthy state of the army, so many sick died on the passage, and hence so many sick died in the Hospitals, and between such and such other dates, on account of the improved health of the army, so many fewer sick died on the passage, and hence so many fewer sick died in the Hospitals.

removing 200 Cavalry horses from under the wards at Kululi, and evacuting the wards. 8. Frequent limewashing of all walls and corridors in all the Hospitals. 9. Ventilating all the Hospitals by openings and louvered turrets, and all the wards by shafts and perforated zinc panes. 10. Allotting 1000 cubic feet of space to each patient, and 6 feet for each bed. 11. The immediate removal of excreta from wards. 12. Draining damp and wet ground. 13. Covering water-tanks and filtering water for the sick. 14. Removing all soldiers out of the Barrack Hospital. 15. Proper burial of the dead. And, more lately, erecting proper water-closets, and improving the drainage to obviate any chance of risk from a large influx of sick or from neglect of constant flushing the sewers.

Two very important points fully appreciated by every one conversant with hygiène, are thus ignored, namely, the sanitary condition of the Hospitals, and the sanitary condition of the transports, and by keeping these points out of sight, the blame of the whole catastrophe at Scutari is traced back to the state of the army in the Crimea; and hence whoever is to blame for this, nobody ought to be blamed on account of the condition of the Hospitals!

As already stated, we have not in our Report, overlooked the probable influence of the improved health of the army in the Crimea, on the condition of the sick at Scutari, although we have not attached to it very great importance, for we hold it to be a self-evident proposition, that if the constitutions of the sick brought down from the front for shipment to Scutari had been ever so weakened by the causes of disease to which they had been exposed, they would be all the more likely to suffer from foul air or similar defects, whether on board the transports or in the Scutari Hospitals. We know that men in health, were taken ill and died of zymotic disease in these Hospitals owing to the sanitary defects existing in them, and how much more likely to die were sick men in the state of those landed from the transports at Scutari! We shall besides presently show, that the sick who were not exposed to the polluted air of transports and hospitals suffered much less than those who were.

With regard to Sir John Hall's statistics, it is necessary to state, that his manner of dealing with the mortality on board the transports in relation to the mortality in the Hospitals, conceals the real facts of the case; and we shall therefore introduce the monthly statistics of the whole tragedy, as far as concerns the transports and hospitals.

The following table shows the approximate sick embarked, with the deaths on those embarked month by month, not quarter by quarter, as he has taken it; and along with it the mortality in the Scutari Hospi-

tals on cases treated (the mean of admissions and discharges including deaths).

Months 1854.	Sick embarked at Balaklava.	Died on Passage.	Deaths per 1000 on sick embarked.	Hospitals at Scutari and Kululi.		
				Mean Sick population.*	Deaths per 1000 on cases treated.	Period of Sanitary Improvments.
September	3,987	311	78			
October . .	1,721	76	44	2,016	128	
November	1,902	103	54	3,119	118	
December	3,339	314	94	3,457	144	
1855						
January .	2,144	172	80	4,440	316	
February .	2,178	41	19	4,178	427	
3 wks. endg.						3 weeks ending
March 17th	1,067	5	4·6	3,779	315	March 17th
April 7th	860	4	4·6	3,306	144	April 7th
„ 28th	793	8	10·	2,803	107	„ 28th
May 19th	471	—	—	2,018	52	May 19th
June 9th	615	1	1·6	1,504	48	June 9th
„ 30th	890	8	9·	1,442	22	„ 30th

It will be seen at a glance that this table gives results directly opposed to Sir John Hall's assumption, to bear out which it is necessary that a falling off in the mortality on board the transports, should have been attended by a falling off in the mortality in the Hospitals.

Let us see how far this was the case.

1. The mortality was highest among the sick embarked in December 1854; but the mortality was highest in Hospital in February 1855.

2. The mortality on sick embarked fell from 94 per 1000 in December, to 80 per 1000 in January; but the mortality on cases treated in Hospital, rose from 144 per 1000 in December, to 316 per 1000 in January.

3. The mortality on sick embarked fell from 80 per 1000 in January, to 19 per 1000 in February, and at the same time the mean sick population fell

* Mean of weekly numbers remaining.

from 4,440 in January, to 4,178 in February. The mortality in the Hospitals nevertheless rose from 316 per 1000 in January, to 427 per 1000 in February, while at Kululi it was no less than 520 per 1000 on the cases treated.

Even if we exclude the excessive mortality in February, we find—

4. That the mortality on board transports for 4 months, from October 1854, to January 1855, was 72 per 1000, and the deaths in Hospital 176 per 1000, while in March the mortality on board transports fell to $4\frac{1}{2}$ per 1000; but the deaths in Hospital nevertheless rose to 315 per 1000 in the 3 weeks ending March 17th, when our sanitary improvements were commenced.

Besides these obvious conclusions from the table, which also shews that the mortality in the Hospitals went on increasing the longer they were used, and the rapid decline in mortality while the sanitary improvements were in progress, we have the experience already alluded to, of the far larger proportion of recoveries among sick of the same class, and at the same time, where the sick were not exposed to the polluted atmosphere of the Scutari Hospitals.

No privations to which the sick of an army could have been exposed, could have been more severe than those which befel the sick in the Crimea during the winter months of 1854—55. Without proper shelter, covering, supplies, or equipments, for a considerable part of the time, they ought to have perished in large proportion to the recoveries, and yet the mortality in the Crimea was much less than at Scutari.*

Sir Alexander Tulloch has shewn that the sick

* As nearly as we can ascertain, from the data at our disposal, the approximate number of sick treated in the Crimea, between October 1st, 1854, and April 30th, 1855, amounted to 38,786, and the deaths to 5,531, or 142 per 1000, while the mortality among the sick treated at Scutari, where they ought to have had every advantage, was 227 per 1000 during the same period.

admitted into the General Hospital at Balaklava, a ventilated, tolerably good, stone Hospital, without the drainage defects of Scutari, and therefore so far affording a means of comparison with the Hospitals there, amounted to 2,144 for the 7 months, from October 1st, 1854 to April 30th, 1855, and the deaths to 190, giving a mortality of 88 per 1000 on the cases admitted. In the same months there arrived at Scutari 14,854 cases, and there were 3,665 deaths, being in the proportion of 247 per 1000 on the cases admitted; but the mortality on the sick population was 227 per 1000, giving by either method, an enormous preponderance over the mortality in the General Hospital at Balaklava.

Dr. Hall himself states the mortality of this latter Hospital at 7·7 per cent. for the whole war.

In writing to Lord Raglan on March 2nd, 1855, Sir John Hall gives another very striking proof of the unhealthy state of the Scutari Hospitals, which completely annihilates his assumption from the transports. He says (published despatches), "Out of 442 patients treated in the General Hospital at Balaklava, between February 18—24, only 3 casualties have occurred, which I think may fairly be termed a low rate of mortality, considering the class of patients that are generally sent in there for treatment—men brought down from camp too ill to embark when they arrive at Balaklava."

Out of these men too ill to be sent to Scutari, there died at Balaklava 3 in the week, or at the rate of 12 a-month for February 1855, equal to 27 per 1000 per month. The mortality at the Hospitals on the Bosphorus during the same month was 427 per 1000 of the sick treated, and it was 520 per 1000 at Kululi. Hence if these 442 sick had been unfortunately sent to the Bosphorus, there would have died in the Hospitals there, not 12, but 189 during the month; and if they had gone to Kululi more than half of them would have perished.

Any one conversant with sanitary practice could

not have failed to detect the causes of the excessive mortality which occurred at Scutari and Kululi. If the sick had not died there in large numbers, it would have contradicted all experience. The enormous losses in these otherwise magnificent buildings give a very clear insight, into the causes of the almost uniform failure of large General Hospitals in war.

Buildings so apparently appropriate, have very rarely come into the possession of armies for Hospital purposes, and yet the result was disastrous. Dr. Hall was fully aware of this, for (page 26) in writing to Dr. Pine on the 21st February, 1855, he says that he is urging 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." But the cause of this great mortality never seems to have occurred to him.

Even so late as March 8th, 1855, just before our sanitary improvements were carried out, and on the very eve of the striking results which followed, the Director-General deemed it to be his duty to summon a Medical Board, which recommended the "crowded and polluted" Hospitals to be evacuated to the largest practicable extent, and the sick to be brought home.

These facts prove that the principal Medical Officer in the Crimea and the Director-General at home, were aware that there was something wrong in the sanitary state of the Hospitals, which they did not know how to deal with, except by using them as little as possible.

Our works were commenced in the middle of March, 1855, and, by referring to the table already given, it will be seen, that the mortality fell as they progressed, from 315 deaths per 1000 of the sick treated, for 3 weeks ending March 17th, to 22 per 1000, for 3 weeks ending June 30th, about which rate it afterwards continued. There is nothing wonderful in this. From our experience in civil life, we

felt from the very beginning perfect confidence in the result. It is in entire accordance with sanitary experience everywhere, that improved health should have followed the works executed, and there is no reason why the Scutari Hospitals should have been any exception to other buildings. The laws of nature are the same everywhere. To attempt to palliate such evils as existed in these Hospitals, and to deny the evidence of such facts, is wilfully to throw away the lessons of experience.

With regard to a statement made by Dr. Hall at page 6, that the privies in the Hospitals were left in their "original state" till March 1856, it is simply contrary to fact. Local causes of disease were abated, and the "original state" of the drainage was improved 12 months before, by temporary means well known to sanitary engineers, but it was nevertheless deemed advisable by the Commissioners to substitute soil-pans to prevent the possibility of future mischief, an improvement which was agreed upon 9 months before the armistice. Men and materials for this work did not arrive from England till December 1855, and the permanent drainage improvements were commenced where they were most necessary. Sir John Hall states that water-closets were not put up in the Hospitals till after the armistice with Russia had been signed, and all the world knew that peace would be proclaimed. The real fact being that the armistice was agreed to in the middle of March, while the first soil-pans had been put up in February, and the works progressed until peace was confirmed, when they were immediately suspended by Major-General Stocks. In regard to Dr. Hall's being told at Scutari, when he passed through, after our engineer had gone home, that only two of the closets were serviceable, the fact—if fact it be—only proves the want of intelligent superintendence.

Mr. Unsworth, who put up these closets, is an engineer of well known ability in such matters. They

were essentially the same in construction as those put up at Renkioi by Mr. Brunton. Dr. Parkes, the Medical Superintendent there, assured himself personally that all the sanitary appliances of his wards were in proper working order, and they were always so. Those at Scutari, while Mr. Unsworth was there, acted equally well.

BALAKLAVA.

Let us inquire next, what precautionary sanitary measures were recommended by the Principal Medical Officer of the Army, for Balaklava, the basis of the British operations before Sebastopol.

The importance of establishing a system of sanitary police for towns, in order to prevent the occurrence of evils likely to prove injurious to health, is now so thoroughly recognised that it would be quite out of place to insist on it here. The whole subject is well understood, and it ought to have been next to impossible to have overlooked the nature and importance of the sanitary problem presented by such a place as Balaklava.

It is a small village of some 500 inhabitants, situated on the margin of a tideless harbour, and inclosed in a narrow, deep hollow, with very little spare ground, and a considerable extent of marshy surface at the head of the harbour.

Into this confined area had to be crowded all the transports, all the officers and men engaged in the supply of the army; many thousands of men and animals had to pass in and out of the place every day. It had, in fact, to fulfil the purpose of a basis for the operations of an army of indefinite size for an indefinite period of time.

Balaklava was one of those places which it would have been comparatively easy to have preserved in

a good sanitary state, if taken in time, but it was likely to be a very difficult matter to remove nuisances from it after they had been permitted to accumulate. One would say that a small town of such importance ought at once to have been placed under a sanitary police, and that the necessity and the method of doing so ought to have been pointed out by the Principal Medical Officer of the Army, if he really were charged with proper sanitary functions.

There is no trace in Sir John Hall's "Observations" of his having given any advice, or, indeed, of his even having considered the subject worthy his notice.

He was zealous in recommendations as to the condition of the building used as the General Hospital; but so far as regarded the town, he advised nothing.

There was thus an entire absence of any preliminary sanitary precautions as regards Balaklava, and, according to the documents now published for the first time by Sir John Hall, it was not till nearly 3 months after the town was occupied, and after epidemic disease had broken out, that there is any indication of its sanitary state having attracted attention.

On the 29th December, 1854, Dr. Anderson, the able Principal Medical Officer of Balaklava General Hospital, protests against the establishment of a transport camp and bazaar near his Hospital. At this date typhus was decimating the Turkish troops quartered in Balaklava, and on the 30th December, Dr. Anderson represents to the Commandant the filthy state of the part of the village which they occupied, but this was *after* the fever had appeared. The fœtid mud at the sick-wharf, opposite the General Hospital, had also become a crying evil, and it was also represented. On the 8th January, 1855, Dr. Anderson represents dead horses and bullocks floating about in all directions, and suggests their being towed out to sea. On the 15th January, he

again repeats his representation about the great amount of sickness among the Turks, and also the state of their burial-ground.

A month later, on the 16th February, he represents that the carcases of 20 bullocks are floating in the harbour, and on the 19th writes to Dr. Hall about the Hospital latrines.

On the 13th March he calls attention to the filthy state of the beach, and of the lower end of Balaklava, and on the 28th he complains of a dead horse near his own house.

By this latter date, the late Dr. Gavin and the inspectors of the Sanitary Commission had arrived at Balaklava, and our Report and Diaries contain a detailed statement of the abominable condition in which the town and neighbourhood were at that period.

There is no mention of the British burial-ground at the head of the harbour even in Dr. Anderson's representations ; but so far as was in his power, he discharged his duty in the representations he made to the military authorities. He acted up to the Army Regulations, which concern themselves not at all with preventing sanitary evils, but rather require that such evils should be represented after they have occurred.

The result of this system was, that we found it would require about 300 men to abate the nuisances which had accumulated since the occupation, before the warm weather set in, as well as the organization of a sanitary police to prevent their recurrence, and we had to report to Lord Raglan that such was the state of the place, that there was great danger of the breaking-out of epidemic disease, an event which actually occurred.

Dr. Anderson's letters are most important, for they illustrate the fundamental nature of the defects in the present sanitary system of the army.

The next sanitary proceeding was, in some respects, a remarkable one, both as regards the time when it took place, and the result of it.

The Commission, consisting of Sir John M'Neill and Colonel Tulloch, with the Sanitary Commission, arrived at Constantinople on board the French mail packet, on the 6th March, 1855, and on the 8th Dr. Hall recommended Lord Raglan to appoint a Board of Health to consider "the sanitary state of the army." The instructions to this Board contained several matters coming under the instructions given to the two Commissions sent out from England, namely, "diet and water, accommodation for sick and well, clothing, duty and locality." The Report of the Board was sent to Lord Raglan on the 25th March, 6 days after our sanitary inspectors had arrived at Balaklava, and 2 days after Dr. Gavin's arrival.

Our Report, as already mentioned, shows what was the state of Balaklava while the sittings of the Board of Health were taking place in the town, and it is a sufficient proof of the absence of any appreciation, either of the then sanitary condition of Balaklava, or of the risk which was likely to be incurred from epidemic disease, that it was not one of the subjects specially included in the instructions to the Board, and, consequently was not even mentioned in its Report.

The Board alludes to the unhealthy condition of the Turkish burial-ground, above the head of the harbour, but does not mention the far worse condition of the British burial-ground.

We have given in our Report full details of the state of Balaklava, and the effect of its bad sanitary condition on the town and shipping. We have shown the steps taken by the Commission to improve it, by the aid of our own inspectors, who had at their disposal, during a period of 3 months, a force of men latterly amounting to 150. We have also described the measures adopted by us for arresting epidemic disease, during a period of 4 months, among the transports. At the time when our inspectors left the Crimea, others were appointed at our

request, by the Commander of the Forces, for whose guidance we issued a code of sanitary instructions. We have pointed out the gradual improvement of the place, until it became as clean and healthy a little sea-port as one would wish to see, and for several months before the evacuation, it required little or no interference on our part. After a great expenditure of labour and money, it had at last arrived at that sanitary condition which it ought to have possessed from the commencement of the occupation.

THE CAMP.

We have shown in our Report, that whatever sanitary neglects had occurred at Scutari and Balaklava, the Camp before Sebastopol was clean when we first inspected it, but that at the same time there were local conditions here and there, likely to affect injuriously the health of the troops. There were evident marks that sanitary precautions had been taken, but in some points these precautions were defective, and in consequence zymotic disease had prevailed. Without of course knowing what recommendations had been made for preserving the sanitary condition of the Camp, we made those which we considered necessary to remove the existing defects.

The most important of our recommendations were those for surface-draining the ground around huts, for the drainage of hut-sites, the removal of earth from the walls, and of damp saturated earth from the floors of huts, ridge ventilation, and lime-washing all huts externally to keep them cool. Various other recommendations were made, which had reference chiefly to sanitary precautions, already taken to a greater or less extent over the whole Camp, but which we desired to have more strictly and uniformly carried out.

Sir John Hall's "Observations" show that from first to last a number of recommendations had been made in regard to the Camp, but, as we shall presently show, even these exhibit the usual short comings of the army sanitary system.

The country occupied by the allied forces at the commencement of the siege-operations, had been several times described by travellers and residents, as peculiarly unhealthy, and their descriptions would certainly have led civilians to have adopted more than ordinary sanitary precautions in such a country. So far, however, as we can judge from Sir John Hall's "Observations," not a single sanitary precaution appears to have been recommended by him for the Camps till the 24th January, 1855, at which date, in consequence of a letter from Dr. Hume, complaining of nuisance in the vicinity of the Hospital of the 3rd Division, Sir John Hall writes to General Estcourt, pointing out the danger to health of various sanitary defects which then existed, but which, so far as we can judge, ought never to have existed at all, under a proper sanitary system.

The letter makes appropriate recommendations, but the health of the troops would have been much better secured by the adoption of sanitary measures when the army broke ground in the beginning of October 1854, instead of waiting till the evils had accumulated to such an extent in January 1855.

Dr. Hall recommended latrines to be dug in the Camps, and daily covered with earth; dead animals to be buried; offal, dirt, and old clothes to be removed from around Hospital marquees and tents; trenches round Hospitals to be deepened to carry of surface-water.

On the 28th January, a further communication on the same subject was addressed by Dr. Hall to the Adjutant-General. These recommendations, so far as they go, are very proper, except as to the date.

The next proceeding was one already referred to, namely, the appointment of the Board of Health, to

consider the sanitary state of the army on the 11th March, 1855, after the two Civil Commissions had arrived at Scutari. The Board drew up a Report containing many valuable suggestions in regard to the diet, clothing, and sanitary arrangements for the Camps, but the first thing that strikes us in reading it, is that there must have been a mistake about the date. It was appointed at the request of Dr. Hall, by a General Order, dated March 11th, 1855. If that Order had been dated 11th October, 1854, instead of the 11th March, 1855, the Report made in consequence would have been a very proper one, so much so, that with the history of that winter fresh in our memory, we cannot but express our regret that the advice of the medical officers who composed the Board was not called for by the principal medical officer before, and not after, the catastrophe had happened.

As it was, the proceeding was in accordance with the practice flowing from the regulations, as already stated, and which is not *prevention* of sanitary defects, but their removal, after their consequences have shown themselves.

The sanitary recommendations as to water-supply, hut and tent accommodation, burial of dead animals, regulation of latrines, striking of tents, opening sides for ventilation, burial of the dead, camp-police, are all good, so far as they go, except in their date, for which the Board is not responsible. The plan proposed for ventilating huts by louvred turrets, which was well carried out by Dr. Alexander, in some Hospitals in the Light Division, we have described and figured in our Report as the best method we found in use, although we recommended ventilation by raising the ridge boards of the huts instead, as being simpler,—a plan which was carried out, and also adopted in principle, in the panel huts sent out for the second winter Camp.

There were some important sanitary points omitted by the Board, as for instance, the clearing away of earth from the walls of huts, the drainage

of hut sites, on the side-long ground, from the want of which zymotic disease had arisen, the external lime-washing of huts to diminish the inside temperature, and there is no reference to the 79th Highlanders, then well known as suffering from fever and other zymotic diseases, on account of which half the force had already passed through Hospital.

Sir John Hall has shown that the removal of this Camp was advised by him on the 19th and 27th March; but it was not removed until the recommendation of the Commission of the 14th April had been sanctioned by Lord Raglan.

It is not necessary to discuss the sanitary measures carried out after the recommendations of the Commission had been sent to the Commander of the Forces. We have shown the progress of sanitary improvement, and expressed our satisfaction with the remarkably improved health of the army up to the end of the war, giving at the same time due weight to the influence of improved diet, clothing, &c. The results were similar in kind to those observed in civil life, to follow similar works. There is no mystery in army sanitary measures. They do not differ from those in civil life, except that they require greater vigilance.

We have given full details in our Report on the sanitary defects at Scutari, Balaklava, and in the Camp; and we have stated generally the improvements carried out with the results to health. After considering all we have said, Dr. Hall, page 51, thinks that all "dispassionate people" will see and admit with him that the benefit of our labours was more assumed than real, and he adduces as a proof of this, without apparently considering what the result will be as regards his own recommendations, a table of admissions and deaths in the Hospitals from December, 1854 to August 1855, the admissions and deaths being given without any reference to the force in the field! This table, like the statistical facts he brings forward about the Hospitals at Scutari, is absolutely worthless for any comparison. It is

as if he had adduced the fact of 100 deaths from cholera in London, with 2,500,000 inhabitants, and 100 deaths from cholera in Richmond, or any other town, with 25,000 inhabitants, as a proof that cholera was as fatal in the one case as in the other.

The following table showing the admissions and deaths to strength per 1000 per annum for the whole army in the East, from December 1854 to the end of the war, exhibits the real instead of the assumed facts of the case.

	Admissions to strength per 1000 per annum.	Deaths to strength per 1000 per annum.		Admissions to strength per 1000 per annum.	Deaths to strength per 1000 per annum.
1854.					
December .	3,888	721	September	2,004	121
1855.					
January . .	4,176	1,173	October	1,380	49
February .	2,760	979	November	1,176	52
March . .	2,316	561	December	1,332	32
			1856		
April . .	1,716	223	January	1,116	21
May . . .	1,944	202	February	924	9
June . . .	3,396	318	March	972	10
July . . .	2,832	152	April	840	8
August . .	2,760	181	May	720	7

This table shows the relative loss of efficiency month by month, from admissions and deaths reduced to a common unit. The increase in June 1855, was due to cholera, and to the first attack on the Redan ; that in July and August to cholera, and the increase in September mainly to the attack on the Redan. Of course this table contains a very different view of the facts from that in Sir John Hall's inapplicable and useless one.

It will be seen that with the exception of cholera, the local predisposing conditions of which we have described in our Report, and which did not admit of removal before the epidemic arrived, there

was a steady reduction in the rate of mortality the whole time the Commission was in the Crimea.

The concluding opinion expressed in the Report of the Sanitary Commission, that the whole subject of military hygiène, as proved by the experience in the East, demands in future a practical development commensurate with its importance to the public service, receives a striking confirmation from Sir John Hall's pamphlet. Without casting blame on him or on any one else, we of the civil sanitary service accept his "Observations" as conclusive on this point. Sir John Hall himself desiderates a better position for the sanitary element in the army. He has tacitly acknowledged the existence of those defects at Scutari and in the Crimea, which he has attempted to palliate, and he has at the same time admitted the necessity for those preliminary sanitary precautions recommended by us in the practical conclusions to our Report, and which his own documents prove that he did not adopt.

We state in our "Conclusions" that in the Hospitals at Scutari, impure air arising from the defective condition of the drainage and ventilation, and the cubic space for the inmates, was sufficient to account for a large proportion of the excess of mortality in the buildings; and we proceed to show how such buildings should be examined as to their sanitary condition, and what precautions it is indispensable to take before they can be safely occupied by sick.

We state that the bad sanitary condition of the town and harbour of Balaklava and their vicinity was the cause of much sickness in the town, on board ship, and in the neighbouring camps, and we show that the organization of a sanitary police, on taking military possession of a town is a matter of absolute necessity for the health of the troops in occupation.

We further state, that by far the greater part of the disease and mortality existing in the Camp was due to cholera, fever, diarrhœa, and dysentery. That these diseases were connected with removable causes

of damp, foul air, and impure water, and we point out in what manner such causes ought to have been dealt with from the beginning.

We also state that these diseases declined on the carrying out of suitable works and measures, and our final "Conclusion," as already stated, is, that military hygiène demands in future a practical development commensurate with its importance to the public service.

Of these "Conclusions" Sir John Hall says, "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."

If we believed that to Sir John Hall had been committed the hygiène of the army, as we understand the word, his acceptance of these conclusions would be the strongest condemnation of his own proceedings.

"Common-place," "well-known," "generally admitted," and "unexceptionable," as he says they are, the neglect of them occasioned almost the whole catastrophe at Scutari, and endangered the efficiency of the army in the Crimea.

Civil Sanitary Commissions attached to an army are not a desirable means of supplying similar administrative defects, but the whole experience of the Crimean War, as well as the evidence furnished in Sir John Hall's "Observations," proves that in the present sanitary system of the army, if left to itself, there is nothing to prevent the recurrence of disasters from neglect of hygiène, like those of Walcheren, Scutari, and the Crimea, which are now matter of history.

APPENDIX.

SIR JOHN HALL in his observations adduces instances of alleged incorrectness as to matters of fact in the Report of the Sanitary Commissioners to which we now proceed to reply.

At page 6, with reference to our account of the outbreak of Cholera at Scutari in November 1855, he gives a letter from Dr. Linton, in which it is stated, that Major-General Storks had suggested that Dr. Sutherland should be made acquainted with the outbreak, which Dr. Linton did by note: that Dr. Sutherland did not come to Scutari till the second day after Dr. Linton's note was despatched: that Dr. Sutherland came to Scutari, when the weather permitted, on the morning of the day when the mail for England was made up, and that the requisite sanitary measures were in operation before Dr. Sutherland was made acquainted with the matter.

First, then, as to the note which is dated "Scutari, 15 Nov., 1855." It is as follows:—"I regret to say that we have an outbreak of cholera, come over, therefore, as soon as you can and give us the benefit of your large amount of experience in this disease and oblige, very sincerely yours, W. Linton."

This note was delivered to Dr. Sutherland at 3 o'clock P.M. of the 15th November. Dr. Sutherland was suffering from an attack of fever, and was unable to go over that evening, but he wrote by the messenger to Dr. Linton, though the latter makes no reference to that note, giving him the advice he had asked for, and recommending inspection of troops and sick for the immediate treatment of diarrhœa, thinning all huts or wards where the disease had appeared, or even emptying and lime-washing them, and promising to go over in the morning.

These were the chief points in the letter which Dr. Linton doubtless has. Instead of there being a lapse of two days between the sending of the letter, and his going to Scutari, Dr. Sutherland met Dr. Linton at Scutari next morning the 16th, and went over all the circumstances with him, when Dr. Linton objected to the camping out of the troops, for the reasons he has stated.

The Report of the Sanitary Commission states what took place at the meeting with General Storks, and is believed to be a correct representation of the circumstances.

At that time, the measures recommended in Dr. Sutherland's note of the preceding evening had been initiated. It is quite

possible that Dr. Linton may have determined on them previously, but judging from the tenor of his note, it was considered that he really desired a consultation as to what was best to be done; but it is certain he was opposed to the most important measure, namely, the camping out, which was urged by Dr. Sutherland at that date, and his impression is, that it was General Storks who decided the measure in the affirmative.

In regard to Dr. Sutherland's visits to Scutari being confined to post days, as asserted by Dr. Linton, the statement is incorrect, for Dr. Sutherland was at Dr. Linton's office at Scutari, every day from the 16th to the 30th November inclusive, excepting the 25th, 27th and 29th, and the epidemic had declined before any of these dates.

As to Dr. Hall's statement that "the Commissioners had seized the lion's share of laudation," far from this being the case, the whole circumstances gave rise to no other feeling than that of regret, that so many lives had been lost, which in all human probability might have been saved, if the men had been removed out of the Barrack, as soon as the disease appeared among them.

At page 9, Sir John Hall, referring to the description given in our Report, of the state of the British burial-ground, at the head of Balaklava-harbour, positively denies "that the dead of the army were ever buried in this careless manner from any of the Hospital establishments." The Report does not say anything about the dead from the Hospitals. It simply describes the state of a certain burial-ground, and the manner of burial which had apparently been adopted.

Dr. Hall's statement at page 11, that he had mentioned to the Commissioners that he had seen camp refuse disposed of by burning in kilns while in India, is given in our Report as he made it; but the conversation to which he refers took place very nearly a year after the propriety of adopting the practice had been discussed by the Sanitary Commission, and about a month after such a kiln had been erected at Scutari, on the recommendation of Dr. Milroy.

At page 11, Dr. Hall admits that a statement made in the Commission Report, as to there being an excess of sickness in the cavalry and artillery over the infantry, from the beginning of May to the middle of July 1855, was correct, so far as zymotic disease was concerned; but he attributes it to the circumstance of a considerable part of these arms being new arrivals, while the Commission looking at the whole sanitary history of the army, up to the period of the evacuation, state that the excess "appeared to be mainly due to unwholesome conditions, arising from the presence of animals." Dr. Hall should have stated that during the period specified, there were new arrivals among the infantry, as well as among the cavalry and artillery, though in a smaller proportion.

At page 12, he says, the description given at page 120 of the Report, of the position of the 2nd Division is erroneous. It was part of the 4th and not the 2nd Division which was located on the

slope of Cathcart's-hill. The statement in our Report is that *part* of the 2nd Division was so situated, as well as the 4th Division. Sir John Hall's contradiction is a mere quibble as to the meaning of the "slope of a hill," the name of which was a local one. The site of the part of the 2nd Division referred to, is given for the second winter on a plan of the camp, prepared at Head-Quarters on the 4th February, 1856, and by referring the position given in the plan, to a contoured map, it appears that this part of the 2nd Division, was situated on a contour, sweeping round the hill, 80 feet above the nearest part of the ravine, between the summit of Cathcart's-hill and the Woronzoff-road. The description is as correct therefore as the local nomenclature would admit.

He further states page 12, with reference to the removal of the camp of the Naval Brigade, which our Report says we recommended, that neither Dr. Deas, nor Sir Stephen Lushington, to whom he had applied on the subject, had any recollection of such a recommendation.

This may be quite true, and yet the recommendation was verbally made, but not to them, and would have been repeated more formally, had it been deemed necessary. It was enough for us that the camp was removed.

At page 13, Dr. Hall states, that a letter written to him regarding the insufficient means of discovering and treating diarrhœa among the troops, and recommending "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," was written *pro forma*.

This statement is unfounded. The letter was written for the express purpose of taking objection to the method of dealing with the diarrhœa then in use, and of advising a better. Whatever may be the case in the army, we in civil life know full well that it is a mere delusion to trust to choleraic cases applying for relief.

At page 19, the Commissioners are called to account for making certain supposititious statements in regard to the General Hospital in camp, which they are not aware exist in their "Report." The condition of the ground and of the huts at the date when the inspection was made, was such as they have described.

With reference to the communication about the trenches addressed to General Simpson on the 18th July, referred to in page 28 of the "Observations," and which Sir John Hall states he had anticipated on the 30th April and 4th June, the reply is, that notwithstanding his recommendations, complaint was made to the Commission of the state of the trenches, and the communication to General Simpson was made in consequence.

At page 32, Dr. Hall, alluding to certain recommendations of the Medical Board regarding the water-supply, makes certain statements on the subject, which it is impossible to answer, without entering into a discussion on the principles of water-supply

generally, with which principles Sir John Hall appears to have a very limited acquaintance.

The stream of water running from the hill above the Col of Balaklava, towards Kadikoi, and which Sir John Hall calls a "simple gutter," was the drainage outlet for about 5 square miles of area, and might, if required, have been made by far the most abundant source of water-supply within the British occupation.

At page 34. Dr. Hall states that his application to the Commissioners to examine the site for the Hospital at San Georgeo, was a simple act of courtesy on his part. We are obliged to him for his courtesy, but whether he had asked us or not, it would have been our duty to inspect the site, and object to it if we had considered it necessary.

At page 35, Dr. Hall, referring to certain objections raised by the Commissioners against the use of Hospital-ships in Balaklava-harbour, says they were never intended to be used as floating Hospitals. The following was the cause of our interference in the matter. While these ships were lying in Balaklava-harbour, we were desirous of having the sick removed from on board the "Diamond," but Admiral Boxer very properly objected to the recommendation, unless we would at the same time object, as a matter of principle, to any ships being used for sick in harbour.

We did so, therefore, and he yielded the point in regard to the "Diamond,"

At page 46, referring to a communication of the 24th August, addressed by the Commissioners to the Commander of the Forces respecting the unhealthy state of the Cavalry camps, in which they reported tents as overcrowded, Dr. Hall states that he found not more than 6 men in each. However this might be, our statement as to overcrowding, was made on sufficient authority.

At page 47, Sir John Hall states, that he represented the unhealthy position occupied by the Royals on the 3rd of October 1855, and he asks why the Sanitary Commission did not attend to it, or to the slaughter and offal pits at Kadikoi? In regard to the Royals, Dr. Milroy, who was the only Commissioner then in the Crimea, would heve interfered in the matter, if it had not been otherwise remedied. The offal-pits at Kadikoi were the subject of communication both with Head-Quarters and with the Commissary-General.

Remedies were pointed out for the nuisance, and they were put in practice with success, while the place was inspected by one of the Commissioners from day to day, till the nuisance from the offal pits was finally removed.

At page 52, Sir John Hall says, that the Commissioners commenced their labours at Scutari on the 26th March, 1855—(the true date is the 6th March), and at Balaklava on the 3rd of April, "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." Of course it could not. With reference to Dr. Hall's statement, as to any knowledge

we might have had of the suggestions contained in the published Report of the Medical Commissioners to the Hospitals, we have only to reply that we never saw the Report until our work in the East was done. That Report contains many excellent suggestions, and much valuable information, but we have not been able to discover in it any sanitary recommendations bearing on the defects described in our report, except an objection against the occupation of the corridors in the Scutari Hospitals by sick, in which objection we happened to agree with the Commissioners. The duties of that Commission were of quite a different kind.

Sir John Hall, page 55, considers that all ordinary sanitary information, except such as applies to Camps and Barracks, can be obtained from the "popular and cheap publications of the day," treating on sanitary matters, a fact with which we were not previously acquainted. Perhaps Sir John Hall will tell us from which of these popular publications he derived his own information.

With reference to the letter addressed by Dr. Sutherland to Lord Shaftesbury and Sir James Clark, on the 9th July 1855, and part of which Dr. Hall has published at the end of his "Observations," we would remark first, that the capitals and italics in the letter are not Dr. Sutherland's, but Sir John Hall's; and second, that one most important statement in the letter, enforcing the necessity of securing by examination a large amount of knowledge on sanitary matters, on the part of the army medical and other officers, and which was the practical point of the letter, is altogether omitted. Lastly, that there is nothing in the letter, which in any way contradicts the statements in the Report, although there are two inaccuracies which must have remained uncorrected, in the absence of the documentary evidence supplied by Sir John Hall.

The letter states that "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." This statement, as the context shows, refers exclusively to the camp, and neither to Scutari nor Balaklava. It was believed to be correct, because in one or two instances it had been found to be so, but the statement itself was made on the authority of verbal assertions, such as the following:—"Every thing the Sanitary Commission has recommended, was recommended before," and the like.

But it now appears, from Sir John Hall's published recommendations, that this was by no means the case.

The other inaccuracy referred to is the following:—Sir John Hall quotes this from the letter. "Diarrhœa 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."

The Report throws doubts upon the truth of this, for it is therein stated, with reference to the army, that the inspection did not appear to have been so successful as in other instances. The statement in the letter referred both to Balaklava and the camp, in the former of which a very efficient system of inspection

for the discovery of diarrhœa on board ship, was carried out by the naval surgeons uuder our instructions. Dr. Sutherland understood also from a conversation he had with Sir John Hall at that period, that the men in camp were inspected for diarrhœa, but from the information conveyed in the "Observations," it appears that he must have been mistaken, for that such was not the case, and the men were merely cautioned to apply for that relief: good, so far as it went, but not enough.

It thus appears that these statements in the letter made on verbal testimony were inaccurate.

At page 54, Sir John Hall cites a paragraph of Dr. Sutherland's letter, in which it is stated that "little if anything more can be done here in the way of initiation of camp sanitary measures," and uses it as an acknowledgment that everything had been already done.

The paragraph refers to our own work and recommendations, as well as to what had been done by Commanding officers and others during the previous three months up to the date of the letter.

There is only one other point in the letter requiring notice. It is the comparison drawn between the sanitary state of Balaklava and certain districts of London and other towns, from which Sir John Hall appears to derive comfort. The comparison was drawn for the purpose of enabling two friends, practically conversant with the question, to form an estimate of the relative sanitary condition of the occupation, and to do this the very worst sanitary districts at home were selected — districts exhibiting the sanitary neglects of many years, with their results in localizing epidemic diseases. Balaklava is stated not to have been worse than these districts, but the real point was that Balaklava, from neglect of sanitary precautions, had descended in 6 months to the unhealthy position which had been attained by these home districts after long years of neglect.

It is satisfactory to know that the home districts referred to have been improving, and that strenuous efforts will no doubt continue to be made, under the recent Metropolitan Improvement Act, to remove the stigma from the Metropolis, as was eventually done from Balaklava.

Dr. Hall considers Dr. Sutherland to have been very candid in confessing in this letter, that we had perhaps learned more than we had recommended, and desiderates like candour in our Report, taking for granted apparently, that what we had acquired had been derived from himself. There was not, however, one sanitary problem in the Crimea, which the members of the Commission had not been engaged in for years in civil life, in towns, villages, and country districts, which do not differ in their sanitary relations from camps. Towns are really fixed camps.

What we did learn, was the supreme necessity of greater vigilance in preventing the occurrence of sanitary defects, rather than in trusting to their removal after they had occurred, which is the method in the Army Regulations, and we had an opportunity

of estimating more justly the vital importance of single sanitary defects, in predisposing to zymotic disease—defects very rarely seen in operation by themselves, for more causes than one are generally found acting together. We are always learning in sanitary matters, and there is no discredit in avowing it.

In sanitary methods or procedure there was really nothing to learn, but much to avoid.

PRINTED BY HARRISON AND SONS, ST. MARTIN'S LANE, W.C.