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TESTIMONIALS

IN FAVOUR OF

DAVID GREIG, M.D.,

LATE STAFF ASSISTANT SURGEON;
FORMERLY DEMONSTRATOR OF ANATOMY IN THE
UNIVERSITY OF EDINBURGH.

Dundee, 5th November, 1856.

To the Chairman of the Weekly Committee
of the
Dundee Royal Infirmary.

SIR,

I beg respectfully to offer myself as a
Candidate for the vacant situation of Surgeon to the West District.

After studying my profession for the usual period in Edinburgh,
I obtained in 1853 the Diploma of the Royal College of Surgeons,
and the Degree of the University of Edinburgh.

In regard to opportunities of experience, I may mention that I
have filled successively the situations of Interim House-Surgeon to
the Dundee Royal Infirmary; House Surgeon in the Edinburgh
Royal Maternity Hospital; and Resident Physician in the Edinburgh
Royal Infirmary.

During the Winter and Summer Sessions of 1853-4, I filled the
situation of Demonstrator of Anatomy in the University of Edin-
burgh.

During the last two years I have acted as Assistant-Surgeon in
the Army—first, in the Hospitals of Scutari and Kululi, in
charge of the sick and wounded after the Battles of Alma and
Inkermann; next, with the 17th Regiment before Sebastopol.
After the Fall of Sebastopol, I was appointed by the Director-
General as Pathologist to the Army in the Field—which situation
I held until my return to England.

I have lately resigned my Commission in the Army, and have now
settled in Dundee.

Should I be successful in my present application, I beg to assure
you no exertion shall be wanting on my part in the discharge of the
duties of the situation.

I have the honour to be,

SIR,

Your most obedient Servant,

DAVID GREIG, M.D.

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DUNDEE.

TESTIMONIALS.

1.—From ROBERT CHRISTISON, Esq., M.D., Professor of Materia Medica, and of Clinical Medicine in the University of Edinburgh; Ordinary Physician to the Queen in Scotland, &c.

EDINBURGH COLLEGE,
6th Nov., 1856.

I CERTIFY that, having been well acquainted with the diligence of Dr Greig during his studies at this University, with his zeal and opportunities of instruction, while he resided as Medical Officer in the Royal Infirmary of this city; with the satisfaction he then gave to those with whom he acted in charge of the patients; and with the great credit with which he discharged his arduous duties in the Medical Military Service at Scutari and in the Crimea; and, looking to the uncommon amount of practical experience of diseases, both medical and surgical, which he has thus gained, both at home and abroad; and having also great reliance both in his general abilities and his discretion and conduct; I consider him worthy of full confidence in any situation of professional trust, public or private.

R. CHRISTISON.

2.—From JAMES SYME, Esq., F.R.C.S. (Hon.); Professor of Clinical Surgery in the University of Edinburgh, &c.

3 RUTLAND STREET, EDINBURGH,
7th November, 1856.

I ENTERTAIN a very high opinion of the talents and professional acquirements of Dr David Greig; and, from my personal knowledge of him, feel quite sure that he will always prove deserving in every respect of his patients' confidence.

JAMES SYME.

3.—From JAMES Y. SIMPSON, Esq., M.D., Professor of Midwifery in the University of Edinburgh; Physician-Accoucheur to the Queen for Scotland, &c.

EDINBURGH, 6th November, 1856.

I HEREBY certify that I have the pleasure of knowing Dr Greig personally; that several years ago he carried off one of the prizes in the Class of Midwifery in the University; that in consequence of his excellent general and professional talents, I selected him as one of the first three men sent out from this School to the Army in the East; that when there he distinguished himself by his surgical knowledge and operative powers; and that I believe him highly and excellently qualified to undertake the duties of Medical Officer to any public civil Hospital or Institution, and a man certain to succeed in the walks of private practice.

J. Y. SIMPSON.

4.—From JAMES MILLER, Esq., F.R.C.S., Professor of Surgery in the University of Edinburgh; Surgeon in Ordinary to the Queen for Scotland, &c.

51 QUEEN STREET, EDINBURGH,
November 6, 1856.

I DEO to recommend Dr David Greig as very highly qualified for the office of Surgeon to the Dundee Infirmary.

Dr Greig has been a distinguished pupil; and since graduation has had most favourable opportunities in the East to become practically acquainted with his profession.

I consider him possessed of peculiar claims for the office in question.

JAS. MILLER.

5.—From JOHN STRUTHERS, Esq., M.D., F.R.C.S., Lecturer on Anatomy, Surgeons' Hall, Edinburgh.

SURGEONS' HALL, EDINBURGH,
November 8, 1856.

DR DAVID GREIG has been well known to me from his medical boyhood onwards; and, as, from his long connection with me as pupil and assistant, no one has had better opportunities of knowing him, I gladly, as a duty no less than a pleasure, embrace this occasion to express the high—the very high—opinion I entertain of him.

During the whole period of his studies, Dr Greig was marked for his steadiness and talent. In the two first Sessions he carried off all the prizes offered in my class,—the first junior and first senior medals by written competition; the first prize for an essay written during the summer recess; and the prize for skill and dexterity in dissecting.

In consequence of his high anatomical acquirements, after obtaining his Diploma and Degree, I entrusted him with the office of Demonstrator of Anatomy in my class, the trying duties of which he discharged to my entire satisfaction, and with great acceptance to the students. In addition to the ordinary duties of Demonstrator in the practical rooms, he delivered a course of Demonstrations in the lecture room to the junior students; and otherwise rendered me valuable assistance in the University during the Winter and Summer Sessions of 1853-4, in teaching an unusually large class, consisting of my own and that of the University united into one.

Dr Greig has enjoyed the first opportunities of gaining experience by his connection with the Dundee and Edinburgh Infirmaries, and the Edinburgh Maternity Hospital, and during the last two years in the great Hospitals in the East and in the Army in the Field. These are the situations in which a young man can learn his profession in all its branches. Very few fill them all; and very few, especially, have also that thorough acquaintance with Anatomy which Dr Greig's position as Demonstrator gave him, and which will continue to secure for him that distinction in Surgery which it did in the Hospitals and Army in the East.

During my long acquaintance with Dr Greig, I have had occasion to see much of him in private, under various circumstances, and have been led to form the very highest opinion of his character, which is marked, if I may so express it, by a happy combination of high principle, discretion, and simplicity.

I need hardly say, therefore, that I consider Dr Greig as well qualified for any Medical or Surgical appointment. With or without any public appointment I consider his success and eminence as certain. To his professional brethren I can recommend him as worthy of confidence; as one whose knowledge and ability they can respect, and who will always deal honourably with their interests and good name.

JOHN STRUTHERS, M.D., F.R.C.S.

6.—From JOSEPH LISTER, Esq., F.R.C.S., England and Edinburgh; Lecturer on Surgery, and Assistant Surgeon to the Royal Infirmary, Edinburgh, &c.

EDINBURGH, 7th November, 1856.

WHEN I first became acquainted with Dr Greig, he was an able Demonstrator of Anatomy in the University of Edinburgh, where he proved himself to be possessed of a most thorough knowledge of the structure of the human body,—the best ground-work for successful surgical practice. He afterwards became one of my colleagues during my House-Surgeony at the Royal Infirmary; and impressed me strongly with his talents, his professional acquirements, and his decided turn for Surgery.

Dr Greig next entered the Army in the East as Assistant Surgeon, and was one of the very few gentlemen in that capacity of whom I have heard as acquiring a reputation during the campaign as a bold and successful operator. I consider Dr Greig peculiarly fitted for discharging the duties of Surgeon to a public Charity, with honour both to himself and to the Institution with which he shall be connected.

JOSEPH LISTER, F.R.C.S.

7.—From ALEXANDER KEILLER, Esq., M.D., F.R.C.P., Physician to the Royal Infirmary, Royal Maternity Hospital, and Physician-Accoucheur to the Royal Dispensary, Edinburgh, Lecturer on Midwifery in the Medical School, Surgeons' Hall, Edinburgh, &c.

30 NORTHUMBERLAND STREET, EDINBURGH,
6th November, 1856.

MY DEAR DR GREIG,—

I most willingly comply with your request that I should express my opinion of your professional qualifications.

During the period of your academical career, I had good opportunities of observing the steadiness, assiduity, and zeal with which you studied the principles of Medical and Surgical science; and, from what I have subsequently seen and known of you, the correctness of the very favourable opinion which I have all along entertained regarding you has been most fully confirmed.

You have enjoyed unusual advantages, in this city and elsewhere, of rendering yourself in the highest degree competent to undertake

the duties which appertain to the various branches of our profession; and I feel bound to say, that I know few better qualified to enter the rank of the general practitioner in any community.

You inform me that you have chosen Dundee as the field of your future labours; if so, all I can say is, that you will there have to emulate a class of very able and highly esteemed professional brethren, whose hearts are in their work, but who, I know, will not grudge you any share of success which your undoubted talents and worth may entitle you to.

At all events, you are to my mind in every respect well qualified, and I most sincerely wish you every happiness and prosperity.

Ever believe me,

Yours faithfully,

ALEX. KEILLER, M.D. F.R.C.P.

8.—From JAMES SPENCE, Esq., F.R.C.S.E., Lecturer on Surgery and Senior Surgeon to the Royal Infirmary, Edinburgh, &c.

EDINBURGH, 12 NORTHUMBERLAND STREET,
6th November, 1856.

I HAVE much pleasure in stating that Dr Greig has been long known to me—a young medical man of great promise. He acted for a considerable time as Demonstrator of Anatomy to my colleague Dr Struthers, and is an excellent Anatomist. He has also enjoyed great opportunities of obtaining a thorough practical knowledge of his profession, both in the Edinburgh Infirmary, and more recently as attached to Military Hospitals in Turkey and the Crimea. I have therefore every confidence in stating my high opinion of his professional attainments and qualifications for the Practice of his Profession.

JAMES SPENCE, F.R.C.S.

9.—From W. T. GAIRDNER, M.D., F.R.C.P.E., Physician to the Royal Infirmary, and Lecturer on the Practice of Physic, Edinburgh, &c.

EDINBURGH, Nov. 9, 1856.

DR GREIG has been known to me personally and by reputation for a considerable time, and from his connection with the Medical School as Demonstrator of Anatomy, I had good opportunities of

knowing his professional and private character. Believing, as I do, that he is a man of no common attainments, and entirely worthy of the confidence of the public; and knowing, as I do, that his services in the East, as well as those in this school, were highly appreciated by those competent to judge of them, I am happy to give Dr Greig this testimony of my good opinion and warm wishes for his success in life.

W. T. GAIRDNER, M.D., F.R.C.P.E.

10.—From W. R. SAUNDERS, Esq., M.D., F.R.C.P.E., Conservator of the Museum of the Royal College of Surgeons, and Lecturer on Physiology, Edinburgh, &c.

EDINBURGH, 15 DUKE STREET,
November 7, 1856.

I HAVE had the pleasure of Dr David Greig's acquaintance, both while he was a student and since his graduation. His excellent and complete medical education; his thorough knowledge of Anatomy—of which he was for some time Demonstrator;—his practical experience in Surgery, both in the Edinburgh Infirmary, and during his service in the East;—together with his sound talents, and his devotion to professional duty, appear to me to be qualifications of the highest kind for such an appointment as Dr Greig at present seeks. I feel sure that, if elected, he will discharge the duties of District Surgeon to the Dundee Infirmary with great credit to that Institution.

W. R. SAUNDERS, M.D., F.R.C.P.E.

11.—From D. RUTHERFORD HALDANE, Esq., M.D., F.R.C.P.E., Pathologist to the Royal Infirmary, and Lecturer on General Pathology, Edinburgh, &c.

SURGEONS' HALL, EDINBURGH,
November 8, 1856.

I HAVE great pleasure in bearing testimony to the abilities and attainments of Dr Greig. While Dr Greig acted as Demonstrator in the Anatomical Rooms here, I was frequently brought in contact with him, and had the best opportunities of judging of his talents and assiduity, as well as of becoming acquainted with the high estimation in which he was held by the Students.

D. R. HALDANE, F.R.C.P.

12.—From WILLIAM WALKER, Esq., F.R.C.S.E., Ophthalmic Surgeon to the Royal Infirmary, Edinburgh, &c.

EDINBURGH, Nov. 7, 1856.

I HAVE pleasure in stating that I have known Dr David Greig for a considerable period. He has been a resident Clerk in the Edinburgh Royal Infirmary; Demonstrator of Anatomy in the University; and since then has been with the Army in the East. He has thus had ample opportunities of acquiring professional information. That he has availed himself of these I have no doubt; and I am therefore of opinion, that he is well qualified to undertake the management of any case committed to his care, with credit to himself and satisfaction to his patient.

WM. WALKER, F.R.C.S.E.

13.—From ANDREW WOOD, Esq., M.D., President of the Royal College of Surgeons, Edinburgh; Inspector of Anatomy for Scotland, &c.

9 DARNLEY STREET, EDINBURGH,
8th November, 1856.

I HAVE much pleasure in certifying that it is consistent with my knowledge that Dr Greig acted for a considerable period as Demonstrator of Anatomy under Dr Struthers in the Edinburgh Extra-Academical School with ability and success, and that his teaching was highly acceptable to the Students who attended his Demonstrations.

ANDREW WOOD, M.D.

14.—From JAMES ALEXANDER, Esq., Surgeon, Wooler; President of the Border Medical Society, &c.

WOOLER, November 5, 1856.

It is with the greatest pleasure that I take an opportunity of expressing my opinion of Dr David Greig. I have known him intimately for several years, and entertain the very highest opinion of him in every respect. His zeal, diligence, and talent, joined to excellent opportunities, have made him a most accomplished Surgeon; and I have had ample opportunities of witnessing his

skill, judgment, humanity, and good temper, in the management of medical cases. In all that is related to Medical Science, he is thoroughly well-informed; and his taste, ability, and activity of mind, will secure continued progress both in Science and general Literature.

JAMES ALEXANDER.

15.—From JAMES STRUTHERS, Esq., M.D., Physician to the Leith Hospital and Dispensary, &c.

22 CHARLOTTE STREET, LEITH,
6th November, 1856.

DR DAVID GREIG has been most favourably known to me for the last seven years, and I have formed a very high estimate of his abilities and of his professional attainments.

I am not acquainted with any one of his standing in the Profession who has enjoyed so many excellent opportunities of extending his knowledge, or who has turned his opportunities so diligently to a good account. I do not say too much when I express my conviction that Dr Greig is a proficient in all the departments of his profession; and that he is deserving of every confidence from those who may be placed under his care, whether in a public Institution, or in the course of private practice.

I understand Dr Greig is a candidate for the office of District Surgeon to the Dundee Infirmary. For such a post he is peculiarly well fitted, from the experience he has had in the Royal Infirmary of Edinburgh, and more recently in the Crimea, and the British Hospitals on the Bosphorus, where in the course of two years he has seen an amount of surgical practice greater than most practitioners see in a lifetime. And I may here state, that those of his brother-officers with whom I have conversed have uniformly spoken in the highest terms of Dr Greig's attainments as an operating Surgeon and judicious practitioner, in the hospital and in the field; and also of his character as a gentleman.

Besides a thorough knowledge of his profession, Dr Greig is possessed of great natural abilities and sound judgment, which, with his gentlemanly bearing, and excellent moral character, render him peculiarly well qualified for the office for which he is a candidate,

as well as for all the duties and responsibilities of private practice, to his success in which I look with the greatest confidence.

JAMES STRUTHERS, M.D., L.R.C.S.E.

16.—From THOMAS GRAHAM WEIR, Esq., M.D., F.R.C.P.E., Acting Physician Accoucheur to the Edinburgh New Town Dispensary; one of the Ordinary Medical Officers of the Edinburgh Maternity Hospital, &c.

25 HERIOT ROW, EDINBURGH,
6th November, 1856.

I HAVE very great pleasure in being able to state that I have had the acquaintance of Dr David Greig for nearly two years, and that I have been associated with him in the Medical Profession in such a manner as I have had ample opportunities of witnessing his treatment of disease, he having been for some time House Surgeon to the Edinburgh Maternity Hospital, and Resident Clerk in the Royal Infirmary. And I can conscientiously state that I consider him eminently well qualified for the treatment of the sick, whether occurring in the more private walks of life, or in the more public situation of an hospital or other benevolent institution.

THOMAS G. WEIR, M.D., F.R.C.P.E.

17.—From WILLIAM CUMMING, Esq., M.D., F.R.C.P.E., Physician to the Royal Maternity Hospital, Vice-President of the Obstetrical Society, Edinburgh, &c.

EDINBURGH, 6th Nov., 1856.
42 QUEEN STREET.

I HAVE much pleasure in stating that Dr Greig during his term as House Surgeon at the Royal Maternity Hospital in 1852-53, was assiduous, zealous, and indefatigable in the discharge of his duties, evinced a thorough theoretical and much practical knowledge of Midwifery, and had opportunities of extending it not enjoyed by many, which he eagerly and intelligently embraced.

WILLIAM CUMMING, M.D., F.R.C.P.E.

18.—From P. H. WATSON, Esq., M.D., F.R.C.S., Edinburgh, formerly Assistant-Surgeon, Royal Artillery, &c.

13 CARLTON TERRACE, EDINBURGH,
6th November, 1856.

MY DEAR GREIG,

I HAVE just heard that you are a candidate for a civil surgical appointment in your native city.

It affords me sincere pleasure to add my testimony to that which I am sure would readily be given by all your old associates, civil and military, if they had the like opportunity afforded them. My high opinion of your talents and ability has been formed from a most intimate and long acquaintance with you; and I am sure that it is attributable not to mere personal prepossession, for it coincides with that entertained by all your professional brethren with whom you came in contact during your Eastern experiences.

Your education has been of a most complete and liberal description; and that you made a good use of your opportunities, is proved by the high confidence reposed in you by your teachers, shewn by your appointment as Demonstrator of Anatomy, and afterwards as Resident Physician in the Royal Infirmary of Edinburgh.

At a time when Army Surgeons were much needed, you most nobly volunteered your services, and joined the Staff of the Army in the East. Here your experience ranged over the Hospitals of Scutari and Kululi in their worst and best conditions; and I know from one who is now no more, that he considered you as his right hand man in establishing and carrying out the improvements which transformed the last-named Station from being a filthy Turkish Barrack, into one of the best military Hospitals in the world.

Here it was that you nearly fell a sacrifice to your devotion in attending the sick—a devotion which seemed only to be increased by the risks you ran, for when only recovering from a nearly fatal attack of fever, you applied to be sent to the Crimea. There you went, and there you continued engaged in all the anxieties of Hospital and Trench work, until the close of the Eastern campaign.

During all that period, one feature characterised your conduct—that whatever the work given you to do, however hopeless it might seem, you determined to carry it out, and you did it well. You were careful that your want of knowledge of the Russian language,

which might have seemed effectually to interfere with the attention requisite to afford the prisoners professional aid, should form no barrier to your treatment of them, which was as efficient as it was felicitous.

Your knowledge of surgery, your ability as an operator, rendered your services of the utmost value in the front, during the continuance of the siege. When that came to an end, your knowledge of Anatomy and Pathology led the authorities to choose you as the person best fitted for the honourable but laborious duty of Pathologist to the Division; and the handsome manner in which Government recognized the ability with which you discharged this extra duty, is honourable alike to you and to them.

I have been thus minute in tracing a very few particulars of your professional career, because I think they bear me out in saying that you have ever been found proficient and worthy of the highest confidence in every position of professional life in which you have been placed, and my knowledge of your talents assures me that you are eminently fitted for any Surgical or Medical appointment to which you may aspire.

I cannot doubt then, that those in whose hands this appointment lies, will think themselves fortunate in securing the services of one whose professional qualifications are of the very highest character, while they have at the same time the opportunity of practically acknowledging the debt they owe to a townsman who, for the sake of humanity, and the love of his profession, has risked his life, his health, and his advancement at home.

Ever yours sincerely,

PATRICK HERON WATSON.

19.—From JOHN GLEN, Esq., A.M., M.D. Edinensis; Hon. President Hunterian Medical Society; Resident Clinical Physician in the Edinburgh Royal Infirmary, &c.

ROYAL INFIRMARY, EDINBURGH,
Nov. 7, 1856.

I HAVE great pleasure in testifying my esteem for the talents of my friend Dr Greig under whose superintendence (as Demonstrator of Anatomy), I had the opportunity of studying during nine months (1853-54) in the University of Edinburgh. He subsequently occupied the important situation of Resident Physician in this Infir-

mary under Dr Keiller, whose testimony will be readily given to the efficient manner in which Dr Greig performed his duties, and when impelled by the circumstances of the times, he embraced an opportunity of serving during the war—he not only secured the comfort and preserved the life of the soldiers under his care, but obtained for himself a skill and practical acquaintance with disease, which fit him for important Medical situations.

JOHN GLEN.

20.—From DAVID CHRISTISON, Esq., M.D., late Assistant-Physician to the British Civil Hospital, Renkioi, &c.
40 MORAY PLACE, EDINBURGH,
October 9, 1856.

I HAVE much pleasure in stating the high opinion which I have of Dr Greig's abilities and knowledge of his profession. I had ample opportunity of judging of them during several months that we spent together as Resident Physicians in the Royal Infirmary here, three years ago. Previous to and since that time he has enjoyed unusual opportunities of improving his professional knowledge, which I am sure he has not neglected. Of these others can speak more particularly, and I shall only allude to his having acted as Demonstrator of Anatomy in the Edinburgh University, and Pathologist to the British Army in the East, as proofs of the high estimation in which he has been held. In the latter part his services were considered of such value that he received a special letter of thanks and gratuity from the War Department. Besides these professional qualifications, I may add that I have always found him of a kind and obliging disposition, so that I have the greatest confidence in expressing my belief that he will fill any post of trust in his profession with credit and usefulness.

D. CHRISTISON, M.D.

21.—From JOHN KIRK, Esq., M.D., late Assistant-Physician to the British Civil Hospital, Renkioi, &c.
EDINBURGH, November, 1856.

MY DEAR DR GREIG,

HAVING been intimately acquainted with you for many years, I have much pleasure in stating the high opinion I

have formed of your natural talents, which have been diligently cultivated under the most favourable circumstances.

In the Royal Infirmary of Edinburgh you had the best opportunity of gaining a thorough knowledge of the practice of your profession. Since then, in the British Hospitals of Kululi and in the Crimea, you have had under your immediate care all varieties of military practice, including the performance of all the principal operations.

You have also always displayed great attention and kindness to your patients.

I consider you highly qualified to fill any situation in which a practical knowledge of Medicine and Surgery is required.

Yours most sincerely,

JOHN KIRK, M.D., L.R.C.S.E.

22.—From JOHN BEDDOE, Esq., B.A., M.D., F.R.S., late Physician to the British Civil Hospital, Renkioi, &c.

4 WETHERALL PLACE, CLIFTON, BRISTOL.
Nov. 7, 1856.

I HAVE much pleasure in stating the very high opinion which long intercourse under varied circumstances has led me to form of Dr David Greig. I can testify that, when a student, he was held in high estimation by his fellows, and that he has since discharged with zeal, activity, and intelligence the duties of several responsible offices, thus obtaining opportunities of acquiring an extensive practical acquaintance with the several branches of his profession. In particular, I think it right to say, that he volunteered to serve in the East *at the most critical time*, and went through an amount of practical active service which did not fall to the lot of any of those who followed him in the same course. And it is my well-grounded belief that if appointed to the office he is now seeking, he will so act as to do credit to the town of Dundee, and to all who have been concerned in his appointment.

JOHN BEDDOE.

23.—FROM JAMES A. SIDNEY, Esq., M.D., M.R.C.S.E., Secretary to the Edinburgh Obstetrical Society, Member Medico-Chirurgical Society, &c.

25 HOWE STREET, EDINBURGH,
Nov. 5, 1856.

I CONSIDER Dr D. Greig unusually well qualified to practise his profession in all its departments. Dr G. has enjoyed the very best opportunities of becoming practically conversant with medical and surgical diseases, and has always performed his important duties in a most able and energetic manner. From what I have seen of Dr G's practice among my own patients, I feel persuaded that wherever he goes he will prove himself to be a most successful and highly esteemed practitioner; and his well known integrity of character and kindly disposition will endear him as a friend.

JAMES A. SIDNEY, M.D., M.R.C.S.E.

24.—FROM JAMES DRUMMOND, Esq., M.D., Glasgow, &c.

GLASGOW, November 7, 1856.

It affords me great pleasure in bearing my testimony to Dr David Greig's high qualifications for the general practice of his profession.

During his studentship at Edinburgh, Dr Greig's career was marked by an energy and heartfelt earnestness, in the prosecution of all subjects connected with his profession—both in its theory and practice.

He was eminent as a practical Anatomist; and during the past two years he has had the great advantage, on the field of battle and by a residence in our large Military Hospitals in the East, of witnessing the duties of the Physician and Surgeon put to the test of experience.

I can on these grounds, therefore, most faithfully recommend him to the notice of the Directors of the Dundee Royal Infirmary, as also to the general public.

JAMES DRUMMOND, M.D.

25.—FROM THOMAS SKINNER, Esq., M.R.C.S., Edinburgh, &c.

52 QUEEN STREET,
EDINBURGH, 6th November, 1856.

MY DEAR GREIG,

I have no liking for formal Testimonials, but I have much pleasure in recording in an epistolary form, the estimation which I have formed of your qualifications for holding the situation at present vacant in the Dundee Hospital, and for which I understand you are at present a Candidate.

You have been known to me now for the last seven years in connection with the medical profession, and during all that time your name has always been associated with all that is good. As a Student your career was triumphant. You carried off the highest honours in most of the branches of the profession; and you were chosen by your teachers, while yet a student, as *Demonstrator* to others, than which, there is no better proof of talent and industry.

In regard to the practical part of the profession, you have enjoyed signal advantages over your competers, and which none could have better employed, having occupied the all important offices of Dresser and House Surgeon, &c., of the Royal Infirmary and Maternity Hospitals of Edinburgh—a field of practice which made you the envy of other men. Above all, you were selected by Professors Syme and Simpson as one of *three*—the very pick of the students who had lately taken out their Degrees in Medicine—to proceed to the East during the late War,—where you were actively employed both in Hospital and Field practice. In your military capacity, I am given to understand you have also distinguished yourself above the common run of Assistant-Surgeons in the Army.

I am well aware you have many good qualities which it is not my province to descant upon; your teachers and fellow-labourers will doubtless do you ample justice on that score; all that I have done is merely to give a *bare outline* of the facts of your Medical career already known to me.

Wishing you with all my heart as great success in your future as in your past undertakings.

Believe me ever,

MY DEAR GREIG,

Your sincere friend,

THO. SKINNER, M.R.C.S.E.

26.—FROM WALTER WATSON, Esq., M.D., L.R.C.S.E., formerly Demonstrator of Anatomy, Edinburgh, &c.
EDINBURGH, 10 CATHERINE STREET,
7th November, 1856.

MY DEAR SIR,

I do most willingly bear my testimony to your acquirements and standing in the Medical profession.

You have left a settled reputation here as an Anatomist; and your skill in this department has stood you in good stead during the Crimean campaign.

Hospital experience, both in Dundee and Edinburgh, served also to prepare you for your arduous duties there—and the result has been to indicate unmistakably your excellence both as a Surgeon and a Physician.

Let me add that you bear about with you such an unaffected friendliness of manner, as is calculated to secure for you the respect and confidence of all classes of the community.

Believe me to be,

Very truly yours,

WALTER WATSON, M.D.

27.—FROM JAMES BRYDEN, Esq., M.D., L.R.C.S.E., Demonstrator of Anatomy, Surgeons' Hall, Edinburgh, &c.
EDINBURGH, 12 SALISBURY STREET,
8th November, 1856.

It gives me great pleasure to be afforded an opportunity of testifying to the abilities and general worth of Dr Greig. I have been acquainted with him for several years, both as a Student of Medicine, a Teacher of Anatomy, and an Hospital Physician.

Among his fellow students he was always a general favourite—alike respected for his industry and talent, and esteemed for his frankness, gentlemanly manner, and amiable dispositions. From his extensive and accurate Medical knowledge, and from his professional earnestness, he was highly valued as a Teacher of Anatomy. By his patients in the Hospital, and elsewhere, he was deservedly trusted in, with the utmost confidence.

I feel assured that Dr Greig will be a very important acquisition to the Medical Force of any locality in which he may settle.

JAMES BRYDEN.

28.—FROM J. R. TAYLOR, F.R.C.S., Deputy Inspector General of Hospitals, Principal Medical Officer, Chatham, &c.

FORT PITT, November 7, 1856.

DURING the Siege of Sebastopol I had frequent occasion to observe Dr Greig's abilities and zeal as a Medical officer, and I am indebted to him for much valuable assistance in illustrating some points in the Surgery of Gun-shot wounds. I have much pleasure, therefore, in testifying to his qualifications for any professional appointment.

J. R. TAYLOR.

29.—FROM J. C. G. TICE, Esq., M.D., King's and Queen's College of Physicians, Ireland; Staff-Surgeon, First Class; late Principal Medical Officer at Kululi.

FORT PITT, CHATHAM, Nov. 10, 1856.

HAVING had considerable opportunities of estimating the professional abilities of Dr Greig, Staff-Assistant Surgeon, it gives me great pleasure in being able to state that I found him an accomplished Physician—a most able Surgeon—thoroughly versed in operative Surgery.

The vast field for observation it has been Dr Greig's good fortune to enjoy, eminently—in my opinion—qualifies him for any Public Professional appointment.

J. C. G. TICE, M.D.

30.—FROM GEORGE TAYLOR, Esq., M.D., Staff Surgeon, First Class.

BATH ROAD, HOUNSLOW,
8th Oct., 1856.

I CERTIFY that I was acquainted with Dr D. Greig, both in the Crimea and at Chatham, and that I have the highest opinion of his Professional abilities and acquirements.

G. TAYLOR, M.D.

31.—FROM W. MENZIES CALDER, Esq., Assistant-Surgeon, 49th Regiment; formerly President of the Royal Medical Society, and Clinical Clerk in the Royal Infirmary, Edinburgh, &c.

SHORSCLIFFE, November 6, 1856.

MY DEAR GREIG,

I AM delighted to learn that you intend to settle down in Dundee, and I can assure you it affords me the greatest pleasure to be able to testify to your fitness for the appointment for which you are canvassing.

I have had the pleasure of knowing you for many years, as a Student, as Demonstrator of Anatomy, and as one of the Resident Physicians in the Royal Infirmary of Edinburgh, and in all these capacities I know that you gave every satisfaction to those under whom you acted, and that you were considered by all the students, and by your fellows in the Infirmary, as a young man of the greatest promise in the profession.

Our acquaintance was afterwards renewed in Turkey, and in the Crimea, and there your talents, persevering industry, and invariable kindness to your patients, were well known to most of the medical officers, and highly appreciated by those in authority.

I had several opportunities of observing your success in Pathological researches both at home and in the Crimea, and I am delighted to know that these have met with approbation in the highest quarters.

I most heartily wish you success in your present application, and in your future progress in the profession,—and am,

Yours very faithfully,

WM. MENZIES CALDER.

Copy of a Letter received from the Director-General, Army Medical Department.

ARMY MEDICAL DEPARTMENT,
12th September, 1856.

SIR,

YOUR great exertions as a Member of the Pathological Board in the Crimea, having been represented to the Secretary of State for War, I have the gratification to inform you, by the desire of Dr Smith, that his Lordship has been pleased to sanction the issue of £50 to you, as a gratuity, on account of those services; and Sir John Kirkland has been authorised to pay the same.

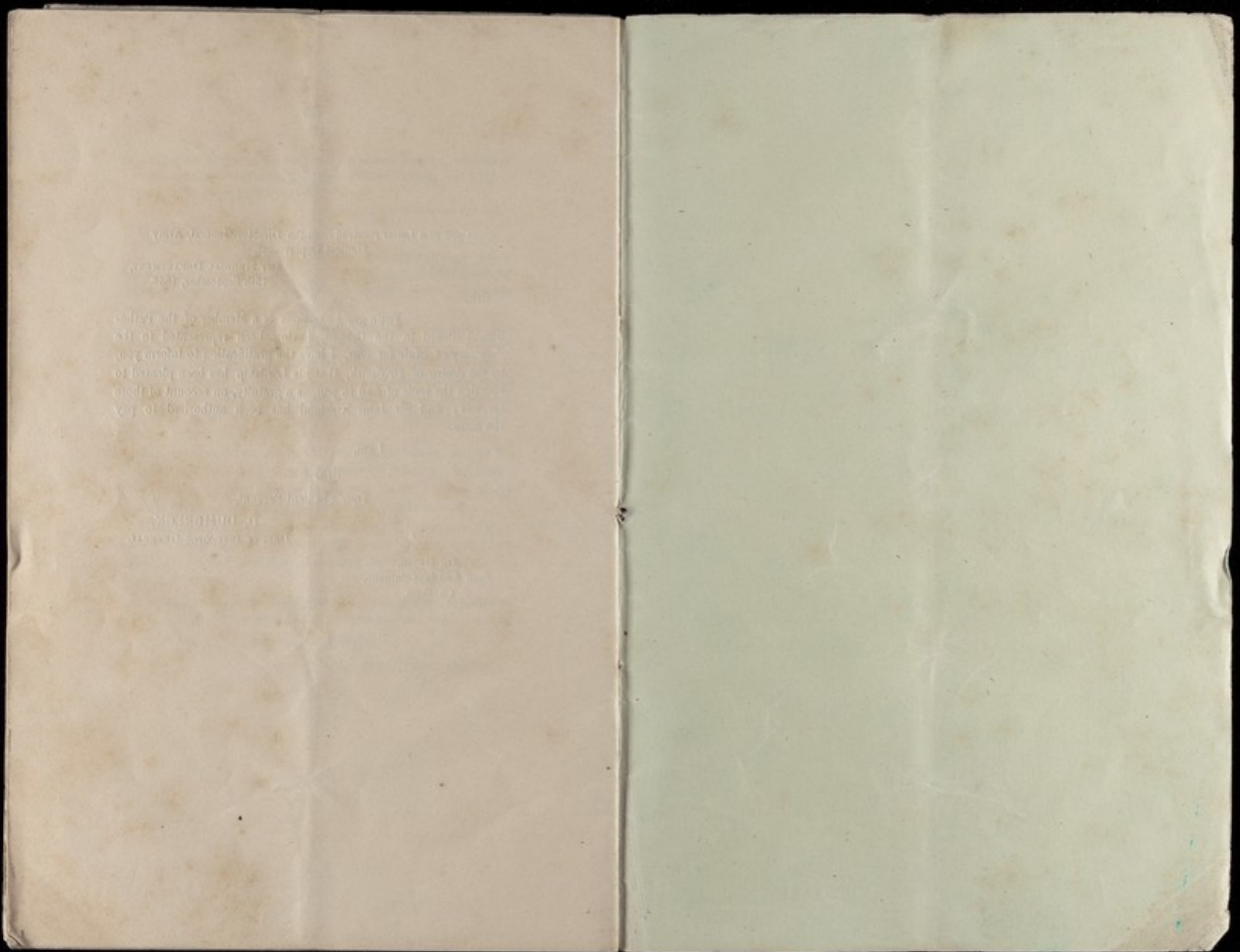
I am,

SIR,

Your obedient Servant,

D. DUMBRECK,
DEPUTY INSPECTOR-GENERAL.

DR GREIG,
Staff Assistant-Surgeon,
Chatham.





Stake

M2/2

REPORT

A REPORT

ON THE

SANITARY CONDITION OF THE ARMY,

PARTICULARLY DURING THE LATE WAR WITH RUSSIA,

By A NON-COMMISSIONER.

Handwritten: M2/2

REPORT,

&c.

SINCE the close of the eventful war waged with the greatest CAPTAIN of ancient or modern times, the vast naval power of England has enabled her to protect not only these shores, but her numerous dependencies in every quarter of the globe, with the aid of a comparatively small standing Army. The immense developement of steam navigation, during forty years of peace, has, however, so greatly facilitated the means of attack as to render it no longer prudent in any state, having an extensive and vulnerable seaboard, to rely too exclusively on a single arm, restricted to a particular element, for the defence of its territory.

To men who see a rampart in every ditch, and a redoubt in every inclosure, to be defended by tumultuous levies, imbued with the native courage of our race, against veteran soldiers, skilfully led, we have not one word to say. They simply ignore the advantages of strategy and organization, which would speedily convert the green fields into bloody shambles.

It was behind such frail defences that the hardy bands called out from the counties south of Humber, to do battle at Hastings, resisted the fierce onset of the Normans, with a stubborn courage which their posterity cannot hope to surpass; and, if we are to credit the old Chronicler, no sooner was that unwieldy mass of footmen set in motion, by the

stratagems of the enemy, than the fate of England was decided on that well-fought field. The lesson was too dearly purchased to be lightly forgotten; and England has no Sebastopols in which, behind solid earthworks, undisciplined valour, ably directed, might long defy the utmost efforts of trained legions.

A regular force, therefore, sufficiently strong to keep the field, and check the progress of an invader, until the great military resources of the country can be made available, is, henceforward, an imperative necessity. But in a land where conscription is no longer possible, such an Army is collected by slow and painful steps, even at a time of military enthusiasm; and it was only by repeatedly lowering the standard, and increasing both the age and the bounty, that 49,150 recruits, and volunteers from the Militia, could be gathered together to swell the ranks during the first thirteen months of the late war with Russia. (Report, Sebastopol Committee, p. 357.) It would be a delusion to suppose that the men thus raised were really effective soldiers, for "when the Duke of Newcastle informed Lord Raglan that he had 2,000 recruits to send him, he replied that those last sent were so young and unformed that they fell victims to disease, 'and were swept away like flies.'" (5, Report, Sebastopol Committee, p. 6.) The noble-minded Field-Marshal, though at his utmost need, "preferred to wait," and this wise resolve was fully justified by the testimony of the Officers of the Army, proving how largely these raw levies augmented the mortality of that calamitous winter.

In the Report of the late Royal Commission on the Sanitary Condition of the Army, it is stated (p. viii) that "the soldier's is a picked life," which is true in so far as regards "unformed youths," and the other rough subjects presenting themselves for examination; but the population of these kingdoms must be degenerating with rapid strides if nearly one-half of the peasantry and working classes, of a

suitable age, shall be found unfit for military service. A few morning visits to Duke Street, Westminster, or to the head-quarters of any other recruiting district, will soon convince the most credulous spectator that the ranks of the Army are *not* filled up from the *élite* of our peasantry, notwithstanding the majority of the motley assemblage he may see before him has undergone a preliminary scrutiny, either by medical men at out-stations, or by non-commissioned officers skilled in all the mysteries of recruiting.

According to the tables (p. 499) in the Report of the Commission, 523 recruits were rejected on primary examination in Dublin, 484 in Edinburgh, and 388 in London, in each 1,000 examined; while only 324 per 1,000 conscripts for the French Army were rejected for physical defects.

We must not in consequence infer that the degeneracy of the race has made greater progress in this country than elsewhere, or that the Irish and the Scotch are inferior to the English in physical conformation, but that the net of conscription includes all classes in its meshes in France, while with us, the unformed, the poverty-stricken, and the dissipated classes, voluntarily enlisting, present themselves with more assurance at one station than at another. We cannot forbear expressing some surprise at the small number of recruits rejected for "a tendency to consumption," namely 1 in 263 (Roy. Com. Table p. 497, App.), seeing this disease is the bane of both civilian and soldier. The same singularity is apparent in the French Returns (*Ibid.*, p. 500) as regards "diseases of the chest," but in the latter the numbers rejected for "weakness of constitution," are to the rejections in the British Returns for "unsound health," and "muscular tenuity," &c., as 94.8 to 56.2 per 1,000.

It is evident, therefore, that a winnowing which separates so little of the chaff can exert no very

marked influence on the rate of mortality from pulmonary disease in the army compared with civil life.

Until attested, the recruit can release himself from his engagement by paying the smart, and by this picking, in an opposite direction, many of the best men elude the service.

In the Report of the Royal Commission, the soldier's rate of mortality has been industriously compared with that of the rural labourer; of out, and indoor trades in towns; of night printers; of policemen; and of miners, and in each instance the comparison appears to be most unfavourable to the soldier. In order to find a fitting parallel, the Commissioners at last resort to clerks, and they say "it seems almost incredible that it should be necessary to have recourse to the most unhealthy occupations in order to institute any comparison in which the rates of mortality shall approximate to those prevailing among your Majesty's troops, for at present the Army stands almost at the head of unhealthy occupations in the United Kingdom." (Report, p. xi.)

The mortality in the Army is no doubt deplorably great, and our regrets thereat can be in no degree diminished by finding that it is far surpassed in other occupations of the people.

In the Report of Dr. Letheby to the Common Council of the City of London, for the year 1857, as reported in "The Times," we find the following passages, which deserve the earnest consideration of the Commissioners. The able Health Officer of the City says:—"As to the influence of occupations on the mortality, I may remind you of what was said in my last report, for the experience of another year has only confirmed the former observations. Taking the mortality of the two years, the following are the results:—Of all the males of 20 years and upwards in the City of London the deaths per 1,000 are 22·5; but the different classes of society have contributed

very unequally to the aggregate; for butchers, poulterers, fishmongers, shopkeepers, and merchants, have died at the rate of only 15 to 16 in the 1,000; while tailors, and weavers, shoemakers, printers and compositors have succumbed at the rate of from 20 to 23 per 1,000; wine-merchants, publicans, waiters, porters and messengers, at the rate of from 24 to 26 per 1,000; blacksmiths and gas-fitters, painters and glaziers, dyers, bargemen and watermen, at from 28 to 30 in the 1,000; cabmen, draymen, ostlers, carmen, and stablekeepers, at the rate of 31 in the 1,000; clerks and needlewomen, at from 34 to 35 in the 1,000; and, lastly, the hard-working classes of carpenters, masons, and labourers, at from 43 to 45 in the 1,000. These figures may not be expressive of the exact influence of the occupations on the mortality of the several classes, because it is impossible to eliminate all sources of error, but they represent nearly enough the general fact, that there is a great difference in the vitality of the several classes, for the well fed butcher and the prosperous merchant die in far less proportion than do those who are more exposed to the rough usages of life; and then again there seems to be something about the close occupation of clerks and needlewomen that makes them especially susceptible of disease."

"If we turn to the other modes of testing this matter, we shall find that while in all London the mean age at death among adult males is a little less than 51 years, each class has its own particular longevity. The merchant, shopkeeper, and domestic servant, will live to be nearly 57 years of age; the butcher, poulterer, and fishmonger, to be about 53. Most of the other classes will reach from the age of 50 to 52; though the painter and dyer, the costermonger and hawker, the bargeman and waterman, survive only from 48 to 49; and, lastly, the printer and compositor live to but 45; and the baker and confectioner to only 42."

Considerable allowances must necessarily be made on account of age in a comparison of these occupations with the soldier's; but the hard working classes, suffering as they do from so much sickness and mortality, can scarcely be supposed to follow their laborious employments much beyond the usual service in the Army. Unfortunately, the rate of mortality among them is sufficiently ample for every deduction, being more than twice that of the Foot Guards; while that of the healthiest trades exceeds the rate of the Household Cavalry.

Other examples of the unequal pressure of death rates on certain populations and employments might be found; but we turn from the task, in sorrow that so many of the busy hands which create the wealth of England should be consigned to an early grave.

The aggregation of troops in camps, garrisons, and quarters, places them in nearly the same circumstances with town populations, and it is with these that their rates of mortality can be most justly compared. But as such comparisons throw no light upon the causes of that mortality which they indicate, we must search for those causes in the special conditions in which the soldier may be placed.

When the recruit joins his regiment or dépôt, he suddenly undergoes a total change in his manner of living. The barrack room is substituted for the crowded lodging-house or poor cottage. His clothing is changed almost always for the better. He is better fed than he had been for months, or, perhaps, for years, and the monotony of his diet has not yet excited disgust, nor is it varied by the occasional fasts of his former imprudent and thoughtless career. But he now lives under restraint, and inwardly pines for that vagrant liberty to which he had been accustomed, as is too evident from the frequency of desertion. His drills are slow, and full of sameness, and come under the class of "outdoor employment requiring little exercise," shown by Mr. Neison

(Rep. Roy. Com. p. 508, App.) to be unfavourable to health. In the Infantry, after about four months' instruction, he is usually turned into the ranks, and begins his duties as a soldier by mounting a few supernumerary guards.

How far the privations the recruit has, in most cases, undergone before enlisting, his mental depression afterwards, or his course of training for his new duties, may influence his health, it would be no easy matter to decide; but it is only under 25 years of age that his rate of mortality is more than twice as great as that of the civilian in the unfavourable comparison instituted by the Royal Commissioners. (Report, p. viii.)

We have already submitted a few facts which appear, in some degree, to justify grave doubts as to the "excessive mortality" said to prevail in the Army, on home service, compared with other occupations. But the Commissioners say (Report, p. xiii), "the causes assigned to us for these high rates of mortality are:—

- "1. Night duty:
- "2. Want of exercise, and suitable employment:
- "3. Intemperate and debauched habits among the soldiers:—"
- "4. Crowding and insufficient ventilation, and nuisances arising from latrines, and defective sewerage in barracks:—"

And in endeavouring to determine how far they have duly weighed the influence of each of these causes, we shall follow the same order.

"1. Night duty."

Independently of tropical climates, and malarious districts, in which the effects are too manifest to be overlooked, the belief has long been prevalent in the Army that night duty, "*per se*," was a cause of sickness and mortality. But our preconceived opinions were

rudely shaken when we found the Royal Commissioners affirming that "we are, after a careful investigation of the subject, disposed to attach comparatively little importance to the first head. The comparison with the Police, who perform a night duty far more severe, and yet have a mortality of only one-half of that of the Infantry of the Line, and less than one-half of that of the Guards, seems to support our conclusion." (Report, p. xiii.)

In some dismay, we looked at the Returns from the Metropolitan Police (App. p. 501), and found that the mortality, *while serving*, is 7·6 per 1,000 annually. But "the specified period of sickness during which a man is allowed to be on the sick-list, on the authority of the chief surgeon, is not to exceed four weeks in one year." Longer periods must be sanctioned by the Secretary of State, the maximum being twelve months. This regulation virtually excludes the mortality from chronic diseases, particularly in all policemen under five years' service (the full average in the force), who are not entitled to pensions or gratuities. In the Foot Guards (Report, p. xv), the mortality from chronic diseases of the lungs is stated to be 12·5, and if we deduct this number from the total rate, 20·4, we at once reduce the mortality in the Guards to 7·9 per 1,000, which is nearly the same rate as that of the Police.

But the Royal Commissioners remark (p. ix), that "to state the loss of men by invaliding is the same as the loss by death." . . . "It is obvious, therefore, that the rates of mortality, taken alone, represent a part only of the loss annually caused in the ranks of the Army by disease." This rule must be equally applicable to the Police, and the Return (p. 501) shows that not only 35 policemen are "discharged by being invalided" annually per 1,000, but that the force is renewed "*de fond en comble*" in less than five years; whereas only 14·3 guardsmen, under seven years' service, are invalided per 1,000 of mean

strength yearly. Although the policeman's "is a picked life," yet objections might be raised to this comparison, which render it necessary to pursue the parallel a little farther. On contrasting the number of attacks of sickness in the two forces, it will be found that the admissions in the Guards (Statistical Report, 1853, p. 12), average 862; and in the Police (Roy. Com. App., p. 501), 1,897 per 1,000 of mean strength annually. The admissions in the Police, therefore, are more than twice as numerous as in the Guards, and slightly exceed the admissions (1,892) among the white troops in the West Indies (Roy. Com. App. p. 489) since 1837.

It has thus been shown that the mortality in the Police Returns can include few deaths from chronic diseases,—that nearly five policemen are invalided for two guardsmen,—and that attacks of sickness are exceedingly numerous among the police, but the Metropolitan Returns do not enable us to determine how far these results are dependent upon night duties.

The Returns to the Royal Commission from the City Police, however, furnish the desired information, and we find (9. p. 505, App.), that the admissions from the night force (2,001), exceed those from the day force (1,480), by 521 per 1,000; while another Return (2. p. 504, App.), shows that 57·2 night policemen die for every 35 day policemen. These differences in the number of admissions and rates of mortality, in the night, and day forces, support the opinions prevalent in the Army—that night duties are injurious to health; but the strength of the City Police is too small to warrant the conclusion, that *night duties alone* are more fatal to the Police than all causes collectively are to the Guards.

But under the heading "Mortality of the Police," the Report (p. 501) states that the mortality of the Police is 7·6 per 1,000 annually, which is nearly the same rate as that of the Police.

"2. Want of exercise and suitable employment."

Experience on a sufficient scale has apparently established the fact, that active labour in the open air is promotive of health and longevity; but the soldier's time is usually spent in sudden alternations of great exertion and comparative inaction. The rural labourer, the most healthy of the class, strips to his work, and resumes his outer clothing when the hours of exertion are over. The soldier, on the contrary, is buttoned up to the throat at a field day, or when out in marching order, and he will strip to his shirt and trowsers, *if permitted*, the moment he returns to barracks. In heavy marching order, the infantry soldier carries no light load; his chest is covered to some extent by thick buff belts, and his back by the knapsack, consequently any considerable or prolonged exertion throws him into a most profuse perspiration. The fear of jibes from his comrades, and a spirit of emulation, prevent him falling out until fairly exhausted, and he frequently drops down in the ranks in a fainting state. Though ordinary outdoor labour may be promotive of health, yet irregular and violent exertion of this kind may not; but such is the labour which falls to the lot of the foot soldier alone, the most unhealthy of soldiers.

The duties of the Cavalry are very different. The dragoon never grooms his horse in his ordinary dress; nor, excepting as a punishment, does he ever carry a heavy load. He seldom remains long inactive on parade, and at drill uses his arms rather than his legs. In exercising his horse, his feet are not drenched in the mire or snow. His time is more fully occupied in his duties, and his horse is a source of pleasure to him. It is for the infantry soldier, therefore, if his time cannot be profitably occupied on public works, that means of exercise and recreation are chiefly required, and every inducement should be held out to him to spend that time to advantage, which is now too frequently wasted in undermining his health.

"3. Intemperate and debauched habits among the soldiers."

Intemperance is beyond all doubt a source of sickness and mortality in the Army, but we possess no data to show whether it is more or less prejudicial than in civil life.

A cursory examination of the Statistical Report (1853) shows that delirium tremens is less common in the Foot Guards, than in either the Cavalry, or Infantry on home service. In the North American Colonies, including Bermuda, it is both more prevalent and fatal than in the Mediterranean garrisons, but in all it is more frequent than in Great Britain. It is also worthy of remark that this disease is never mentioned in the returns of the Malta Fencibles, while it is peculiarly fatal among our soldiers on some of the small Ionian stations.

During the ten years, delirium tremens appears to have caused 150 deaths on an aggregate strength of 474,830, on all these stations, but to this number must be added forty-five deaths from "excessive intoxication," increasing the total to 195. These figures do not show the whole loss, however, for fatal accidents are more frequent on the stations where drunkenness is most prevalent; and there are, moreover, the deaths from diseases of the digestive organs and nervous system (other than delirium tremens) to add to the list, as the special offspring of drunkenness.

Intemperance is likewise a source of crime and punishment in the Army, and we need only refer to the evidence of Colonel Jebb for the proof. (Report, Roy. Com. p. 174.) Though military prisons are vigilantly superintended, yet there are few military officers credulous enough to believe that confinement is favourable to health. In the "Papers relating to the Sanitary State of the People of England" (p. 23), it is said, Dr. Baly ascertained from the records of the Millbank Penitentiary, "that the mortality caused by tubercular disease had been

between three and four times as great during the eighteen years, 1825-42, among the convicts confined in this prison as it was in the year 1842 among persons of the same period of life in London generally." Imprisonment, however, is the usual punishment of drunkenness; and, notwithstanding an amount of ventilation, which gives each prisoner thirty cubic feet of fresh air per minute, "on the whole they lose weight, but they generally are discharged in good health." (Colonel Jebb, p. 173, Report, Roy. Com.) The same high authority states (Q. 5196), that "there are many depressing influences in imprisonment which lower the condition of a man, and render him liable to a general failure of health."

The diseases arising from debauched habits may be divided into two classes, the one comprising puriform discharges, which probably exert no permanently injurious effects beyond those of a local nature; the other, ulcers and constitutional affections, which frequently impair the health for years, if they do not permanently destroy it—these dangers being much increased by the exposure of the soldier on night duty. Impressed with these convictions, which are very generally entertained by Army Medical Officers, we had recourse to the abstracts appended to the Statistical Reports (1853), to see how far these opinions might appear to be borne out as regards chronic pulmonary diseases. Accordingly, we found that in the Cavalry at home, the admissions, with the diseases held to be injurious, averaged 88, and the deaths from chronic pulmonary diseases, 6.6 per 1,000 annually. In the Infantry, the admissions were 134, and the pulmonary deaths 8.9 per 1,000. In the Foot Guards, the admissions were 154, and the deaths from chronic lung diseases 12.5 per 1,000 of mean strength, annually.

On extending our inquiries to the stations in British North America, and the Mediterranean, we likewise found that, in all of them, the admissions

with the special affections under consideration, and the deaths from pulmonary diseases, were lower than at home; and that, in the Malta Fencibles, both the admissions and the deaths were at their minimum. Though these results are founded on an experience of ten years in a large aggregate force, in various climates, yet we must confess that they only appear to support the conclusion drawn by the Royal Commissioners from other premises,—that the dissipation and debauchery of the soldier "have a most injurious effect on his constitution."

"4. Crowding and insufficient ventilation, and nuisances arising from latrines and defective sewerage in barracks."

Barrack accommodation had been a subject of complaint and correspondence for years before the revised orders and regulations of 1851 were issued by the Board of Ordnance. The recommendations of the Committee of 1855 were still more extensive, and great improvements, in consequence, were in progress, when the Royal Commission of 1857 denounced the overcrowding and want of ventilation and drainage in these buildings, as the principal causes of that chronic pulmonary disease which prevails in the Infantry. The Commissioners, in opening their "brief," say, "that in civil life insufficient clothing, insufficient and unwholesome food, sedentary and unwholesome occupations, and the vitiated atmosphere of unhealthy dwellings, all contribute to the propagation of this class of diseases." Nevertheless, the clothing, the food, and the dwellings of the people have undergone great improvements within our own memory; yet Mr. Neison informs us (p. 327, Report, Roy. Com.), that "there has been very little variation in the value of life," for more than a century. The barrack accommodation of the soldier has likewise undergone great changes, but his occupation and habits have remained

the same, and the mortality from chronic pulmonary disease, in the ranks, has not decreased in a greater ratio, of late years, than the deaths on the pension list have increased. (Statistical Report, 1853, pp. 48-50).

The careful researches of Dr. Greenhow (Papers, &c., p. 79), show that in Liverpool the death rates, from pulmonary affections among males, above 20 years of age, are 10.4, and among females 7.5 per 1,000, though the latter follow no special occupation, and are at least as much exposed to the evils of defective ventilation and the foul air of unwholesome dwellings, as the males. The same table shows that the difference in the death rates of the two sexes in Birmingham is less than in Liverpool, and still less in Manchester than in either, apparently in consequence of the larger employment of females in special occupations. From another table (p. 63), it appears that pulmonary affections carry off 14.4 males, above 20 years of age, per 1,000, at Alston, and only 7.8 females; this striking excess in the male rates being evidently due to occupation.

The mortality from pulmonary disease in the Guards is higher than in the Line, but there are no good grounds for imputing the disparity to any inferiority in their barracks.

The annual pulmonary death rate of adult males in London is, however, nearly 2 per 1,000 above the average of England and Wales, and this circumstance may explain, in part at least, the higher mortality prevailing among the Guards.

The Commissioners state (p. 13) that the mortality in the Guards while in Canada fell below that of the Line; but we learn from the Statistical Reports (1853, p. 194,) that "in all the new barracks the space allowed each man was 300 cubic feet," and that during the period in question "the number accommodated was often considerably beyond what the space would have warranted if calculated on that principle."

This improvement in the health of the Guards, therefore, can scarcely be ascribed to more roomy quarters in Canada; and to the best of our memory and belief, neither the means of ventilation nor the latrines and sewers are better there than at home.

In these remarks we would merely protest against that imperfect analysis of the facts upon which the Royal Commissioners found their conclusion, "that the ravages committed in the ranks of the Army by pulmonary disease are to be traced in a great degree to the vitiated atmosphere generated by overcrowding and deficient ventilation, and the absence of proper sewerage in barracks." (Report, p. 16.)*

Neither the class from which the recruit is taken, his drills and employment, his intemperate and debauched habits, crimes and punishments,—nor, above all, his night duties, and recklessness of exposure in all seasons and climates,—have been duly weighed, in these inquiries into the causes affecting the health of the soldier.

Overcrowding and impure air will no doubt injure the health, and they appear to be peculiarly favourable to the production of fever, and the dissemination of infectious diseases. But there are other considerations which render it most desirable that barrack accommodation should be improved,—namely, that "it is indispensable as the basis of all training by which the moral standard of the Army may be raised." Very few witnesses can speak with greater authority on this subject than Colonel Jebb, and it was with feelings of astonishment that we saw his great experience in the construction, ventilation, and warming of buildings, overlooked in the appointment of a "Barrack Improvement Committee."

Much has been said on Military General Hospitals, and the converted Barrack at Fort Pitt appears poor

* Mr. Neison has disposed of the hypothesis since this was in type.

and miserable in comparison with costly Naval and Civil Hospitals.

The Commissioners (p. xxxix) give a description of our first General Hospital for the Army, now building at Netley, "which," they say, "will be constructed upon a scale in every respect worthy of the object to which it is to be devoted;" but this opinion does not appear to have been entertained by all the Commissioners, for the objections since raised to this Hospital have almost imperilled its existence.

The alleged mismanagement of General Hospitals, both in the late and former wars, has been made the grounds of severe animadversion on Army Medical Officers, as it appears to us, with much injustice, seeing they possess no authority over those auxiliary departments, on the active co-operation of which the efficiency of such hospitals depends. So long as the labour, the furniture and stores, the food and comforts, and the medicines and surgical appliances, shall be obtained from different and quasi-independent departments, there can be no unity of action, and there ought to be no undivided responsibility.

Regimental Hospitals are training schools for hospital management. They are institutions absolutely necessary for the reception of accidents, and the treatment of acute diseases, in a force so frequently in motion as the British Army; and during the winter of 1854-5 they relieved our General Hospitals from a pressure of sickness, which must have overwhelmed their resources. Our gallant Allies, who are so able to appreciate every advantage to be derived from mobility and efficiency in the organization of armies, created Regimental Infirmaries (M. Scrive, Relation, &c., p. 366), which were of great service in relieving the pressure upon the ambulances, and their fifteen General Hospitals in the rear; although from their temporary character, they were necessarily inferior to our Regimental Hospitals.

As General Hospitals, however, are indispensable

during war, and for the reception of sick and invalids from our colonial dependencies, we may inquire whether their alleged mal-administration during the late war with Russia was, in truth, a cause of much sickness and mortality, or to what other causes that sickness and mortality were due.

A Committee of the Commons, and three Commissions dispatched to the seat of war, having recorded their several findings on the causes of the sickness and mortality in the Army of the East during the winter of 1854-55, a Board of General Officers assembled at Chelsea, and with their proceedings the subject seemed to be exhausted. But the Royal Commissioners of 1857-58 re-opened the story of these misfortunes, which, they say, "offers to our view the most complete case on record, on the largest scale, of neglects committed, of consequences incurred, of remedies applied, and of consequent improvements in health and efficiency." (Report, p. xxxi.)

It may savour more of presumption than prudence to try to untie the knot which is thus unceremoniously cut, but we can, at least, make the attempt.

The Army continued healthy while in the vicinity of Constantinople, but shortly after its arrival at Varna epidemic disease broke out, and the mortality, which had averaged only 8.8 per 1,000, per annum, during the three months of April, May, and June, rose to 159.6 in July, and to 340.8 in August. The General Orders of the 12th of May, regulating drills, parades, marching, fatigues, bathing, exposure to the sun, clothing, food, the position of camps and privies, and the covering the contents of the latter daily with fresh earth or lime, and directing their daily inspection, and also "the vicinity of camps, with a view to the discovery and removal of every source of malaria," which Orders were followed by those of the 3rd, 27th, and 28th of June, of the 30th of July, and 1st of August, all relative to precautions for the preservation of the health of the soldier, prove that this

subject was not wholly neglected. (Vide Parl. Paper, 28th June 1858, and Abstract of Lord Raglan's General Orders.)

Our gallant Allies were not less alive to their duties in this respect, and the official correspondence of M. Scribe (*Relation Medico-Chirurgicale*, p. 57, et seq.), shows that no means were omitted in order to attain this desirable end.

Much has been said of the insalubrity of our encampments, particularly of that of the Light Division, at Devna, but immediately on the outbreak of cholera their camp was removed to Monastir; and, as this change had no effect, the regiments were actually dispersed. Still the disease pursued them for a time. Strange to say, the 19th Regiment, which was left on the dirty soiled ground, exposed to the effluvia of the old divisional latrines, continued healthy, until "moved to a fine, beautiful piece of ground, and there they took the cholera immediately." (Sir R. Airey, *Evidence*, p. 97.)

Independently of strategic considerations, of which we are ignorant, the deficiency of the means of transport confined our Army to the vicinity of Varna; but the better equipment of our Allies enabled them to push on three divisions towards the Dobrudscha, which unfortunately suffered so much that our immobility proved a blessing, not a curse.

The Fleet was not bound to the coast by any considerations of transport or supply, yet the Fleet suffered severely, and the "Britannia" lost 93 men in ninety-six hours, from cholera, in a crew of 920. (*Medical Statistical Report of Fleets*, p. 5, 27th February 1857.)

If this terrible visitation could, with any justice, be attributed to defective sanitary conditions, the state of the flagship must, indeed, have been worse than that of "a slaver in the middle passage;" but such a supposition is too monstrous for belief, even among the most credulous of the community. The tide of pestilence was now on the flow, and the

triumph of sanitary science had to be postponed to the ebb. This prevalence of sickness led to the establishment of a General Hospital at Varna, with supplies drawn from Scutari, and the delay was long before these were either returned or replaced from England.

When the Army embarked for the Crimea, sickness followed in its train, and 3,987 sick and wounded, after the battle of the Alma, were sent down to Scutari, during the last fifteen days of September. (*Miss Nightingale's Evidence*, p. 363.)

Such a sudden influx of sick would have tried the resources of our largest and best Civil Hospitals, and thrown them into some temporary confusion. Wants, of course, were felt; and had not the Duke of Newcastle, on his own responsibility, "desired that a very large further supply (*Report, Sebastopol Committee*, p. 133) should be instantly sent out," matters might have been much worse than they really were. Nor did the Duke's solicitude end here, for he promptly secured the aid of Lord Stratford de Redcliffe on the spot, which proved more immediately effectual than the slower assistance from home; and we find Dr. Menzies, on the 26th of October, applying for Turkish bedding, articles of furniture, and the immediate erection of stoves in the hospitals. (*Maxwell and Cumming*, p. 261.)

The proportional mortality on board the transports appears to have been greater at this than at any other time, and arose chiefly from the number of cases of cholera embarked. The crowding and scarcity of attendance on board, no doubt added to the misery of these poor sufferers; but the mortality in the "Caduceus" was equalled in the flagship, exceeded in the 1st Regiment of Zouaves, in which 300 men were attacked, nearly all most severely, in one day (*M. Scribe*, p. 78), and far surpassed in the Baschi Bazouks, four-fifths of whom perished, literally in a desert, and in a few days. Such melancholy

catastrophes have hitherto been as far beyond the control of sanitary science as the resources of medical art.

The detention of the vessels, too, which "was in many cases very great," must necessarily have increased the number of deaths on board. (Maxwell and Cumming, p. 22.)

During October 1854, there was a considerable diminution in the mortality of the Army, and the formation of Regimental Hospitals relieved Scutari from a pressure under which it must have sunk, but this happy respite was of short duration. (Tab. K, fig. 1, Appendix, Roy. Com.)

The sanguinary Battle of Inkerman, the broken weather of November, the losses among the transport animals, and the destructive tempest of the 14th, which deprived the Army of its winter clothing, left the soldier to contend, under all disadvantages, with the elements as well as with the enemy. The sick poured into Scutari in shoals during that calamitous winter, and whatever exertions were there made to relieve their sufferings, the means disposable were unequal to their necessities.

This is the period chosen to exhibit the incompetency of Army Medical Officers in sanitary matters and hospital management. "With regard to the hospitals at Scutari and Kululi," say the Royal Commissioners, "the evidence shows that their unexampled mortality arose from other causes beside the severe type of disease. The drains of the hospitals were 'nothing better than cesspools, through which the wind blew sewer air into the corridors and wards; there was no ventilation; there had been little or no lime-washing; the ward utensils infected the atmosphere; the hospitals were overcrowded; there was an overcharged graveyard close to the General Hospital; the number of sick admitted went on increasing; no sanitary improvements were effected and the mortality rose progressively month by

"month;" in short, "the hospitals were becoming 'more unhealthy the longer they were used.' (Report, p. xxxi.)

Unfortunately for the reputation of the Medical Department, the Medical History of the War, drawn up from official sources, still lays upon the table of the House of Commons, inaccessible to those to whom it might be useful, and useless to those to whom it is accessible. We are compelled, therefore, to use figures derived from other quarters, which often disagree, and to borrow such additional light as we may from the official returns of the Navy, and the published statements of our Allies, in order to examine this gloomy picture, painted by the Royal Commissioners, in which no one could recognise the features of those hospitals that had "agreeably surprised" the Eastern Sanitary Commission "at their cleanliness and comfort." (Letter from Lord W. Paulet to Lord Panmure, 8th March, 1855.)

Before inquiring if this "unexampled mortality arose from other causes than the severe type of disease," we may institute a general comparison between the total losses sustained by the French and English Armies during the war, founded on the valuable information laid before us by M. Scribe (*Relation, &c.*, p. 350), and the tables in the Report of the Royal Commission (Appendix, pp. 524-5). It appears that the aggregate French force sent to the East amounted to 309,268 men, and that the total loss on this number was 69,229 men, or 22.38 per cent. of the whole strength. The total English force embarked to March 1856 was 93,959 men (Sayer, p. 415), and the total loss from all causes was 20,812 men, or 22.15 per cent. of the aggregate strength. This comparison, which is probably the fairest that could be made, from the documents as yet before the public, is rather favourable to our own troops. Again, in the French Army the total admissions into hospital were 112.6 per cent. of the aggregate

strength; and in the British 172.5 per cent. But in the former, the rate of mortality on these admissions (exclusive of killed in action and "disparus") was 15.5 per cent.; and in the latter 11.2 per cent. These figures will warrant no conclusions unfavourable to the sanitary condition of our Hospitals; and it only remains for us to inquire, how far our losses depended upon the severe type of disease.

In the Medical and Statistical Returns of the Baltic and Black Sea Fleets, printed by order of the House of Commons (27th February 1857), it is stated (p. 47), "that the patients admitted [at Therapia] during October, November, and December, were, with few exceptions, much broken down in health, from the long-continued use of salt meat rations, confinement on board ship, and exposure to privations, and hardships on shore; while among others who had been landed, scurvy and bowel complaints of various degrees of severity, were generally prevalent; so that, with scarcely a single exception, all the stumps and wounds were in a sloughing state when the patients were admitted."

"During November and December 1854, a large number of Marines from the battalion serving on the heights at Balaklava, were sent down in a very exhausted state, suffering from diarrhoea, dysentery, consumption, and frost-bite. A number of these men when admitted were mere skeletons, covered with bed sores, and far beyond the reach of human aid. The warmth of the hospital, and cordials, might revive them for a few hours; but they soon fell back again into a state of collapse, from which they never rallied."

"Throughout January 1855 patients continued to be received in a very exhausted state, especially from the Marines serving on the heights. So utterly prostrated were these men when they arrived, that the wonder was, not that so many died, but that so many recovered. The weather throughout February was fine, though cold, consequently the number of

patients admitted decreased, and towards the end of the month those that were sent down from the Crimea were much less shattered in health; they no longer exhibited the wasted and skeleton-like forms presented by those who were received during the two preceding months."

This impartial testimony ought to be decisive as to "the severe type of disease;" and we could add to it, that of nearly every Medical Officer who was present, either with the Army, or in the Hospitals, during that fearful winter; but we may have said enough to satisfy the Commissioners.

That "the drains of the Hospitals were nothing better than cesspools, through which the wind blew sewer air into the corridors and wards," is not to be denied. In his report for November 1854, Dr. Menzies points out the leaky state and disrepair of the General Hospital, the defective state of the drainage and privies, and the influence of a south wind in wafting very offensive odours through the building. He also objects to the site of the burial-ground, and recommends its removal (although 100 yards from the hospital), and notices the unsuitableness of boards and trestles both for the sake of cleanliness and appearance. In his evidence before the Sebastopol Committee, he admits that the drains and privies were in a disgraceful state until a late period; and he also states, that the works undertaken for their improvement produced only temporary benefit.

Let us see whether Commissioners "accustomed to deal with sanitary questions . . . with ample power to examine the sanitary condition of the hospitals of the camps, and of the ships," with their skilled officers, were more successful in their "scientific labours" (Hansard, February 16, 1855.)

The Eastern Sanitary Commission arrived at Scutari on the 6th of March 1855, and, after ten days spent in examining, and maturing their plans,

they commenced their works on the 17th. "In the beginning of July," they say, "after all that could be done in the way of temporary improvement, cleansing, and flushing, the drains under and near the hospitals, from their inherent bad construction, were still nothing but cesspools, communicating, by open tubes, with the interior of the hospitals." (Report, Eastern Sanitary Commission, p. 52.) Such miserable results, after four months of "scientific labours," appeared unsatisfactory even to the Commissioners, though they in no degree retarded the rapid decrease of the mortality in the hospitals. The occurrence of a few cases of cholera in the hospitals, however, made the Commissioners feel "that they would be incurring a very grave responsibility if they did not correct completely those defects, even at the cost of procuring materials and skilled labour from England" (Ibid. p. 52), the necessity of which had been pointed out to the authorities at home on the 5th of February 1855. (Parliamentary Paper, 28th June 1858.)

In November 1855, cholera again broke out in these hospitals, when "the privies and drains connected with them had become very foul, and the most offensive odours from them could be traced, not only along the corridors towards the barrack-rooms, but also into the hospital part of the building." (E. S. C. Rep. p. 54.)

"It lasted (i.e. cholera) altogether about a fortnight, during which period there were about 225 cases, nearly three-fourths of which proved fatal" (Ibid. p. 55); a pretty conclusive proof that the sanitary improvements, hitherto effected, had but little influence on the severe type of the disease. So late as April 1856, when the drains of the Barrack Hospital were laid open, it could be seen "that even after all the flushing which the sewers had undergone, their condition, when opened, was so very bad that nothing short of reconstruction, which was in progress, would have obviated the dangers to which the sick

would have been exposed, had the events of the war led to the full occupation of the hospital, especially while epidemic disease prevailed." (Ibid. p. 61.)

These passages, taken from their own report, prove "that the endeavours of the Commissioners were attended with no better success than those of the Officer of the Royal Engineers during the winter" (1854-5); and even "parts of the hospital which had previously been inoffensive became the reverse." (Inspector-General Cumming's Remarks, p. 18.) It was, perhaps, to get rid of this result of sanitary improvement that soil-pans and urinals were wanted, and the estimate approved on the 14th of March 1856, a year after the inauguration of the sanitary régime. (E. S. C. Rep. p. 61.)

We learn from the Report of the Sebastopol Committee (p. 555) that Dr. Menzies took advantage of thorough ventilation, and the constant removal of dressings, to abate the nuisance arising from the offensive discharge from numerous wounds in September 1854.

We cannot, therefore, believe that an officer of Inspector-General Cumming's long experience and well-known prudence would neglect to use those means of "perfect ventilation" which he (Remarks, pp. 8 and 15) knew the hospitals possessed, although they were entirely overlooked by the Sanitary Commission in their inspections.

Overcrowding was an unavoidable evil during the greatest pressure of sickness, and must have been a serious hindrance to frequent lime-washing, which is better suited for empty wards. Assuming the state of the hospital utensils to have been such as it is represented, it might have been attributed to the want of skilled servants, which is so justly complained of by Inspector-General Cumming (Remarks, p. 28), that he thinks a corps of trained orderlies would have been efficient substitutes for the Sanitary Commissioners.

There are other means of estimating the sanitary condition of hospitals, but the singular reserve which still withholds the official returns of our hospitals during the war from the public, precludes the possibility of using the materials they contain either for the establishment of the truth, or the exposure of error. In the table (p. 525, Appendix) given by the Royal Commission, we find some information possessing a certain interest as regards the hospitals of the whole Army. For example, although 18,283 wounded, and about 4,000 other injuries and accidents passed through these hospitals, yet the admissions with erysipelas and mortification (no bad tests of their sanitary condition) were only 157, and the deaths from both diseases 41, while the mortality among the wounded did not exceed 9.6 per cent.

In November 1854, when the hospitals at Scutari were supposed to be at the worst, the General and Barrack Hospitals contained 2,074 wounded, nearly all by gun-shot, and experienced practical surgeons will be gratified to learn that only 108 deaths took place among the whole number, including four from sloughing, being in the ratio of 5.2 per cent. during the month. Again, on 218 operations, chiefly amputations, several of which were secondary, the deaths were 30, or 13.8 per cent. for the same period. (Maxwell and Cumming's Report, p. 259.)

The admissions with typhus and continued fever were 25,841, and the deaths 3,075, or 11.9 per cent., whereas in Guy's Hospital "the average ratio of mortality from that species of disease is 10.3 per cent." (Med. Chir. Trans. 1857, p. 187.) We shall only add that (exclusive of killed in action) one-fourth of the total mortality in the Army was caused by cholera, which cut off two in every three attacked, but the rate of mortality was even higher at Scutari in November 1855, "nearly three-fourths" of the patients having died. These hospitals had been under sanitary management for eight months before the cholera

broke out, and this disease, which is said to be preventible, was as fatal as ever.

When the Royal Commissioners, in proceeding to illustrate the results of sanitary improvement by figures, say "the number of sick admitted went on increasing; no sanitary improvements were effected, and the mortality rose progressively month by month," it would have been well that they had given others the means of testing their calculations. There is no proof that the number of sick went on increasing after January 1855; the evidence, without a single exception, points the other way, and the admissions into the Regimental Hospitals decreased by 37 per cent. (Sir J. Hall, *Observ.* p. 51) in February as compared with the admissions in January 1855.

Although the admissions were decreasing, yet the mortality might be increasing, so we sought for the proofs. The return in the Appendix (K, I, p. 524) proves that the mortality in all the hospitals of the Army was 3,168 in January, and that it had fallen to 2,523 in February, showing a decrease in the latter month of 645, which closely corresponds with the number (650) given by Sir John Hall. (*Observations, &c.*, p. 51). It is clear, therefore, that if the mortality was increasing anywhere the case must be local and exceptional. The Commissioners point out Scutari; and we learn from Inspector-General Cumming that a number of the worst cases had been landed from six steamers passing with sick for Smyrna, and that "all were in a very hopeless condition, and such was the character of the diseases that the greater part soon proved fatal." (Remarks, p. 23.) Here was an obvious cause for an increased mortality at Scutari in February, which has unduly swelled the death rate during the three weeks before "the sanitary works were commenced." (Rep. E. S. C., p. 50.)

We have the high authority of Miss Nightingale for believing that "the Adjutant's head-roll of burials

is the most trustworthy record of deaths" (Miss Nightingale's Evidence, p. 377); and those who know anything of an Adjutant's duty will not very readily admit that a mistake in the number of burials was possible. This really authentic document proves that 1,473 burials took place in January, and only 1,151 in February, showing a decrease of 322 burials in the latter month. In March, again, the burials were 418, showing a further decrease of 755 as compared with February, and of 1,055 as compared with January. These numbers show that for every 100 burials in January there were 78 in February, and only 29 in March; and also that the "cases treated" could not have exceeded 2,700 in February, had the mortality thereon actually attained the high rate of 427 per 1,000.

We sought through the evidence for the number of sick in these hospitals during February, and found it, in one place (p. 334), stated so high as 7,289, and in another so low as 4,178, but nowhere had it dwindled down to 2,700. According to the first statement, 4,589, and according to the second, 1,478 patients must have vanished! We next made use of the number of sick (7,289), and the rate of mortality thereon (182), given at page 334, to compute the deaths supposed to have taken place during February, and it at once became apparent that the Medical Returns (Column 2, Table IV, p. 391) had been adopted as the measure of the mortality for the month, not the trustworthy "head-roll of burials," or "reported deaths" of the Adjutant.

In this shock of figures, the helping hand of Miss Nightingale again extricated us from the horns of a dilemma, by informing us that "the Adjutant having buried 280 men more than the total number reported by the Inspector-General as dead, the account had to be balanced at a subsequent period." Miss Nightingale accordingly shows (Evidence, p. 377), that "253 deaths," which had probably

taken place in December and January, were added to the mortality of February in order to square accounts.

These 253 deaths, therefore, which could in no way belong to February, swell the mortality of this month to the fictitious rate of "427 per 1,000 cases treated," a rate which never had any real existence, even at the very worst period.

This rummage through the returns having made us intimately acquainted both with the Adjutant's "head-roll" and "reported deaths," we used the number (416) in the latter, for March 1855, and the number of sick in the Hospitals (4,115) about the 17th when the improvement of these buildings was commenced by the Eastern Sanitary Commission (Rep., p. 30), to calculate the rate of mortality for the month, and found that it had already fallen to 10 per cent., and the rate for April, though calculated only on the remaining (for we cannot learn the admissions) did not exceed 4.7 per cent.*

After these results, it was needless to follow the slow march of sanitary improvement, as Health, the fair daughter of Nature, was advancing with rapid steps, before her rival, the feeble child of Art, had drawn its first breath.

The inexorable "head-roll of burials" having repelled with scorn every effort to affix upon the walls of Sentari, the foul reproach, that they were from day to day becoming more and more, through military mismanagement, "a charnel house" for our sick soldiers, we turned our eyes in another direction, imagining that we might, perhaps, have been deceived by the printer.

This new delusion arose from a statement of Inspector-General Cumming, who says, "of the many hundred sick sent to Smyrna, in February, the mortality during the first month, as usually occurred elsewhere, was greater than on the Bosphorus."

* Remaining, 3,199; "deaths reported," 152.

(Remarks, p. 20.) But this position was also untenable, for "the hospital there was for the first time occupied by us," and therefore, could not be "becoming more unhealthy the longer it was used." Had the able and highly instructed "civil element" omitted "carrying out every requisite improvement before a single sick man was placed within their walls"? (Reply to Sir J. Hall, &c., p. 8.) There was certainly no necessity for that hot haste, which has been so freely blamed in their military brethren, when they were compelled either to occupy the unprepared Barrack Hospital in September 1854, or to leave the sick and wounded in the open air.

When we turn back to the Crimea, the Royal Commissioners say, "throughout the winter of 1854-5, the troops were suffering from work altogether disproportioned to their strength, from broken rest, insufficient clothing and shelter, unwholesome food, and want of cleanliness;" so far, they afford us no grounds to dispute their statements. But when they add, "as the spring advanced, to these causes of disease and mortality were added others, arising from the want of drainage and ventilation, and the nuisances resulting from the lengthened occupation of the same ground without sufficient countervailing precautions" (Rep. p. xxxi), it seems no more than reasonable to ask for their proofs.

The following state shows the admissions into the Regimental Hospitals, as given by Sir John Hall (Observations, p. 51); and the deaths, taken from the table (K, fig. 1, p. 524) appended to the Report of the Royal Commission, in each 1,000 of aggregate strength per month, from December 1854 to April 1855, inclusive, viz:—

	Admissions per 1,000 strength.	Deaths per 1,000 strength.
December	324	60
January	348	97.4
February	230	81.6
March	192	46.8
April	140	18

These figures leave no doubt as to January having been the month in which both the admissions and the mortality attained their maximum. In February, the decrease in the admissions was *far* greater than in the deaths. In March the diminution in the two was nearly equal. In April, again, the diminution in the admissions was rather more than twice as great as in the deaths.

When we inquire into the causes of this sickness and mortality during the winter months, we meet with difficulties, at present insuperable.

The subjects of shelter, clothing, food, and transport have been discussed with an asperity which is not likely to tempt any one to travel in such a thorny path. But as these circumstances were, beyond doubt, more or less active causes of sickness as well as death, we cannot pass them by without notice.

On the failure of the first attack upon Sebastopol in October, it was decided, in a Council of War, to undertake a regular siege, the preparations for which had to be made in the beginning of winter. (M. Scriver, p. 119.)

During some days, in the early part of the investment, our army had no tents, but it was soon provided with the common bell-tent, which is decidedly superior to the "*tente d'abri*," which formed nearly the sole protection against the weather, enjoyed by

our Allies during the winter 1854-5. (Sir R. Airey's Evidence, p. 97; M. Scrive, p. 132.)

The winter clothing intended for the British Army, sunk with the "Prince" on the 15th of November, consequently, our Allies had a great advantage in this respect until the beginning of January.

With regard to food, perhaps, and certainly in the means of transport, the superiority lay with our Allies. But, notwithstanding the solicitude of the Emperor supplied the French with wine as well as brandy, and their military organization enabled them to substitute bread for biscuit, yet scorbutic disease appeared in both armies about the same time, and prevailed in nearly the same extent, in proportion to their strength, even during the first winter. (M. Scrive, pp. 141 and 347.)

In the Report of the Crimean Commissioners (McNeill and Tulloch), it is stated (p. 5) that "in the 4th and Light Divisions, the deficiencies of the rations were not only greater in amount, but also more continuous. In those Divisions the men were frequently on three-quarters, two-thirds, and sometimes on half rations of meat and rum; on two occasions they had only quarter rations, and on one day none at all."

In order to obtain some precise information relative to the effects of this compulsory abstinence upon the health of the men, we selected seven regiments, which had been on the "plateau" *all the winter*, from each of the four Infantry Divisions in the front, taking them in the order in which they stand in the table given by Sir A. Tulloch. (Crimean Commission and Chelsea Board, p. 171.) We then took the total deaths in each of these regiments from the Adjutant-General's return (Ibid p. 170), and grouping them according to their Divisions, found that the mortality in the seven regiments belonging to the 2nd Division had been 41 per cent. of the

average strength; in the 3rd Division 54 per cent.; in the 4th Division 46 per cent.; and in the Light Division 54.7 per cent. We now referred to the tables in the Appendix to the Report of the Crimean Commissioners (McNeill and Tulloch, p. 46), and found that the 4th Division had been the Division starved "*par excellence*," and in that Division the 21st Regiment. But the 4th Division had been the healthiest but one on the "plateau," and in it the 21st Regiment occupied the middle place among the seven regiments.

This unexpected result directed our attention to the Brigades of Guards and Highlanders composing the 1st Division, in which the wants, as to food, had been few, but the position and duties so very different. In the former the mortality had been 80 per cent. of the average strength, according to the table, and in the latter 28 per cent. Part of this difference was, no doubt, due to the battle of Inkerman, in which the Guards suffered so severely, and the Highlanders were not engaged; but this loss made no very great impression on the excess. Could the differences in the several Divisions have arisen from losses in battle? The "Gazette" was before our eyes, and it testified that the 2nd Division, which had lost fewer men than any other on the "plateau," had easily borne away the bloody honours of Inkerman.

The Cavalry and Marines had been fed on nearly the same kind of food with the Highlanders and the rest of the Army, but their mortality was under 15 per cent. of the average strength.

We now appeared to be once more adrift, without either compass or rudder; but it was not so, for the return of duties given by Sir A. Tulloch (Ibid, p. 172) proved that the 3rd and Light Divisions, and the Brigade of Guards, which had furnished by far the largest share of the guards and working parties in the trenches in November, December, and January, had also suffered the greatest mortality. The

evidence of Sir John Burgoyne before the Sebastopol Committee (Query 17,634, &c.), and of many others, is perfectly decisive upon this point, which has been almost disregarded by Commissioners.

The singular exemption of the Naval Brigade from the sickness and mortality around them, is like an oasis in the desert. Their loss scarcely reached $3\frac{1}{2}$ per cent. from disease during eleven months, but their loss from the casualties of war was more than twice as great. The former exemption depended, in a very great measure, upon the ample reserve at hand, which replaced the ineffective; the frequent changes of men on the departure of ships; the relief from the harassing journey to Balaklava, after Christmas; the far less onerous nature of their duties, which came round once in four days; and, lastly, to their better shelter, clothing, and food. In short, beside their share of the means of transport, a party of 300 men, stationed at Balaklava, carried up all supplies.

In January, the Army received a good supply of warm clothing, and towards the end of the month it began to be better fed, and lime-juice was issued to the troops as an anti-scorbutic.

On the 7th of February, the French Army, now nearly 90,000 strong, was divided into two corps, and a general reserve (M. Scribe, p. 139), one of which undertook the duties on the extreme right of the Allied Army, and released the 2nd British Division for the trench duties, which were also reduced in amount. The weather too became more favourable, and the effects were immediately apparent in the admissions into the Regimental Hospitals, which fell from 11,282 in January to 7,108 in February. The diminution in the sickness and mortality made such rapid progress in March that the Eastern Sanitary Commissioners, who arrived in the Crimea on the 6th of April, were forced to admit "the health of the Army, when compared with that of males of the same

ages elsewhere, was by no means good! It was, nevertheless, hardly below what has hitherto been the usual standard of armies in the field, and its health was better than that often experienced by armies similarly circumstanced." How could they expect it to be otherwise? When, "considering the pressing nature of the siege duties at that time, they found the camp remarkably clean, and the external sanitary arrangements, on the whole, well attended to." (Report, p. 121.) They proceed, however, to make some exceptions, we suppose, upon the grounds that there are motes in every sunbeam, and he who can remove one of them does something to improve the light. But had the state of things been the very reverse, had the camp been an Augean stable, and each Commissioner a Hercules, they could not have so far inverted the order of nature as to make the effect precede its cause, if that cause is assumed to be their sanitary-improvements.

The annual rate of mortality, from zymotic disease alone, was 177.5 per 1,000 in April, while the average during the following four months was 164.2 per 1,000, showing a decrease in the annual rate of 13.3 per 1,000. (Royal Commission, Appendix, p. 524.)

The admissions, on the contrary, had increased from 140 per 1,000 of the strength in April to an average of 230 per 1,000 during the next four months; but a considerable share of this increase arose from wounds, though by far the greater part was from disease.

The Malakoff was carried by assault on the 8th of September 1855, and the duties and fatigues of the siege came abruptly to a close. The effects of this sudden change, from war to peace as it were, became immediately visible in the returns of the army, the mortality from zymotic disease falling from 130 per 1,000 per annum in August to 47.5 in September. (Report, Royal Commission, Appendix, p. 524.)

We looked everywhere to see if any grand sanitary work had been executed about this time, but we discern nothing of the kind in any direction, and the conclusion, drawn from the events of the preceding winter, that the siege duties were the main causes of mortality in the army, received another confirmation.

From this time onwards our "troops were suffering from" no "work altogether disproportioned to their strength," and they accordingly became more healthy; but the rate of mortality never descended, for any equal period, to the same low level as during the first three months of their sojourn in Turkey.

In the midst of this Army, enjoying comparatively good health, there was one dark spot in the camps and hospitals of the Land Transport Corps, the British portion of which seems to have sustained a loss at the rate of thirty-four per cent. per annum for four months. Indeed the whole corps of 3,400 men, during the eleven months from May 1855, to March 1856, lost 477 men, or rather more than 15 per cent. per annum, under the eyes of the Eastern Sanitary Commissioners. (E. S. C. Report, p. 177.)

We attach no blame to them for this untoward result, which set at naught their resources in the sanitary art for eleven months; but we regret that the Commissioners were doomed to be spectators of a calamity (on a small scale), which they had no more power to avert than the Army Medical Officers had to turn aside the far greater affliction during four months in the preceding winter.

We have long entertained the opinion that if sanitary science could prevent any unusual mortality, it ought *à fortiori* to be able to prevent any unusual amount of sickness, for the art of prolonging life without health and efficiency would be a comparatively unimportant benefit.

Tested by the amount of sickness in the Army before Sebastopol during the last four months of the

siege, sanitary improvement produced no evident impression on the admissions, which were at their minimum in April, and we have no means of prosecuting this inquiry beyond August.

In the autumn and winter of 1855-6 our energetic Allies advanced into the valley of Baidar, and to the sources of the Belbeck, and formed the outposts of the Allied Armies during the remainder of the war. In the winter months, the roads, such as they were, became difficult or almost impassable, even for their well organized field transport, and the task of supplying an army, extended over nearly forty miles, required the greatest exertions. The troops suffered great privations in consequence, from the deficiency of fuel, and bread itself was too bulky to be conveyed from Kamiesch to the front. The fresh meat supplied to the soldier does not appear to have been always of good quality, and, at times, was rather scanty. The severity and inclemency of the weather made the men close up every crevice in their tents in order to keep up the warmth. Amidst these sufferings they had to be incessantly at work, making and repairing roads, and draining encampments, while, at night, they had to guard against the enterprises of a resolute and active enemy thirsting for revenge. In short, to use the expression of M. Scrive, "the soldier had to move with the rifle in the one hand and the pickaxe in the other."

It was no wonder that disease broke out among troops so situated; and any comparison between the mortality in the French and English Armies, at this time, is just as inadmissible, as between the English Army in quiet cantonments in the winter of 1855-6, and the same Army over the ankles in mud, and night and day in the trenches, during the privations of 1854-5.

The sufferings of our brave Allies, however, were in no way due to a neglect of sanitary precautions, for the destruction of camp refuse by fire had been

enjoined by "General Orders" in their army on the 17th of March 1855, and they even carried their views so far as to attempt the disinfection of the ground on which their tents were pitched by the same agent.

No means within their power were omitted, but, unfortunately, their efforts were of little avail until, with the lapse of time, health returned in the late spring of 1856.

It may, perhaps, surprise some persons to learn that the whole loss in the British Army did not, at the very utmost, exceed four per cent. of the aggregate losses of the Allies and the enemy, during this brief but mortal struggle, which exhausted the vast military resources of Russia in unavailing efforts to preserve the palladium of her power on the Euxine.

We have entered into these details with some reluctance, but feeling it to be a duty to leave no stone unturned when the reputation of comrades and friends was at stake, we trust that the Royal Commissioners will see with pleasure, those mistakes corrected, into which they have been involuntarily led by untrustworthy returns; for had the popular delusions on this subject been permitted to take root and flourish beneath the shadow of their high authority, the very name of "Army Medical Officer" might have become a bye word and a reproach!

(2 copies)

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

BY
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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 McNeill 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

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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 depot 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 hesitation, 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 Battalion 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 diarrheal 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 beginning 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

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 panel 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 Lieut. 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 seq., 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. Picketing 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 Quarter-Master, 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 Kadakoi.

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 diarrhoea 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 McNeill, 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 McNeill'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 Kadokoi, 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, Balaklava, 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 Balaklava 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 75, 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, buffalo 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 tarpaulings 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 tarpaulings 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 quarter-master, 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
	158

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
	22

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
	8
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
Total	260

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 2½ ozs. per man daily. This quantity I consider too large for the purpose, but if the daily ration were raised from 1½ 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	2,329	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	503	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 crochets,' 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. 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.

"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.

APPENDIX, No. 1.

Near Damfries, 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 Storks 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 Storks 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 Storks, 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, Buntingford, 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 site 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 fetid 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. Howard 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, 19th 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 carcass 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.

Nichols and Son, Steam Printers, Chandos Street, Strand.

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REPORT
ON THE
FORMATION AND GENERAL MANAGEMENT
OF
RENKIOI HOSPITAL,
ON THE DARDANELLES, TURKEY.

ADDRESSED TO
THE RIGHT HONOURABLE
THE SECRETARY OF STATE FOR WAR,

BY
E. A. PARKES, M.D.,
LATE SUPERINTENDENT OF THE HOSPITAL.

Printed at the War Department. April 1857.

REPORT, &c.

London, December 1, 1856.

My LORD,

On the 16th November I had the honour to transmit to your Lordship the last Monthly Report of the Civil Hospital at Renkioi, in Turkey, giving an account of the breaking up of the Hospital, and of the disposal of the stores.

It occurs to me that your Lordship may desire to have now presented to you a succinct General Report, containing an outline of the formation and mode of working of Renkioi Hospital, but without the various minute details of expenditure of money, stores, and medicine, which have been already so fully given in the Monthly Reports.

In March 1855, I received intimation from Sir James Clark that Her Majesty's Government were desirous of immediately increasing the hospital accommodation for the Eastern Army, as not only had the hospitals already provided been unequal to meet the pressure which the sickness caused by the Crimean campaign had made upon them, but apprehensions were felt that if active movements were undertaken in the ensuing spring and summer, the amount of disease might be still greater. To meet this contingency, a hospital at Smyrna had been organized in the only

building which remained at the disposal of the Turkish Government; and when this had been immediately filled to overflowing, it was determined to send out from England wooden houses, which might be erected in some convenient spot, as an additional hospital, capable of holding 1,000 sick.

It had been determined by the Government to officer this hospital with civil medical practitioners, instead of calling upon the already overburthened Army Medical Officers to undertake its duties.

I was informed that the Government were desirous that I should undertake the superintendence of this new hospital, the arrangement of the medical details of which were to be made by Sir James Clark; and I was directed to put myself in communication with Mr. Brunel, by whom the hospital was to be constructed.

I found that the formation of the hospital buildings, their size, shape, system of ventilation, water supply, and drainage had been already considered and fixed by Mr. Brunel, and that every arrangement was distinguished by that perfection of detail and excellence of method which stamp all the works of that distinguished engineer. I was convinced that nothing could exceed the excellence of the mechanical arrangements, and the most pressing duty seemed to be the choice of a fit locality for the hospital.

The same view was taken by your Lordship, who informed me that orders had been sent out already to Scutari to survey all eligible sites, but that, as I was to assume the responsibility of the medical direction, it was considered advisable I should have the power of ultimately choosing the best spot; and that, as the

ships were already loading with the wooden houses, it was necessary I should start at once. Orders had been sent out to Mr. Brunton, the engineer to whom Mr. Brunel had determined to entrust the erection of the buildings, to leave Smyrna, where he then was stationed, and to join me at Constantinople, in order that he might judge of the eligibility of any proposed site for drainage and water supply.

Accordingly, having arranged with Sir James Clark respecting the medical organization of the hospital, and having made the proper requisitions for all medical and purveyors' stores suitable for an hospital of 1,000 men, I left London on the 5th, and arrived at Constantinople on the 18th of April.

In addition to choosing a site for this hospital of 1,000 beds, I was informed that two other hospitals of the same size would probably be also sent out, and that I was to keep in view the probability of other sites being wanted. I was also instructed that the nearer together these three hospitals could be placed, the more easily would ulterior arrangements, for the transport of stores and sick, be made.

Choice of Site.

On arriving at Constantinople, I was informed by Lord William Paulet, the Commandant at Scutari, that no eligible site had been found on the Bosphorus except, perhaps, at Scutari itself; but that it was desirable I should again pass over the ground and satisfy myself on the point.

Accordingly, I made a minute inspection of the Bosphorus, first alone, and afterwards in company with

Mr. Brunton, the engineer, and with Mr. Jenner, purveyor to the Forces, who had also been ordered to join me. We also visited the largest of the Princes Islands, but could find nowhere any place which combined all the conditions required. The spot at Scutari referred to by Lord William Paulet, was found to have insufficient water supply, and to be too near to the marshes of old Chalcedon.

I should mention here, that according to the plan drawn out by Mr. Brunel, the hospital was to be formed of 22 separate wooden houses, or wards, each 100 feet long, 40 feet wide, and 25 feet high in the centre, and connected together by an open corridor. To each ward was attached a lavatory, water-closets and bath-room; there was to be a constant water supply to these places, and the sewage was to be carried away in wooden drains.

It was possible to arrange the houses in various ways—in a straight line, in a crescent, in a square, in two or more lines, &c.; but in whatever way they were arranged we required at least four acres of level ground for the wooden houses alone, without taking into account certain iron houses intended for kitchens and laundries, and which were to be placed at one end or in rear of the wooden buildings.

It was necessary, also, that this ground should not only be level enough to enable us to dispense with terracing or earthworks, but that it should have a fall sufficient to carry off the drainage, and a good outlet into running water for this sewage.

It was necessary, also, to provide for a large water supply, at least 25,000 gallons per diem, as no cesspools were to be allowed, but the closets and sewers were to

be cleaned by flushing; and I need scarcely say, it was important to have the water reservoir at sufficient height to supply the houses and to flush the sewers, in order to avoid, if possible, the necessity of horse-power to pump up the water.

Besides these points, it was absolutely essential to have a site close to the sea, and not at a distance or on a height which would have made the conveyance of materials, stores, and patients, difficult, if not impossible; and it was equally essential to have a good landing-place accessible in all weather.

I need scarcely add, that the chosen spot required to be perfectly free from all causes of endemic disease, and to have, as far as possible, a dry soil, and a due but not excessive exposure to healthy winds.

I need not repeat here the detailed report which I sent to your Lordship on the various places on the Bosphorus, all of which we visited and examined. I need only say, that not only did we spare no trouble in searching personally for a suitable spot, but we placed ourselves in communication with every person who, we thought, could give any information: and I took the advice, not only of his Excellency the Ambassador, of the Commandant, and of the medical officers at Scutari, but also of various English and foreign physicians and residents at Constantinople, and of several interpreters and dragomen who were supposed to be best acquainted with Turkey.

It was a matter of deep regret when we were compelled to give up any idea of the Bosphorus, for Constantinople was evidently the true military base from which the army would have to draw all its supplies, and to which it would return its non-effective men. Its

situation on the high road to England, midway between the Danube and the Georgian provinces of Turkey, where, after the Crimea, the great blows of war were likely to be struck, rendered it much better adapted for a grand central dépôt of stores and hospitals than any point on the Black Sea.

After the Bosphorus, some point on the Black Sea seemed most eligible; but on inquiry, I could not learn that any place was possessed of the necessary conditions except perhaps Sinope. I suggested, then, to Lord William Paulet, that we should visit Sinope, which had the advantage of being near the Crimea and the Circassian coast, though at a very considerable distance from the Danubian Principalities and Bessarabia. I was aware that Sinope, in many respects, was disadvantageous—that it lay out of the road of commercial steamers, one steamer only visiting it every week on the way to Trebizond, and that its distance from Constantinople and from the regular mail service was a great objection; still, its proximity to the seat of war was so strong an argument in its favour, as to overbalance, in my mind, the various objections.

Circumstances, however, rendered it impossible for us to go to Sinope, for the Admiral was unable to place a steamer at our disposal to go either to Sinope, or to Varna or Sisapolis, both of which places I should have visited had I had time, although I received unfavourable reports of both of them. But as a Government steamer was out of the question, we found we should have had to wait a week in Constantinople for the next commercial steamer to Sinope, and then should have been detained at the latter place till the return of the steamer, some ten days afterwards, unless some transport had

happened to be crossing from Sinope to the Crimea with cattle. Under the most fortunate circumstances we found that we could not return to Constantinople for at least three weeks, and as we were aware that steamers loaded with the wooden houses had already left England; and as I had received the strictest orders to allow no unnecessary delay or demurrage of these vessels, I felt that the site must be fixed long before the three weeks, which we should have spent in visiting Sinope, had passed. In fact, the first steamer did actually arrive on the 7th May, and as there were only five days to unload her, we should, had we gone to Sinope, have incurred a demurrage of probably more than 1,000*l.* on that single vessel.

It is true that this sum would not merit being put in comparison with the importance of choosing a good site for the hospital; but I felt that after all we were quite uncertain whether Sinope would do, and we might have to look for a site elsewhere. It seemed to me, then, that the wisest plan was to keep Sinope in view for one of the other two wooden hospitals which were to be sent out, and to look for the site of this first hospital at some more accessible point than the shores of the Black Sea.

I did not receive favourable accounts of the shores of the Sea of Marmora, nor of the Gulf of Ismid. Almost all the known places are more or less malarious, and we had no time for a minute survey of all the possible unknown sites on the Sea of Marmora, nor had we the means of visiting them.

I was informed, however, that probably in the Dardanelles some spot would be found; and accordingly on the 1st of May we proceeded to the principal town

on the Dardanelles, usually called by the same name, where Mr. Calvert, the English Consul, resides.

Mr. Calvert accompanied us to various places, and gave us every assistance; and finally, on the 3rd of May, we found a spot which appeared to us to possess every requisite, viz., a healthy soil, abundant and good water, a level yet sloping surface, proximity to the sea, good anchorage, and tolerably sheltered landing-places.

The objection to the spot was its distance from the seat of war, for it was fourteen hours steaming (half power) from Constantinople; still, under the circumstances, it seemed the best choice that could be made. Subsequent experience convinced me that this objection of distance was a trifling one, for with the splendid steamers which were employed in conveying the sick, the additional 100 miles beyond the Bosphorus was a matter of no moment, while in many cases the sick themselves were absolutely benefitted by the short additional sea voyage.

In all other respects, the spot we chose, and which we called Renkioi, from the name of the nearest village, was infinitely superior to Sinope. The advantage of being on the direct line to England, with transport steamers, mails, and storeships constantly passing, could not be overrated; while in addition, instead of being, as at Sinope, 350 miles (sea passage) from Constantinople, the source of supply, we were stationed between the two great cities of Constantinople and Smyrna (about 100 miles from each of them) on the direct steamer route from Marseilles, and were enabled therefore, with the greatest readiness, to draw stores from any of these places as well as from England. We

had the advantage of a mild and delicious climate, free from the severe cold and fogs which prevail at Sinope during the winter months. Moreover, Renkioi would have been actually nearer than Sinope to the seat of war had the campaign shifted, as was expected, from the Crimea to the Delta of the Danube.

I am convinced, moreover, that had the hospital been seated at Sinope, there would have been great delay in its erection. Situated as we were near the mouth of the Dardanelles, the sailing vessels, with stores and houses, were able to reach us easily; but many ships bound to the Crimea were, during the summer Etesian winds, detained many weeks in the Straits of the Dardanelles, and again in the Bosphorus, so that the length of voyage from England was very greatly augmented. In some cases as much time was spent by sailing vessels in getting from the Dardanelles to the Black Sea coast, as from England to the Dardanelles.

I have been thus particular in narrating to your Lordship the reasons why a place in the Dardanelles was finally chosen as the site, because it might at first sight seem extraordinary that the Bosphorus and the Black Sea were disregarded.

As soon as I had fixed upon Renkioi as the site of the first hospital, and had received the approbation of Lord William Paulet and of your Lordship for the choice, I turned my thoughts to the subject of the site of the second wooden hospital which was to be sent out, and as I was at that time unaware of the disadvantages of Sinope, I was anxious that the second hospital should be placed there.

Accordingly, as I was myself unable to leave

Renkioi, where we at once commenced works, I took advantage of the arrival of Dr. Cowan, of Glasgow, a physician of high promise who had been appointed one of the medical officers of the hospital, and sent him to Sinope, with instructions to pass to the Crimea after surveying Sinope, and to confer with Sir John Hall in respect of sites for the second and third hospitals, and to visit any spots that were suggested by him.

Dr. Cowan accordingly proceeded to Sinope, and sent me a report, which I forwarded to your Lordship. He found at Sinope a suitable spot, with a good landing place, but he was unable to satisfy himself about the water supply, and he believed it would be hazardous to put a large hospital there without some preliminary works to ascertain the probability of their being no failure in the supply of water during the summer months.

On arriving in the Crimea, Dr. Cowan found that Sir John Hall was unable to suggest any other sites, or to give him any instructions for his guidance, nor was Dr. Cowan able to learn from any one that any eligible place existed on the accessible coast of the Black Sea.

On transmitting these various reports to your Lordship, I received for answer an inquiry whether, under the circumstances, it would not be possible to put the second hospital for 1,000 sick also at Renkioi, and I was directed to report whether the supply of water and food would warrant such an addition.

On my reply in the affirmative, I was informed that the Government, being satisfied with the choice of Renkioi, had determined to increase the hospital accommodation to 2,000, or perhaps to 2,500 beds, while wooden houses for 500 sick were ordered to be

sent to Smyrna. Subsequently it was found that there was difficulty in obtaining the requisite space at Smyrna, and these houses were ordered to be sent on also to Renkioi. Five of these were at a later period sent on to Scutari.

Nature of the Site.

Such is the history of the foundation of this large hospital at Renkioi, and I have now to notice the nature of the site selected, and the means which were used in the formation of the hospital.

The piece of land on which the hospital was placed was a shelving bank of a light porous sandy soil resting on marl; it contained about 270 acres, stretched tongue-like into the waters of the Dardanelles, and was bounded inland by a low range of sandstone hills, which were themselves backed by rather lofty ranges of oolitic limestone, intersected by deep ravines. The tongue of land formed two bays, north and south, in both of which was good anchorage for ships, and as the wind blew almost always up or down the Dardanelles, *i. e.* from the north-east or south-west, one or other of these bays was comparatively calm in all winds except those which came infrequently from the west.

The position of the spot was on the Asiatic coast, nine miles from the mouth of the Dardanelles, in lat. $40^{\circ} 2'$, long. $26^{\circ} 21'$. It was the site of the port of an old Greek city, the ancient Ophrynum. (See accompanying chart (B) prepared by Mr. Brunton.)

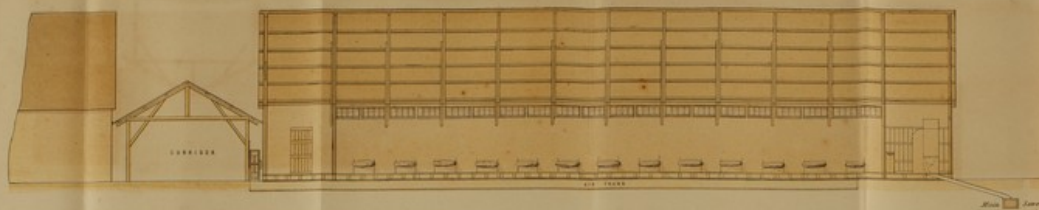
The extreme point of this tongue of land was about ten feet above the sea, but from this point it rose regularly and gradually to about 100 feet above the

sea. An admirable fall was thus given for drainage, and so gradual was the rise, that the wooden houses were placed on the ground without terracing or excavation, whereby very great expense was saved. The extreme length from the point to a spot too steep for the erection of houses was about half a mile, and we were enabled thus to place down the centre of the tongue of land no less than thirty-four houses, capable of holding 1,500 sick, in one long line on either side of the central corridor, an arrangement which facilitated very greatly the laying of both water-pipes and drain tubes. In fact we were able to carry out the plan which Mr. Brunel had suggested as the best.

There was enough space on the tongue of land on either side of this long central line for two shorter parallel lines of seventeen houses each. These two lines were placed one to the north and the other to the south of the large central hospital. Each was capable of containing 750 men, and one of them to the north, was nearly completed when the declaration of peace put a stop to the works.

On the sides of the hills in rear were numerous small springs of excellent water, which were collected together and conveyed in earthenware pipes to a large reservoir placed by Mr. Brunton 70 feet above the highest house, which was itself about 60 feet above the sea. From this reservoir the water was carried in iron pipes down the centre of the long corridor, and at every ward (which was placed at intervals at either side of the corridor) a leaden service-pipe came off, and led an abundant and never ceasing supply into the ward cisterns, which supplied the baths, lavatories, and closets. By this arrangement, all necessity for pumping

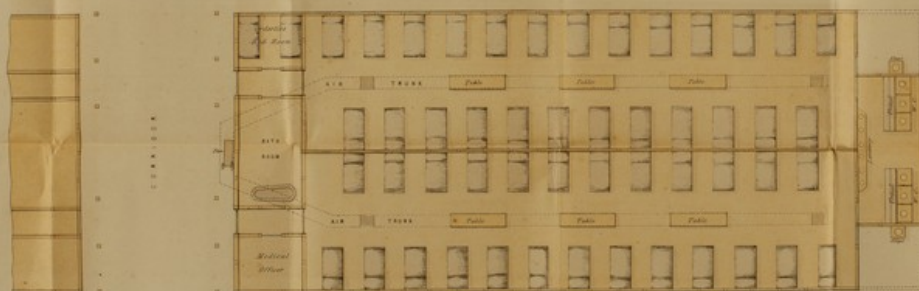
LONGITUDINAL SECTION.



TRANSVERSE SECTION.



PLAN.



RENNIOT HOSPITAL.

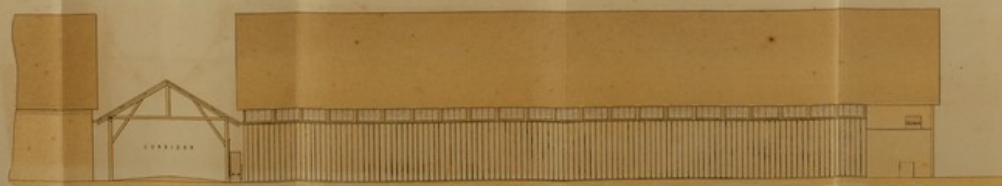
Plan

OF A

WARD BUILDING.

Scale 1 inch to 10 feet

SIDE ELEVATION.



END ELEVATION



GENERAL GROUND PLAN
OF
RENKIOI HOSPITAL,
DARDANELLES,
BY
JOHN BRISTON, ESQ.

Under the Direction of H. K. BRUNEL, Esq. C.E.

Scale of 100 Feet to 1 Inch



SECTION AT WELL X

Vertical Scale 25 Feet to 1 Inch

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1946年 4月25日(1946年 4月25日) 星期四 1946年(1946年) 1946年(1946年)



THE DARDANELLES OR ANATOLIAN BELLETRIST

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DECEMBER 1977

*The letters on the plan of the Hospital represent the Dec. Commissioners of
buildings as they adopted on the Contract Plans, 1817.*

DESCRIPTION OF THE COUNTRY: The landscape formation of this country is volcanic, in which the opportunities existing. The landscape features, the Rindia in this part of Laos, River and there is the same formation in England, is very close. Capital and a few cities scattered around there. The following are found in the top of the Mountain here.

Page 8 of 10

water was avoided, and the sewers were able to be flushed very perfectly.

The lavatories and closets were placed at the ends of the wards most remote from the corridor, and immediately outside them ran the two main sewers, which at their sea terminations were carried some distance into the Dardanelles.

The plan of the hospital may be at once understood by imagining a covered way, open at the sides, and 22 feet wide, running nearly east and west, and reaching for a length of more than a third of a mile, on either side of which stood, at intervals of 27 feet on the south side, and in most cases 94 feet on the north, the thirty-four houses, each of which, as already said, was 100 feet long, 40 feet wide, 12 feet high at the eaves, and 25 in the centre, and was capable of containing 50 patients, with an allowance of nearly 1,300 cubic feet of air for each man (Chart A). Some portion of this space was occupied by the closets and some small rooms used as orderlies' and bath rooms. Thirty of these houses were used as wards; four were used as dispensaries and purveyor's stores. A drawing (C) by Mr. Brunton, showing the arrangements of one of the wards, is attached.

To the south of each division of ten houses was placed an iron kitchen, which afforded the necessary accommodation for preparing 500 diets.

At the inland extremity of the corridor were placed two iron laundries, the water from which (some 4,000 gallons daily) was passed into the sewers. Beyond the laundries were placed on either side the wooden houses of the medical and other officers, who were thus able to see down either side of this long line, and to preserve to a certain extent surveillance over the patients.

The two smaller hospitals were constructed on a similar plan, each range having, however, only one iron laundry inland, and one iron kitchen in the centre of the range.

About half-a-mile from the hospital, close to the sea in the south bay, three storehouses were erected, and a railway led from an adjacent jetty or pier by the side of these storehouses to the centre of the main hospital; had the war continued, it would have been carried to the north pier and bay, and would also have had a branch running along the corridor of each hospital, so as to deposit the sick at the very doors of the wards into which they were to go.

Nothing could exceed the simplicity of the whole arrangement; it was a repetition of similar parts throughout, and experience enables me to say, that nothing could be better adapted for a hospital than this system of isolated buildings, between every one of which was a large body of moving air, rendering ventilation easy, and communication of disease from ward to ward impossible.

The introduction of the covered way connecting the various houses was a happy idea. In the summer, this corridor was left quite open at the sides, and formed a cool walk for the convalescents; while in winter we boarded up its north side, so that in the coldest blasts of the northern wind, the men were protected, and were able to leave their wards and to take exercise. I need only further observe, that in order to secure perfect ventilation, not only were openings left under the eaves and in the gables of the buildings (which could be closed in cold weather) but air-shafts were placed under the floors through which 1,000 cubic feet of air per

minute could be forced into the wards by fans placed in the corridor and worked by hand (see drawing C). As the amount of wind at Renkioi was always considerable, we never had occasion to use these machines, but had the hospital been placed in a less airy situation, they would have been of the greatest use. I append a memorandum by Mr. Brunel which will give additional information respecting the construction and cost of these houses.

For the construction of this hospital, every necessary part was sent out by Mr. Brunel. The houses were erected with great care by Mr. Brunton, assisted by Mr. Eassie, junior, and by eighteen English workmen (thirteen carpenters, one pipelayer, three plumbers, and one smith) sent out for this purpose. On account of the size and height of the houses (which were many times the size of the largest Crimean huts) the framework was obliged to be put together very carefully, and Mr. Brunton felt it necessary to employ none but the English workmen on this duty; consequently, the erection of the houses took much longer time than we originally anticipated; but during the winter we had reason to be satisfied that Mr. Brunton had done wisely, for in spite of the heavy winds we often had, no finished house was ever damaged, except in one or two instances to a very slight amount.

The erection of the houses was commenced on the 21st of May, 1855. On the 12th of July, I reported the hospital ready for 300 sick; on the 11th August it was ready for 500, and on the 4th December, for 1,000 sick. By January 1856, viz., seven months after its commencement, it was ready for 1,500 sick; and when the works were discontinued at the end of March 1856,

we could, with a little pressure, have admitted 2,200 patients. In about three months more, this immense establishment for 3,000 sick could have been finished and in full activity.

Unloading Vessels.

As all the materials for the hospital (with the exception of some extra storehouses, and ladies' and nurses wards) were sent out from England, and as the purveyors' and apothecaries' stores required for a hospital of 1,000 sick were of considerable amount, no small labour was thrown upon the heads of the engineering, purveying, and apothecaries' departments, in unloading the various ships arriving from England, and in arranging and preparing their stores.

From the 7th May, 1855, when the "Gertrude" steamer came in, to the 5th December, 1855, no less than twenty-three steamers and sailing vessels were unloaded. Altogether, on a rough estimate, about 11,500 tons by measurement, were thus landed, and the materials carried up to the spot where the houses were to be erected, or were placed in the proper storehouses. We employed in this work some Greeks from the adjacent villages, and as the pay was regularly issued to them, a greater amount of prosperity was introduced into the country than had ever been known there since the inroads of the Turks. I may mention, also, that we employed Greek carpenters to assist our English workmen, and we had the satisfaction of observing, that the style of work and the various appliances used by the English artisans, had the effect of improving very much the mode of work of the Greeks, so that we may reasonably hope that this useful educa-

tion has left more lasting traces of our presence than the transient prosperity produced by the pay they earned by their labour.

Medical Organization.

The medical appointments of the hospital were very simple. It appeared, both to Sir James Clark and to myself that the division into wards of fifty patients each, should be taken as the groundwork of our arrangement, and that there should be one medical officer to each ward. The Ward Medical Officer, who was either an assistant-physician or assistant-surgeon, according to the division in which he served, was responsible, not only for the treatment of the patients, but for the cleanliness, hygienic condition, and discipline of his ward.

In the central hospital, each ten wards (containing 500 patients) were made into a division, over which was placed either a physician or surgeon, whose duty it was both to superintend daily the treatment of the sick, and the general hygienic condition of the division. Each division had, or would have had, its own Kitchen, Dispensary, Purveyor's Provision Issue Store, Utensil Store, Pack Store, and Matron's Linen Store, so that it would have been in all respects an hospital by itself, and except in respect of position, might be considered altogether apart from the adjacent divisions, which had another staff, another source of supply, and another kitchen.

The two side hospitals would have had, not 500, but 750 men each.

By adopting thus the system of separate small hospitals, each with its own organization, I hoped to be able to carry on the service of the immense establishment for 3,000 sick (when it should be in full operation) with as

little difficulty as if it were composed of five separate hospitals at a distance from each other.

To each division of 500—to each hospital in fact—I appointed one wardmaster in charge of forty orderlies and ten nurses, four of the former and one of the latter being placed in each ward, or in the army proportion of one attendant to ten sick.

To each division also, one lady-sister was attached, whose duties were especially to superintend the nurses and to see to the nursing of the worst cases of sickness.

A system of daily reports was organized, by which each divisional officer received from the ward officers a statement as to the efficiency of the service of the ward, and as to its hygienic condition; and the divisional officer having satisfied himself, by personal inquiry, of the accuracy of the report, and having attended to any points mooted in it, forwarded it to the Superintendent. The duties of the Superintendent were not supposed to include, as a general rule, the immediate treatment of the sick, though, as the medical charge was entirely vested in him, he would have been consulted in any special emergency demanding careful action, or would have been authorized to interfere in any way had he deemed it necessary. His special duties, however, were those of daily superintendence, adjustment, and arrangement, and even with the hospital in its incomplete state, these were found to be sufficient to occupy his time.

Had the hospital reached its full dimensions, and had 3,000 patients been within its walls, two or three assistant-superintendents would have been necessary, not for the treatment of the sick, but to share the administrative duties of the Superintendent.

The Purveyor's Department was organized, or rather would have been finally organized, on a similar plan. A purveyor in charge of the whole hospital, with a central office, would have had in each division of 500 beds, an issue store for provisions, and one for utensils, regulated by a purveyor's clerk, and stewards or storekeepers, and supplied, on requisition, from the general store which we had erected at a distance from the hospital, at the landing-place, and which was in charge of a separate clerk, kept solely to the duty of regulating the issues from the general store to the smaller issue stores in the hospital itself.

To each division, also, there would have been a separate linen store, and in addition to this divisional linen store, we had, in each ward, a small cupboard containing linen in excess of the actual service of the wards, and which could be used on emergencies.

The apothecary's department would have been organized like the purveyor's; one general store feeding the divisional dispensaries with the required amount of medicines, and instruments, and surgical appliances.

As the hospital was never completed, and as the greatest number of patients at any one time was only 640, this system of subdivision was not thoroughly brought out or tested; but I am convinced, from the result of its partial working, that the administration would have been as smooth and regular with 3,000 as it actually was with 500 patients.

With respect to the Laundry, a Superintendent from one of the London baths and wash-houses was sent out who speedily organized a corps of Greek washerwomen. The linen from the wards was collected daily, and was taken to a dirty linen store, whence it passed into the

laundry. Our plan for the circulation of the linen was very simple. Every morning when the dirty things were taken from the wards, the nurse received from the collector, a receipt for what was taken. She took this receipt to the division linen store and received at once an equivalent number of articles. The receipt was then filed in the linen store, and the laundryman was responsible for the articles named in it to the division store. In this way, the stock in the wards was always at the same amount.

One part of the laundry was found to be of immense service; in fact, without it, the washing could not have been well done. I allude to the drying-closet, which we used also as a baking-closet for killing vermin. We were able to raise the heat to 400° Fah., and to thus cleanse the linen in a way no liquid agents can do. The blankets, coats, and shirts of the men were often swarming with vermin, especially in the cases of the Land Transport and Army Works Corps.

I take this opportunity of mentioning to your Lordship, that Mr. Hooper, the laundry superintendent, has invented a van-laundry, containing boiler, washing-machine, and drying-closet, and capable of being drawn by one horse. It would wash for a hospital of 500 men, and could be used at a moment's notice, even on the march. The value of such a plan to an army in the field is incalculable. Three of these van-laundries would wash for a general hospital of 1,500 sick.

The names of the officers who were appointed by Sir James Clark to carry out these duties, are given below, arranged in the order of their appointment, and I have only to remark concerning them, that as already fully stated in my monthly reports, I am convinced no

men could have done their duties with greater zeal and efficiency than they did. I have not included the names of Drs. Cowan and Buchanan, of Glasgow, who both were first appointed to Renkioi, but who subsequently served some time in the Crimea, and then were called home by private professional duties, which prevented their further service in the East.

Mr. Jenner was Purveyor till August 16, 1855, and Mr. Pigott after this date; both these gentlemen were thorough men of business, and conducted their department with complete efficiency.

Mr. Humphry acted as Apothecary, and arranged the dispensary; and owing to his methodical habits of business, and to the attention paid by the three dispensers, this important part of this hospital was very satisfactorily carried on.

I cannot conclude this sketch of the medical organization without expressing the obligations I am under to Sir James Clark for the kind and judicious counsel and advice I received from him on all occasions. I kept him minutely informed of the transactions of every week, and had the advantage and satisfaction of being able to consult him on all difficult points. It would be impossible to over-estimate the value of the assistance I thus received from him.

List of the Staff of Renkioi Hospital.

NAMES.	APPOINTMENTS.
Parkes, E. A.	Superintendent.
Robertson, Wm.	Divisional Physician.
Goodeve, Henry	do. do.
Wells, Spencer	Divisional Surgeon.
Coote, Holmes	do. do.
Holland, T. S.	Assistant Physician.

NAMES.	APPOINTMENTS.
Scott, G.	Assistant Physician.
Beddoe, J.	do. do.
Kirk, J.	do. do.
Christison, David	do. do.
McLaren, J. D.	do. do.
Reid, Wm.	do. do.
Dixon, T.	do. do.
Hale, R.	do. do.
Bader, C.	do. do.
Playne, A.	do. do.
Armitage, T. R.	do. do.
Humphry, J.	Do. and Apothecary.
Maunder, C.	Assistant Surgeon.
Fox, J.	do. do.
Dix, J.	do. do.
Faucus, J.	do. do.
*Roberts, Bransby	do. do.
Stretton, S.	do. do.
Veale T.	do. do.
Pagan, John	Clinical Clerk.
†Jenner, K.	Purveyor.
Pigott, A. W.	do.
Macfarlane, A.	Purveyor's Clerk.
Rattray, D. R.	do. do.
Barton, H. J.	do. do.
Rains, S. W.	do. do.
Malcouronne, H.	do. do.
Grinling, H.	Superintendent's Clerk.
Webster, G.	Store Accountant.
Hall, Basil	Assistant Accountant.
‡Baker, R.	Dispenser.
Sheppard, W.	do.
Rooke, W.	do.
Clarke, W.	do.
Hooper, W.	Superintendent of Laundry.

* Sent home on sick leave, January 30th, 1856.

† Transferred to the Crimea, August 1855.

‡ Resigned, November 13, 1855.

The Working of the System.

Although the hospital was ready for 300 patients on the 12th July, 1855, we were not called on to receive sick till the 2nd October. From that time till the 11th February, eleven ships arrived from Balaklava and Smyrna; the patients of the latter hospital were transferred to Renkioi when the Swiss Legion was sent to Smyrna.

The vessels with sick crossed the Black Sea and the Sea of Marmora at half speed, and called at Scutari for orders.

The average length of passage from Balaklava to Renkioi was—

With stoppages at Scutari . . . 86½ hours

Without stoppages at Scutari . . . 72½ "

In addition, some of these ships were detained on other services, such as towing vessels through the Black Sea or the Sea of Marmora, so that the actual average length of passage under half-steam from Balaklava to Renkioi was considerably under the time (three days) given above.

The quickest passage that was made was fifty-two hours with stoppages, or forty-six hours without. The longest passage was 124 hours, with stoppages; in this case the vessel anchored for some hours on account of a snow-storm, and was also detained nineteen hours at Scutari.

Eventually, if the service had been properly organized, so that there should have been no detention at Scutari, the passage from Balaklava to Renkioi should have been accomplished regularly in from forty-eight to sixty hours, i. e. from two to two and a-half days.

In the eleven ships with sick, a total number of four deaths occurred on the voyage; only one man died in the first twenty-four hours after landing. These facts testify strongly to the good working and admirable order of these transit hospital ships, and I can truly say that it was impossible to conceive any service being better carried on than this was.

After the 11th February, 1856, we received no more sick.

The total number of military patients who were received from these ships was 1,244, and, in addition, eighty-seven soldiers were admitted either from the guard at Renkioi or Abydos, from transport ships which touched at Renkioi, or from the English soldiers attached to the Osmanli Horse stationed at the town of Dardanelles during the summer and autumn.

The total number of—

Admissions was	1,331
Cured	961
Invalided	320
Deaths	50

The per centage is as follows:—

Cared	72.201	per cent.
Invalided to England	24.043	"
Died	3.756	"
	100.000	

The causes of death were:—

Fever (Typhus and Typhoid)	22
Phthisis Pulmonalis	8
Pneumonia	1
Epilepsy	1
Dysentery (chronic)	14

Scorbutus	1
Peritonitis	1
Frost-bite	1
Pyæmia, following wound in action	1
	50

Besides the military patients, we admitted seventy-seven civilians, either servants of the hospital, or, in by far the larger proportion, English sailors from transport vessels, or Turks and Greeks. The Turks and Greeks came from the surrounding country, both mainland and islands, in great numbers, and in some cases they travelled more than 100 miles to get advice. We were obliged in some cases, on the ground of common humanity, to receive them into hospital, the regular Government allowance for extra patients being always paid in.

The skill of the English physicians and surgeons, especially in disease of the eyes, was very highly appreciated, and a great number of operations were performed by Mr. Wells and the other surgeons.

Of the seventy-seven extra patients, six died chiefly from the result of accidents, such as falls from the yards of ships, &c.

The total number of patients actually treated was 1,408; the largest number at any one time, 642.

The medical history of the hospital is sufficiently obvious from these facts. The chief amount of work was performed in the months of January and February, when the whole strength of the hospital was in full, though not in pressing work.

The worst cases received were those of frost-bite, which in many cases affected both feet, and in some instances the hands also. These distressing cases were

of course much less numerous than they had been in the winter of 1854, but they were very severe and tedious, and as they were frequently complicated with diarrhoea and lung affections, they required an extraordinary amount of attendance and care.

The fever cases during the winter were very numerous, especially among the men of the Land Transport Corps, and there was a decided propagation, to a certain extent, on board the transport steamers. The fever was chiefly the well known spotted typhus, with a marked eruption. The type was extremely severe, but our mortality was not great, though when we received the early cases, I was led to anticipate a great loss, so intense was the fever, and so general, during the winter, was the existence of slight scurvy in the Crimean troops, especially in the men of the Land Transport Corps. The total number of cases of continued fever was 221,* and as the deaths were twenty-two, the mortality was 10 per cent. The total number of cases returned as "fever" was of course greater than this, as we had cases of febricula, and of remittent, intermittent, and relapsing Crimean fever.

The typhus fever was extremely contagious, and we were obliged to isolate the patients, as, in spite of our free ventilation, it spread in two or three wards to a slight extent. The isolation was quite effective, and checked at once the spread of the disease. One medical officer, one nurse, and one orderly caught the disease, and the orderly died in four days from the first symptoms.

Of the whole number of 1,331 military patients, no

* It is impossible to be certain of the exact number of cases of true typhus as distinguished from typhoid and other continued fevers.

less than 331 were furnished by the small corps of the Land Transport, or at the rate of 25 per cent. These men were admitted in a state which strongly reminded those who had been present at the time, of the condition of the sick during the previous winter at Scutari. They were thoroughly prostrated, generally scorbutic, and presented the severest types of disease. They offered in all respects, both as to general appearance and cleanliness, and as to severity of disease, a singular contrast with the soldiers of the Line. The men of the Land Transport Corps, hastily enlisted, and numbering many boys, and men considerably past their prime, and quite unfitted to cope with the hardships of the Crimean winter, had had necessarily thrown upon them all the hard work and the exposure which had been so fatal to all classes in the previous year.

The small number of 331 men of the Land Transport Corps furnished no less than twenty-seven of our fifty deaths, while among 1,000 men belonging to the Line there were only twenty-three deaths.

In other words, the mortality among the Land Transport Corps was 8.12 per cent.; among the Line soldiers, 2.30 per cent. Of the twenty-two deaths from fever, thirteen were among men of the Land Transport Corps, or, in other words, 331 men of one corps gave a percentage of deaths from fever of 3.92 per cent.; 1,000 men of another gave a percentage of deaths from fever of 0.90 per cent. It was singular enough also that the fever cases came at one particular time in two vessels, and from their number and severity we anticipated that the army was about to endure an epidemic of typhus; in fact shortly afterwards the French and Sardinian armies did actually greatly suffer from this disease;

but instead of this being the case with the English army, the next vessels brought few cases of typhus, and the threatened epidemic died away. This must have been from the precautions adopted in the Crimea, and from the affected men being speedily removed to the hospitals in the rear, so as to prevent the spread of the disease among the army in the field.

The proportion of surgical to medical cases was about 25 to 30 per cent., which was nearly the amount we had calculated upon. We had, of course, no cases of recent wounds, but a considerable number of men with old wounds received at the assaults in June and September were sent to us in October 1855.

The anticipations we had formed of the health of the spot and of its adaptability for a hospital were quite confirmed by the experience of more than a year. The winter was mild, and the climate seemed especially adapted for pulmonary complaints, of which we had a large number. The changes of temperature, it is true, were very sudden and great, but as the men had warm wards, these changes were not felt, and there were few days in which the most delicate consumptive patient could not get out into the sheltered corridor, for a short time during the day. The construction of the hospital, was admirably adapted for men recovering from illness. As all the wards were on the ground, as soon as a man could crawl he could get into the air, either in the cool and sheltered corridor, or in the spaces round the hospital. The pure breezes from the Dardanelles or the Egean Sea soon brought strength to his enfeebled frame, and the period of convalescence was very short.

The sea-bathing also was very good, and if the war had gone on we should have developed this mode of

treatment to a great extent, as we should have been able to construct douche, and other baths of both fresh and salt water.

The supplies of food were good, with the exception of the milk, which during the winter was very poor. Had we remained another winter, however, this would have been amended. During the summer and autumn the supply of milk, chiefly from goats, was excellent.

The Nursing and Attendance.

As much attention has been directed to the subject of female nursing, it may be well to state our system and its results. We had a corps of twenty paid nurses, and five ladies, four of whom were paid, while one, Miss Parkes, was a volunteer and unpaid. While our number of sick was small, I placed two nurses in each ward, but subsequently one was attached to each ward of fifty men, and I believe this was the right proportion. The duties of the nurses were confined to nursing; all cleaning and out-door work was performed by the orderlies, and the nurses were therefore able to concentrate their attention on the severest cases. They had also charge of the linen and kept the key of the small wardstores, in which the extra supply was kept.

Of the five ladies, the lady superintendent and matron, Mrs. Newman, had general control over the nurses and the linen store; the sub-matron, Miss Raynes, and the store-keeper, Miss Griesdale, were occupied entirely in assisting Mrs. Newman, and (Miss Griesdale especially) in keeping the accounts of the division linen store. The other two ladies, Miss Parkes and Miss Frodsham, were engaged in superintending the nurses

in the wards. These two ladies spent the whole day in the wards, passing from one to the other; they carried out to the letter the directions of the medical officers, and were a continual check on the nurses and orderlies. The administering of wine and medical comforts ordered by the officers was left entirely to them, and the extraordinary care with which the food and medicines were given by these ladies and by the nurses was the means of saving many lives. I am quite certain that many soldiers received as much anxious attention as the richest man in this metropolis could have purchased, and owed their lives entirely to the devotedness and untiring sympathy of their female attendants.

Organized as the female nursing system was, that is to say, with a small number of ladies overlooking regular paid nurses, and scrupulously carrying out and not superseding the orders of the medical attendants, I can conceive no objection to it which can be considered at all commensurate with the undoubted excellence of its results. No doubt, for such a duty, the paid nurses must be carefully selected: gathered as our nurses were on the pressure of the moment, there were a few who were not favourable types of their class. But as the inefficient and disorderly nurses had been gradually got rid of, and their places supplied by proper persons, the nursing of the soldiers would have been better than in any of the hospitals I am acquainted with in this country, while the only objections that have any weight against the system of female nursing, would have lost all force and application.

The orderlies of the hospital were of three classes, viz., civilians, soldiers sent from Chatham, and unavailable for other than hospital service, and soldiers

belonging to the regiments in the Crimea, who had been sent down as patients, and had afterwards temporarily volunteered for the service of the hospital. From this heterogeneous assemblage, a very good staff of orderlies was formed. The civil orderlies had been well chosen, were mostly respectable and trustworthy men, and gave me very great satisfaction. Among the soldiers also were some very good men, and I had no difficulty in making them work with, and under, civilians. In three or four instances men were found, who had a remarkable aptitude for nursing, and took a pleasure in it; they possessed all the feminine sympathy, kindness, and consideration, and were as much liked by the sick men as the nurses. But generally the orderlies, however attentive and kind they might be to the sick, were better adapted for the rough work of the wards.

From among the civil orderlies I selected a certain number to act as wardmasters, assistant stewards, &c., and, by your Lordship's sanction, these men received a small increase of pay. They were regarded in the light of non-commissioned officers, and I possessed the power of reducing them to the rank of orderlies if they did not behave well. A very useful body of men was thus formed, and the duties of their several offices were well performed.

The Discipline among the Soldiers.

Some doubt was expressed in England as to the power of civil officers to maintain order and discipline among the soldiers; but I was sure that this fear was chimerical, for I knew that no men are so manageable as English soldiers when properly treated, and when spirits are kept from them, and that the civil officers

would be possessed of quite as much authority as the army medical officers, who, as the army is now constituted, are, in fact, civilians, and possess no real power over the soldiers in hospital, nor over the orderlies.

The result was as I anticipated; there was no difficulty in maintaining perfect order, and the occasions were few on which I had to report, on their discharge from hospital, men who had committed offences in hospital, to the military officers in whom was vested the power to preserve discipline.

From the opening of the hospital in October till the middle of December, the military duties of the hospital station were most ably performed by Lieutenant Bennett, of the 7th Fusiliers. Subsequently, on the hospital at Smyrna being given up, Major Chads, of the 64th Regiment, the Commandant at that place, was transferred to the Dardanelles, and took command at Renkioi and Abydos.

Abydos, which had been used as a hospital, was given up for the purposes of a barrack in October 1855, and we used it from that time till the end of the war as a convenient place to which the men discharged from hospital could be sent, till they were conveyed to the large depot at Scutari.

A Staff-Paymaster, Captain Corcoran, and in succession to him, Captain Thomas, had charge of the payments of the dépôts; and two Staff-Captains, Captains La Touche and Bazalgette, were stationed respectively at Abydos and Renkioi in charge of troops.

The clerical duties were performed by one clergyman, the Rev. D'Arcy Preston, who was most attentive and kind to the soldiers. The Rev. J. Mahe was the Roman Catholic Chaplain.

Occupations of the Sick Men.

Thanks to the liberality of the Government, and to various persons interested in the soldiers, the sick men received weekly a good supply of newspapers. An excellent selection of books had been made in England by Dr. Goodeve, and these and other books sent by private individuals were circulated in the wards. Draughts, chess, backgammon and cribbage-boards were sent out by Government, and a most acceptable present of games of the like kind, of which we received our share, was sent to Scutari by Her Majesty. Quoits and football formed the chief out-door amusements when the men were recovering.

Breaking up of the Hospital.

In April and May 1856, the greater number of the patients had been either discharged or invalided home, and in accordance with orders from your Lordship, the medical and nursing staff was reduced more than one half; a certain number of medical officers and attendants being kept for fear any disease should break out among the masses of troops who were being moved from the Crimea and Constantinople. At length, in the middle of July, any danger of this sort was at an end, and the remaining staff of the hospital was sent home.

All the Purveyors', Apothecaries', and Engineers' stores which were likely to be used, or to sell well in England, were sent home, and everything else was sold on the ground. Major Chads, with twenty soldiers, and Mr. Brunton, remained behind to superintend the sale of the buildings, which took place on the 20th September.

Placed as we were at Renkioi, on the borders of the Plain of Troy, and in the vicinity of the ruins of so many cities which were great and flourishing before or in the days of the Lower Empire, it was the intention of several of the officers of the hospital to devote some time to a systematic investigation of the remains of antiquity which were so profusely scattered about. But the speedy termination of the war prevented these intentions being carried out, and the only investigations of consequence were made by Mr. Brunton after the hospital works had been stopped. A few objects found in the cemeteries of ancient Dardanus, and in the cemetery of unknown age, supposed to be near the site of old Troy, and among the more modern ruins of Novum Ilium, have been brought home by Mr. Brunton, and presented to the British Museum.

The investigation of the natural history of the district was also not pushed to any extent; but a catalogue of plants collected by Drs. Armitage, Kirk, and Playne, in the neighbourhood of Renkioi and on the heights of Ida and Olympus, has been drawn out by these gentlemen.

The geology of the coasts of Asia Minor is so well known, that it would be useless to introduce it here.

The meteorology of Renkioi for some months after the instruments were unpacked, and till the time of their being re-packed, is given in the subjoined table. The returns were kept by Drs. Robertson and Kirk. Unfortunately, the rain-gauge was not ready in time, and the amount of rain is not known. I regret this the less, however, as it was an exceptional year, and the rainfall was much below the average.

The amount of ozone was examined for some time

by the method of Schonbein, till this method was found to be so imperfect as to lead only to erroneous results, and the inquiry was then abandoned.

I subjoin, in an Appendix, the mean meteorological observations from October 1855 to April 1856, and also a memorandum of the ethnology of the district by Dr. Beddoe, a gentleman whose name is already very favourably known in this department of science, and who, had we remained, would have been able to extend his observations over a wide district of Anatolia.

I have the honour to be,

My Lord,

Your Lordship's most obedient humble Servant,

E. A. PARKES, M.D.,

Late Superintendent of Renkioi Hospital.

APPENDIX.

No. 1.

MEMORANDUM BY MR. BRUNEL.

HOSPITAL BUILDINGS FOR THE EAST.

18 Duke Street, Westminster,
March, 1855.

THE conditions that it was considered necessary to lay down in designing these buildings, were,—

First—That they should be capable of adapting themselves to any plot of ground that might be selected, whatever its form, level or inclination, within reasonable limits.

Secondly—That each set of buildings should be capable of being easily extended from one holding 500 patients, to one for 1,000, or 1,500, or whatever might be the limit which sanitary or other conditions might prescribe.

Thirdly—That when erected, they might be sure to contain every comfort which it would be possible under the circumstances to afford. And,

Fourthly—That they should be very portable, and of the cheapest construction.

The mode in which it has been sought to comply with these conditions is as follows:—

The whole hospital will consist of a number of separate buildings, each sufficiently large to admit of the most economical construction, but otherwise small and compact enough to be easily placed on ground with a considerable slope, without the necessity of placing the floor of any part below the level of the ground, or of having any considerable height of foundation to carry up under any other part.

These separate buildings have been made all of the same size and shape; so that with an indefinite length of open corridor to connect the various parts, they may be arranged in any form, to suit the levels and shape of the ground.

Each building, except those designed for stores and general purposes, is made to contain in itself all that is absolutely essential for an independent hospital ward-room; so that by the lengthening of the corridors, and the addition of any number of these buildings, the hospital may be extended to any degree.

To ensure the necessary comforts, and particularly to provide against the contingency of any cargo of materials not arriving on the spot in time, each building contains within itself two ward-rooms, one nurse's-room, a small store-room, bath-room, and surgery, water-closets, lavatories, and ventilating apparatus.

The ward-room is made wide enough and high enough to ensure a good space of air to each bed, even if these should be unduly crowded. Each building contains two ward-rooms, intended for twenty-six beds each, which is found in practice to be a size of room admitting of proper control and supervision.

With respect to closets and lavatories, after examining and considering everything that has been done, both in hospitals of the best description and poor-houses of the cheapest construction, it was found that the requisite security for cleanliness, and the greatest amount of economy of labour, and of consumption of water, could be obtained by a cheap description of water-closet designed for the purpose; and with the same object of diminishing the amount of labour and the waste of water, and securing cleanliness without depending upon the constant attention of assistants, fixed basins for lavatories, and mechanical appliances for supplying and drawing off water were adopted.

As a protection against heat, experience in hot climates, and experiments made expressly for the purpose, satisfactorily proved that a covering of extremely thin and highly polished tin, which reflects all direct rays of heat, was the cheapest, lightest, and most effective protection; and every piece of wood-work not covered with tin is to be whitewashed externally. Internally the lime-wash has a slight tint of colour to take off the glare.

To secure ventilation in a hot climate, with low buildings extending over a large area, and therefore incapable of being connected with any general system of ventilation, it was considered

that forcing in fresh air by a small mechanical apparatus attached to each building, would be the only effective means. Each ward-room is therefore furnished with a small fan, or rotatory air-pump, which, easily worked by one man, is found capable of supplying 1,000 to 1,500 cubic feet of air per minute, or 20 to 30 feet for each patient. This air is conveyed along the centre of the floors of each ward-room, and rising up under foot boards placed under the tables, is found to flow over the floor to every part of the room.

Besides this mechanical supply of air, opening windows are provided along the whole length of the eaves and spaces left immediately beneath the roof at the two gables, amply sufficient together to ventilate the rooms thoroughly if any breezes are stirring, without the help of the fan.

The light is admitted by a long range of narrow windows, immediately under the eaves, which protect them from the direct rays of the sun. These windows open, and are provided with shutters inside, which exclude the light, but admit the air.

By forcing the air into the room, instead of drawing it out, the entrance of bad air from the closets, drains, or any surrounding nuisances is prevented. The fan is placed at the opposite end to the closets and drains, and all the fans being in the open corridor, the workmen can be seen by a single sentry, and kept to their work.

The buildings, as now constructed, are adapted to protect the interior from external heat. Should winter come while they are still in use, the framework is adapted to receive an internal lining of boarding, and the interstices can be filled with a non-conductor.

Two buildings of the same form and dimensions are fitted up with every convenience as store-rooms and apothecaries' dispensaries.

An iron kitchen, slightly detached from the wooden buildings, fitted up with every contrivance capable of cooking for from 500 to 1,000 patients, is attached.

A similar building of iron is fitted up with all the machinery lately introduced in the baths and wash-houses of London, for washing and drying in the minimum space, and with the least amount of labour.

If an aggregate of buildings should be placed in one spot for

more than 1,000 patients, a second kitchen would be added, but the single wash-house would be sufficient.

With each set of buildings is sent a pumping apparatus, a small general reservoir, and a sufficient length of main, with all its branches, to supply water to every detached building, and all the pipes and branches are of such construction as to admit of being put together without any soldering or cement. A system of drains is provided, formed of wooden trunks properly prepared, and of sufficient extent to form a complete and perfect system of drainage from every building to a safe distance from the general hospital.

A number of small buildings intended to be detached from the main body are provided for residences for the officers and servants of the establishment, and for a small detachment of soldiers. A slaughter-house, and store-yard, and some other appurtenances are also provided, the extent of which depends on the circumstances of such case.

The construction of each building has been studied with very great care, so as to secure the minimum amount of material, the least possible amount of work in construction or erection, and the means of arranging all the parts in separate packages, capable each of being carried by two men; and the result is that each building is the cheapest and lightest that has yet been constructed in proportion to the area covered.

For the transport of the materials to the spot selected, two sailing-vessels and three steam-boats, capable of carrying one hospital for 1,000 men, which is the first about to be sent out, have been secured. In each vessel is sent a certain number of complete buildings, with every detail, including their proportion of water-pipes and drains, closets, lavatories, baths, &c., and a small amount of surplus material, and tools; and in each of two separate vessels are sent a set of pumps and mains, and a kitchen and wash-house. So that by no accident, mistake, or confusion, short of the loss of several of the ships, can there fail to be a certain amount of hospital accommodation provided with every comfort and essential.

The peculiar circumstances under which these establishments are likely to be placed have required not only peculiarities of construction, but these, in turn, have required numerous provisions and details specially designed for the case.

As all the buildings, except the kitchen and washhouse, are entirely constructed of wood, it is considered essential that no stove or fire-place of any description should be allowed in any part, except in the iron buildings; in these there is provision for an ample supply of hot water, but each ward-building is provided with a small boiler, heated by candles, which by experiment have been found amply sufficient for all that can be required. Candles are to be used exclusively for lighting, and lamps and lanterns have been constructed for the purpose.

A proper supply of fire-engines is provided, and other precautionary measures are adopted against fire.

The condition of portability requiring that the walls and roofs should be of the thinnest and slightest possible construction, protection against heat has been provided for in the manner before referred to, and good ventilation secured by mechanical means; but, in addition to this, there is a very simple provision made for passing the air over a considerable extent of water surface; which would not only cool it, but diminish the effect of excessive dryness, which is said to be occasionally in this climate more oppressive than even the temperature.

As the space in the wards is very liable to be encroached upon, and the beds crowded, portable baths have been designed, into which the more helpless patients can be lifted, and lowered, on a frame or sack, without requiring space for assistants to stand around, or with the bath placed only at the foot of the bed.

The kitchen and laundry have each required many special contrivances.

The instructions given to Mr. Brunton, the engineer who has been sent out for the purpose of erecting these buildings, are to commence by determining on his plan of arrangement to suit the peculiarities of the ground, and then to construct the complete system of drainage, and to lay on the water supply before the buildings are rendered capable of receiving patients; and all the arrangements of the details are designed with the view of obtaining, as the first conditions, a perfect system of drainage, a good supply of water, free ventilation, and the most perfect cleanliness, quite independent of labour, and of the continued attention of assistants; these conditions being assumed as essentials, preceding even the mere covering in of space, and providing shelter for patients.

The cost of these buildings, delivered ready for shipment, will

be from £18 to £22 per bed, allowing 1,000 cubic feet of space in each ward-room to each bed. If pressing emergency should lead to the beds being placed closer, and fifty per cent. more patients should be introduced, it is believed that the perfect system of ventilation which is secured, would render these hospitals very superior to any now in use for the army.

Of the cost above named, about £12 per bed is that due to the ward-rooms themselves, with all their conveniences attached, and the rest arises from the cost of the store-rooms, kitchen, machinery, residences, and appurtenances.

The cargo space required for their conveyance is about a ton and a-half to a ton and three-quarters measurement per bed.

No. II.

ETHNOLOGICAL NOTES made in the neighbourhood of Renkioi, on the Dardanelles. By JOHN BADDOR, M.D.

THOUGH the British inhabitants of Renkioi had not, perhaps, such extensive opportunities for ethnological investigation as fell to the lot of those who served with the Turkish Contingent, and had not daily in their presence like those who were quartered near Constantinople, specimens of every nation between the Atlantic and the Ganges, they were favourably situated for the observation of the physical and moral characteristics of the Anatolian peasantry, Greek as well as Turkish. Moreover, there was always in the neighbourhood a considerable number of Arabs and Arnauts, and indeed of people of several other races, all in the British service, either in the Osmanli Irregulars, or in the Land Transport Corps.

The district of the Troad, including the country between the *Ægean*, the Hellespont, and the Gulf of Adramyttium, and bounded on the East by Mount Ida, and the lower hills connected with the Ala Dag and Schab Dag, is assigned by Berghaus the geographer and ethnographer to the race and language of the Greeks.

I believe it will be easy to show that he has been misled in the

matter, and it may be worth while to correct the error, inasmuch as it is highly inexpedient in the present social and political position of Turkey to allow false ideas as to the relative numbers and importance of the divers races and religions to gain currency.

The district in question contains one considerable town, Chanak Kalesi, commonly known as the Dardanelles, and two smaller ones, Bairamitch and Eneh, besides a considerable number of villages, some of which contain from 1,000 to nearly 3,000 inhabitants.

Each of the towns has its separate "millet" or nationalities. In Chanak Kalesi are counted about 700 Turkish houses, 450 Greek, 120 Armenian, and 150 Jewish houses. In the other towns the preponderance of the Osmanli is much greater. The Greeks occupy on or near the coast the populous village of Renkioi, with nearly 3,000 inhabitants; those of Yenisehr (Sigeum), and Yenikenil or Neochori (on Besika Bay); that of Kalafasli (in the plain of Troy), and the lower village of Behraim (Assos). But I am acquainted with upwards of thirty villages in the district where either the population is exclusively Turk, or where only two or three Greek families, or even individuals are to be found.

It is certain that, even under the Seljukian dynasty, a century or two before the rise of the Ottoman Turks, the hilly country about Mount Ida was occupied by Turkman tribes who warred with the Greek inhabitants of the town of Adramyttium. It is no wonder then that the Musselmans afterwards, as the Christian power declined, drove the Greeks out of the whole of this beautiful tract of country, except in a few localities upon the coast.

That the two races, though dwelling almost in each others presence for centuries, have not become assimilated in blood by intermarriage, would appear pretty clearly to any one who would study their respective principal characters and note the still considerable differences.

The Turkish peasant has not the elongated, regular, and delicate features which in the west are often said to belong to his race. That type is found very commonly in Constantinople, and in some other great towns, but I have little doubt that the continual admixture, during several centuries, of alien blood, Georgian, Persian, Circassian, Armenian, Greek, Arab, and

European, is quite sufficient to account for the phenomenon. One great channel through which the Greek blood was poured into the veins of the urban population was the numerous body of Janissaries, which was for two centuries, recruited I believe exclusively from the Rayas and other Christian populations. The children of a Janissary, while this regulation was in force, did not become Janissaries, but settled down into the general mass of the citizens of Constantinople, and some other great towns.

But these peasants retain many of the traits of their Tartar ancestors. They have powerful frames, seldom tall, but broad and strongly knit, and when stripped for their favourite sport of wrestling, display a great development of bone and muscle. Accordingly they are somewhat slow in action, but capable of severe and long continued exertion.

The form of their heads is also Tartar (Turanian). It is broad, short from the occiput to the forehead, but rising very high about the crown. The facial angle is rather small, although when seen from before, many of them appear to have fine foreheads. The face is usually broad with large cheekbones. The nose varies a good deal; it is strongly aquiline in some who are apparently pure-blooded, but these cases are exceptional; in the greater number it is rather short than long, and nearly straight. The eyes are not unfrequently set obliquely, or rather, the inner angle of the upper eyelid is drawn down as in the Chinese, Calmucks, Lapps, &c. The beard is usually in good quantity, but its appearance is rather late. Altogether the features have the character of power and manliness.

The complexion is darker than that of the Greeks, generally speaking, but lighter than in the Armenians. Exposure to the sun is apt to change it to a coppery brown instead of the olive tint of the southern Europeans. The eyes are generally dark brown, but not unfrequently grey; the hair is more often dark brown than black, and even fair hair is by no means uncommon.

The Greeks of Renkioi and the other villages differ a good deal in appearance from those of Smyrna. I am disposed to attribute this partly to the probable admixture of Slavonian blood, in the former case, and of Italian, in the latter. In the Turkish village of Magnesia where there is a large Greek community, and in the town of Nymfi (Nymphie), the old Hellenic

type seemed to me to be more frequently seen than in either of the two localities above-mentioned.

The Greeks of Renkioi are much lighter in build than their Turkish neighbours; they are more active and less powerful. Instances of longevity are not common among them, and they appear to be much more subject than their neighbours to a variety of diseases. This may be accounted for by several reasons. Their customary diet is bad; black barley bread is the staple of it, seasoned with olives or salt fish, and qualified with raki. During their long and frequent fasts they abstain from all animal food. The Turks on the other hand, make no such distinctions, except with respect to swine's flesh, and appear at all times to make more use of milk and cheese. What is probably of yet greater importance is that the Moslem peasantry generally obey the precepts of their religion, and avoid strong drink; whereas the Greeks on feast days, and holy days, drink to excess of wine and raki. Lastly, it may be that their greater activity of mind and body, in a climate like that of Asia Minor, which disposes all men to apathetic indolence, tends to wear out their bodies and minds more rapidly. I am not disposed to admit this last supposition, for though they retain most of the mental acuteness and restlessness of their illustrious ancestors, they certainly cannot be called industrious or energetic when compared with more northern and more civilized peoples.

There are two other tribes in the Troad of less importance and little spoken of, yet sufficiently interesting. These are the Turkomans and the Yuruks.

The former are nomads who occupy themselves chiefly in felling trees, and sawing wood. The latter are exclusively pastoral, but nomadic only to a small extent.

I regret that owing to the sudden and unexpected termination of our period of service, I was unable to procure the information I desired with respect to these tribes, and which could only be relied on if obtained from themselves, for which end a better knowledge of the Turkish language, and very friendly relations with themselves were indispensable.

I believe the Yuruks to be a part of the same people who under the name of Turkomans, roam as pastoral nomads over Caramania, as well as vast regions further to the East, but they do not themselves acknowledge the name in question, nor

do they intermarry with the acknowledged Turkmans of the forests. Between the Osmanli and the Yuruks, marriages are rare, but between the Turkmans and the other two, they are, I believe, quite unheard of. The Yuruks are considered by the Osmanli peasantry to be tolerably good Musselmans, but the Turkmans are not allowed by them to be Musselmans at all. Indeed they affirm that the foresters had more connexion with the Jewish Rabbis than with the Imam, and even that they kept the Jewish Sabbath. I did not believe this last statement, but as I never visited a Turkman camp on a Saturday, nor became sufficiently intimate with them to cross-examine them on the subject, I cannot speak positively. Nomadic Jewish tribes do exist in Kurdistan, and Mr. Layard encountered one in the course of his travels. But the people we are now considering have no resemblance whatever to the Jews in person; on the contrary they present, so do also the Yuruks, the Turanian or Tartar cast of head and features. They are generally fine robust men with complexions of a warm brown, sometimes approaching copper-colour; the women have cheeks of a ruddy brown. The eyes are generally set somewhat obliquely. The hair is dark-brown or black; so is the beard, which, though its appearance seems to be rather long delayed, generally attains very fine proportions, a thing unusual among Turanians.

The costume of the women is peculiar, and they have it in common with the Yuruks. Its most remarkable part is the double apron, made of a kind of coarse red cloth, which is worn behind as well as before. They wear also red girdles ornamented with cowries, and use the same necklaces and forehead bands of gold and silver coin, as are in vogue among the Greeks.

As might be expected from their free and active life, the Turkmans appear to be a very healthy race. Indeed I cannot call to mind that I ever had occasion to prescribe medicine for any of them, although we were in pretty frequent communication.

They not only make their own cloth, but weave carpet of patterns similar to those produced at Koola. The weaving is done in the open air in a very simple and clumsy loom.

I could not observe, nor did I hear of any difference of dialect between the Osmanli, Turkmans, and Yuruks. All use the vernacular Turkish, which not being like the literary language of the country, largely mixed as to both grammar and vocables with

Arabic and Persian, is of very simple and regular construction, and may be acquired with comparative ease.

The Turkish peasantry continue to deserve the same commendation with respect to their moral character that their kindred have almost always received from those who knew them best. And their qualities fit them equally for war and conquest, and for a tranquil, pastoral, or agricultural life. The exercise without the abuse of power over subject races is hardly to be expected from any people, but the Turks from their indolence, and their naturally mild and tolerant temper are not so prone to exercise downright cruelty and oppression as certain more civilized and intellectually gifted races. At the same time it is undeniable that some of the nationalities at present subject to them, though morally and physically inferior, are in intellect and activity far superior, and are gifted with powers of self development and progression which the dominant people does not possess.

No. III.

METEOROLOGICAL TABLE.—October—April, 1855-56

Barometrical Observations by Dr. ROBERTSON. They are uncorrected.

Thermometrical Observations by Dr. ROBERTSON and Dr. KIRK.

MONTHLY AVERAGE—WINDS.

Months.	Northerly. No. of Days.	Southerly. No. of days.
October*	3	8
November	20	6
December	22	9
January	15	15
February	14	11
March	23	4
April	12	11

* Not always noted.

METEOROLOGICAL TABLE. OCTOBER-APRIL.

Month.	THERMOMETER.									
	Mean Barom.		Mean Min.		Mean of 24 hours.		Mean at 9 a.m.		Mean at 9 p.m.	
	at 9 a.m.	at 9 p.m.	of 24 hours.	of 24 hours.	of 24 hours.	of 24 hours.	Dry.	Wet.	Dry.	Wet.
October
November
December
January
February
March
April

No account of the fall of Rain was kept.

Rain fell in October on 1 days.

November 11 "

December 8 "

January 6 "

February 6 "

March 5 "

April 1 "

Snow fell in October on 0 days.

November 0 "

December 2 "

January 1 "

February 1 "

March 2 "

April 0 "

No. IV.

PLANTS collected by DR. ARMITAGE, DR. KIRK, and DR. PLAYNE in the neighbourhood of RENKIOI, including IDA and OLYMPUS.

	Lat.	Long.	Height.
Ida ..	39° 42'	26° 51'	6,000 feet.
Olympus ..	40° 1'	29° 15'	9,000 "
Renkioi ..	40° 2'	26° 21'	

(Ida was explored in April 1856).
(Olympus was explored June 1855).

NAT. ORDER.	GENUS.	SPECIES.
Ranunculaceae*	Adonis ..	Aestivalis.
	" ..	Autumnalis.
	" ..	Flammula.
	Anemone ..	Apennina.
	" ..	Coronaria.
	" ..	Fulgens.
	" ..	Hortensis.
	Ceratocephalus ..	Falcatus.
	Clematis ..	Cirrhosa.
	" ..	Vinella.
	Delphinium ..	Aconitum.
	" ..	Heliosponticum.
	" ..	Ajacis.
	" ..	Pubescens.
	Nigella ..	Arvensis.
	" ..	Damascena.
	Paeonia ..	Decora.
	Ranunculus ..	Arvensis.
	" ..	Ficaria.
	" ..	Languiosus.
	Thalictrum ..	Flavum.

* De Candolle.

NAT. ORDER.	GENUS.	SPECIES.
Berberidæ ..	Leontice ..	Leontopetalon.
Papaveraceæ ..	Chelidonium ..	Majus.
	Glaucium ..	Flavum.
	" ..	Corniculatum.
	" ..	Rubrum.
	Hypocistis ..	Imberbe.
	" ..	Procumbens.
	Papaver ..	Argemone.
	" ..	Rhœas.
	Roemeria ..	Hybrida.
Fumariaceæ ..	Corydalis ..	Tuberosa.
	" ..	Digitata.
	Fumaria ..	Micrantha.
Cruciferae ..	Alyssum ..	Argenteum.
	" ..	Campestre.
	" ..	Montanum.
	" ..	Saxatile.
	Arabis ..	Bellidifolia.
	" ..	Drabiformis.
	" ..	Verna.
	Aubrieta ..	Deltoides.
	Bunias ..	Erucago.
	Cardamine ..	Græca.
	Cakile ..	Maritima.
	Dentaria ..	Balsifera.
	Draba ..	Muralis.
	" ..	Olympica.
	" ..	Aizoides.
	Iberis ..	Spathulata.
	" ..	Nana.
	Lepidium ..	Draba.
	" ..	Latifolium.
	Malcolmia ..	Lyrata.
	Thlaspi ..	Montanum.
	Eunomia ..	Chlorifolia.
	Erysimum ..	Impestre.
Capparidæ ..	Capparis ..	Spinosa.
Cistineæ ..	Cistus ..	Incanus.
	" ..	Salvifolius.

NAT. ORDER.	GENUS.	SPECIES.
Cistineæ ..	Cistus ..	Villosus.
	Helianthemum ..	Arabicum.
	" ..	Ægyptiacum.
	" ..	Pilosum.
Violaceæ ..	Viola ..	Canina.
	" ..	Gracilis.
	" ..	Odorata.
	" ..	Sylvatica.
	" ..	Tricolor.
Resedaceæ ..	Reseda ..	Luteola.
Polygalæ ..	Polygala ..	Glumacea.
	" ..	Vulgaris.
Caryophyllaceæ ..	Cerastium ..	Manticum.
	" ..	Trigynum.
	Dianthus ..	Atrorubens.
	" ..	Caryophyllus.
	" ..	Capitatus.
	" ..	Diffusus.
	" ..	Carthusianorum.
	" ..	Leptopetalus.
	" ..	Lensophreus.
	" ..	Platifolius.
	" ..	Prolifer.
	Gypsophylla ..	Vaccaria.
	Silene ..	Conica.
	" ..	Conoidea.
	" ..	Cretica.
	" ..	Dichotoma.
	" ..	Gigantea.
	" ..	Juncea.
	" ..	Italica.
	" ..	Linifolia.
	" ..	Otites.
	" ..	Vespertina.
	Velezia ..	Rigida.
	" ..	Quadridenta.
Linææ ..	Linum ..	Augustifolium.
	" ..	Flavum.
	" ..	Nodiflorum.

NAT. ORDER.	GENUS.	SPECIES.
Linææ	Linum	Strictum.
	"	Usitatissimum.
Malvacæ	Althea	Hirsuta.
	"	Pallida.
	"	Rosea.
	Lavatera	Biennis.
	"	Trivincata.
	Malope	Malacoides.
Hypericineæ ..	Malva	Erecta.
	Hypericum	Crispum.
	"	Elegans.
	"	Olympicum.
	"	Veronense ..
Ampelidæ ..	Vitis	Vinifera.
Geraniaceæ ..	Geranium	Striatum.
	"	Tuberosum.
Zygophylleæ ..	Tribulus	Terrestris.
Rutacæ	Dictamnus	Albus.
	Haplophyllum	Buxibauui.
	Peganum	Harmala.
Rhamnææ ..	Paliurus	Australis.
	Zizyphus	Vulgaris.
Terebinthacæ ..	Pistacia	Terebinthus.
	Rhus	Coriaria.
Leguminosæ ..	Anagyris	Fetida.
	Anthyllis	Tetraphylla.
	Astragalus	Aristatus.
	"	Angustifolius.
	"	Excavatus.
	"	Incarnatus.
	"	Hirsutus.
	Cicer	Arietinum.
	Cercis	Siliquastrum.
	Colutea	Arborescens.
	Coronilla	Emerus.

NAT. ORDER.	GENUS.	SPECIES.
Leguminosæ ..	Coronilla	Parviflora.
	Dorycnium	Hirsutum.
	"	Herbaceum.
	Genista	Fovea.
	Glycerhiza	Glabra.
	Hippocrepis	Ciliata.
	Lathyrus	Cicera.
	"	Sativa.
	Medicago	Arvensis.
	"	Maritima.
	"	Orbicularis.
	"	Sphaerocarpus.
	"	Scutellata.
	"	Tuberculata.
	Melilotus	Vulgaris.
	Ononis	Antiquorum.
	"	Pubescens.
	Onobrychus	Æquidentata.
	"	Foveolata.
	"	Sativa.
	"	Saxatilis.
	Ornithopus	Scorpioides.
	Orobis	Hirsutus.
	"	Sessifolius.
	Placa	Astragalina.
	Pisum	Arvense.
	"	Sp. ?
	Psoralea	Bituminosa.
	Scorpiurus	Sulcatus.
	Spartium	Junceum.
	"	Villosum.
	Trifolium	Purpureum.
	"	Ochroleucum.
	Trigonella	Hamosa.
	"	Spicata.
	Vicia	Cracca.
	"	Cracoides.
	"	Elegans.
	"	Narbonensis.
	"	Peregrina.
	"	Polyphylla.
Rosacæ	Amygdalus	Communis.
	Cratægus	Oxyacantha.

NAT. ORDER.	GENUS.	SPECIES.
Rosaceæ	Geum	Coccineum.
	"	Sylvaticum.
	Potentilla	Canescens.
	"	Fragariastum.
	"	Reptans.
	"	Verna.
	Poterium	Sanguisorba.
	"	Spinosum.
Rosa	"	Canina.
	Rubus	Sp. ?
Granaceæ	Punica	Granatum.
Onagrarie	Epilobium	Alpinum.
	Cercæa	Lutetiana.
Haleragæ	Halerago	Sp. ?
Lythrarie	Lythrum	Salicaria.
Tamariscinæ	Tamarix	Gallica.
	"	Tetrandra.
Myrtaceæ	Myrtus	Communis.
Cucurbitaceæ	Bryonia	Dioica.
	Momordica	Elaterium.
Crassulaceæ	Cotyledon	Umbilicus.
	Sedum	Saxatile.
Saxifragæ	Saxifraga	Cernua.
	"	Hederacea.
	"	Granulata.
	"	Media.
	"	Rotundifolia.
	"	Sp. ?
Umbelliferae	Bupleurum	Nodiflorum.
	"	Odontites.
	"	Rotundifolium.
	Cascalis	Latifolia.
	Perula	Nodiflora.
	Tordylium	Apulum.

NAT. ORDER.	GENUS.	SPECIES.
Umbelliferae	Tordylium	Officinale.
	Smyrniolum	Perfoliatum.
Araliaceæ	Hedera	Helix.
Loranthaceæ	Viscum	Album.
Caprifoliaceæ	Lonicera	Caprifolium.
	"	Etrusca.
Rubiaceæ	Galium	Aparine.
	"	Coronatum.
	Rubia	Verum.
Valerianæ	Valeriana	Dioica.
	"	Officinalis.
Dipsacæ	Asterocephalus	Eburneus.
	Dipsacus	Fulconum.
Compositæ	Achillea	Clypeata.
	Anthemis	Altissima.
	"	Cryocephalus.
	"	Sp. ?
	Aster	Tripolium.
	"	Sp. ?
	Buphthalmum	Spinosum.
	Calendula	Arvensis.
	Carthamus	Lanatus.
	Centaurea	Syriaca.
	"	Crupina.
	"	Parviflora.
	"	Solstitialis.
	"	Spinos.
	Chrysanthemum	Segetum.
	Conyza	Limonifolia.
	Crepis	Rubra.
	Cichorium	Puberulum.
	Doronicum	Pardalianches.
	Erigeron	Viscosum.
	Geropogon	Hirsutum.
	Lapsana	Vulgaris.
	Santalina	Anthemoides.

NAT. ORDER.	GENUS.	SPECIES.
Compositæ	Santolina	Maritima.
	Senecio	Crassifolius.
	"	Vernalis.
	Seriola	Lavigata.
	Pyrethrum	Maritimum.
Vaccinæ	Inula	Viscosa.
	Vaccinium	Myrtillus.
Ericacæ	Arbutus	Andrachne.
	"	Unedo.
	Bruckentalia	Spiculifolia.
	Erica	Arborea.
Ebenacæ	Styrax	Officinalis.
Jasminæ	Ligustrum	Vulgare.
	Jasminum	Fruticans.
	Phillyrea	Media.
	Olea	Europea.
Apocynæ	Cionura	Alba.
	Cynanchum	Acutum.
	"	Monspeliacum.
	Periploca	Græca.
Gentianæ	Gentiana	Verna.
Convolvulacæ	Convolvulus	Arvensis.
	"	Canabrica.
	"	Althæoides.
	"	Var. Argyreus.
	"	Pseudosiculus.
	"	Sabatius.
Boraginæ	"	Tenuissimus.
	Anchusa	Undulata.
	Asperugo	Procumbens.
	Alkanna	Tinctoria.
	Borago	Orientalis.
	Cynoglossum	Pictum.
	Echium	Violaceum.
	Heliotropium	Circinatum.
Lithospermum	Lithospermum	Purpureocorru- leum

NAT. ORDER.	GENUS.	SPECIES.
Boraginæ	Myosotis	Alpestris.
	"	Olympica.
	"	Pusilla.
	Onosma	Echioides.
	"	Montana.
Solanacæ	Datura	Stramonium.
	Hyoscyamus	Albus.
	"	Niger.
	Lycium	Europæum.
	Physalis	Alkekengi.
	Verbascum	Floccosum.
	"	Sinuatum.
	"	Triste.
	"	Sp. ?
	"	Ramosum.
Scrophularinæ	Digitalis	Ferruginea.
	Bartsia	Trixago.
	Scrophularia	Bicolor.
	"	Georgica.
	Pedicularis	Sibthorpii.
	Veronica	Anagallis.
	"	Cespitosa.
	"	Cymbalaria.
	"	Gentianoides.
	"	Jacquinii.
Orobanchæ	"	Thymifolia.
	Trixago	Carnea.
	Orobanchæ	Ramosum.
Acanthacæ	"	Sp. ?
	Acanthus	Spinosus.
Verbenacæ	Vitex	Agnus castus.
Labiatæ	Ajuga	Chia.
	"	Genevensis.
	Lamium	Maculatum.
	"	Longiflorum.
	"	Rugosum.
	Lavandula	Stæchas.
	Marrubium	Perigrinum.

NAT. ORDER.	GENUS.	SPECIES.
Labiate	Phlomis	Pungens.
	Prasium	Majus.
	Prunella	Laciniata.
	Salvia	Arvensis.
	"	Ethiopsis.
	"	Horminum.
	"	Pratensis.
	"	Viscosa.
	"	Sclarea.
	Satureia	Capitata.
	Sideritis	Montana.
	"	Lanata.
	Stachys	Dasyantha.
	"	Cretica.
	"	Orientalis.
	Teucrium	Polium.
	"	Regium.
	Thymus	Acicularis.
	"	Vulgaris.
Primulaceæ	Anagallis	Corulea.
	Androsace	Olympica.
	Lysimachia	Atropurpurea.
	Samolus	Valerandi.
Globulariæ	Globularia	Cordifolia.
Plantaginæ	Plantago	Lagopus.
	"	Psyllium.
Polygonæ	Rumex	Taberosus.
Thymelææ	Chlamydanthus	Buxifolia.
	"	Tartouira.
Santalacææ	Osyris	Alba.
Eleagnææ	Eleagnus	Augustifolius.
Cytinææ	Cytinus	Hypocistis.
Aristolochiæ	Aristolochia	Clematidis.
	"	Hirta.

NAT. ORDER.	GENUS.	SPECIES.
Aristolochiæ	Aristolochia	Rotunda.
Euphorbiacæ	Euphorbia	Amygdaloides.
	"	Chamosyria.
	"	Guradiana.
	"	Myrsinitis.
	"	Sp. ?
Urticææ	Crotophera	Tinctoria.
	Ficus	Carica.
	Humulus	Lupulus.
	Morus	Alba et nigra.
	Parietaria	Officinalis.
	Urtica	Urens.
Juglandacææ	Juglans	Regia.
Amentacææ	Castanea	Sativa.
	Corylus	Avellana.
	Platanus	Orientalis.
	Quercus	Brutia.
	"	Cerris.
	"	Coccifera.
	"	Infectoria.
	"	Ilex.
	"	Eglops.
	"	Pabescens.
Salix	Salix	Sp. ?
	Salix	Sp. ?
Coniferææ	Ephædra	Distachya.
	Cupressus	Horizontalis.
	"	Sempervirens.
	Pinus	Maritima.
	Juniperus	Pinaster.
Orchidææ	Cephalanthera	Rubra.
	Habenaria	Sp. ?
	Limodorum	Abortivum.
	Ophrys	Cornuta.
	"	Fusca.
	"	Lutea.
	"	Oxyrynchus.
	"	Speculum.
"	"	Sp. f
	"	Sp. f

NAT. ORDER.	GENUS.	SPECIES.
Orchideæ	Orchis	Acuminata.
	"	Laxiflora.
	"	Papilionacea.
	"	Romana.
	"	Sambucina.
	"	Simia.
	"	Sp. ?
	"	Sp. ?
Iridæ	Crocus	Gargaricus.
	"	Hybernus.
	"	Masiacus.
	"	Pulchricolor.
	"	Susianus.
	"	Vernus.
	Gladiolus	Segetus.
	Iris	Biglumis.
	"	Lutescens.
	"	Pseudacorus.
	"	Pumila.
	Trichonema	Bulbocodium.
Asparagæ	Asparagus	Acutifolius.
	Ruscus	Aculeatus.
	"	Hypoglossus.
	Smilax	Aspera.
	Tamus	Communis.
Liliacæ	Allium	Guttatum.
	"	Sp. ?
	Asphodelus	Luteus.
	"	Ramosus.
	Fritillaria	Pontica.
	Gagea	Arvensis.
	Muscari	Comosum.
	"	Racemosum.
	"	Sp. ?
	Ornithogalum	Comosum.
	"	Fimbriatum.
	"	Nanum.
	"	Narbonense.
	"	Nutans.
	"	Prasandrum.

NAT. ORDER.	GENUS.	SPECIES.
Liliacæ	Ornithogalum	Pyrenaicum.
	"	Umbellatum.
	Scilla	Bifolia.
	Tulipa	Clusiana.
Melanthacæ	"	Turcica.
	Colchicum	Montanum.
	Bulbocodium	Trigynum.
Zosteracæ	Zostera	Marina.
Aroidæ	Arum	Dracunculus.
Typhacæ	Typha	Latifolia.
Graminæ	Egilops	Ovata.
	Briza	Major.
	Lolium	Temulentum.
	Lagurus	Ovatus.
	Lappago	Racemosa.
	Phleum	Alpinum.
	Sclerochlea	Rigida.
	Setaria	Viridis.
Filices	Asplenium	Adiantum nigrum.
	"	Trichomanes.
	Adiantum	Capillus Veneris.
	Ceterach	Officinatum.
Equisetacæ	Pteris	Aquilina.
	Equisetum	Telmateia.

Plants cultivated in the Vicinity of Renkioi.

Barley,	Vegetable Marrow,
Maize,	Bottle Gourd,
Millet,	Capsicum,
Wheat,	Tomatoe,
Oats,	Bamia (Abelmoschus Escu-
Vine,	lentus),
Almond,	Aubergine (Solanum Ovige-
Mulberry (white and black),	rum),
Fig,	Lettuce,
Cherry,	Garlic,
Pomegranate,	Sesame (Sesamum Orientale),
Pear,	Cotton,
Water Melon,	Tobacco,
Sugar Melon,	Carrot.
Cucumber,	

Native Vegetable Productions.

a Timber	Pine,
"	Walnut,
"	Elm,
"	Oak,
"	Willow,
"	Ash,
b Valonea	Quercus Ægilops.
"	Cerris.
c Oak galls	Quercus infectoria.
d Liquorice	Glycyrrhiza glabra.
e Capers	Capparis Spinosa.
f " Gram"	Cicer arietinum.

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SIR JOHN HALL'S REJOINDER

TO

DR. SUTHERLAND'S REPLY

TO HIS

OBSERVATIONS

ON

THE REPORT OF THE SANITARY
COMMISSIONERS,

AT

THE SEAT OF WAR IN THE EAST,

IN

1855 AND 1856.

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LONDON:

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—  
1858.

## REJOINDER.

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It is neither my wish, nor my intention to enter at length into the Reply which Dr. Sutherland has made to my remarks on the Report of the Sanitary Commissioners in the Crimea; but, as some of his observations, if allowed to remain unexplained, would give an erroneous impression to the reader, I feel called on to advert to them, and in doing so, as the Doctor has disclaimed all idea of personality, I beg he will receive what I am about to say with the same feeling of charity that his own remarks were written in.

No one, I believe, undervalues the importance of sanitary arrangements either on service in the field, or in the fixed abodes of man; and few, I think, would deny the advantage of admitting a course of instruction on public health into the curriculum of education of all medical men, whether civil or military. But if Dr. Sutherland means it to be inferred, from what he states, that knowledge of this kind is confined to a few individuals, the profession at large, I imagine, would demur to such a doctrine, for no one can study the medical profession properly without becoming acquainted with the laws of health, as well as of disease; and the technicalities of what is termed sanitary science may be easily and readily obtained from the epitomised editions of the Health of Towns Report, and the suggestions arising therefrom, which individuals have favoured the world with in popular forms. It was to these I referred in my observations, and I am sorry they do not meet with the Doctor's approbation, which I thought they would have done, considering the apparently extensive use he has made of them, and of the writings of military authors, in his sanitary recommendations.

So much importance do I attach to sanitary instruction, that I would not only admit it into the curriculum of medical education, but I would make it obligatory on all staff officers of the army to attend a course of such lectures; and, I think, a plain code of instructions for the management of health might be drawn up with advantage for the guidance of the private soldiers, as, I understand, is the practice in some of the continental armies.



These instructions should be read and explained to the men by their officers, or, what would, perhaps, answer as well or better, they might be printed in their small account books for easy reference.

This discussion, however, is not of any importance. The main question, and the one which interests the British public, is whether the labours of Dr. Sutherland, and the other highly paid Sanitary Commissioners, with their expensive train of inspectors and scavengers, who were sent out to the East in 1855, were essentially necessary to the welfare of the army in the Crimea, and whether the sickness and mortality of the troops there were in any appreciable degree affected by their labours. I say no, and in this opinion I think I shall be joined by most men who served there.

The Commissioners arrived at Balaklava at the end of March 1855, when the difficulties the army had laboured under during the winter were being rapidly surmounted, and when health was returning to its ranks with the genial weather of spring; and, in my opinion, the result would have been equally favourable had they never set foot there. Their labours were confined principally to Balaklava; and with plenty of time on their hands, and means placed at their disposal, it was not very difficult for them to give a creditable detail in their Report of so many basket or hand-barrowfuls of dirt taken from one place and thrown into another, of so many stercoraceous deposits scented out on the hill sides, behind old walls and buildings, and in the neighbouring ravines, and of so many paunches of animals fished out of the harbour and disposed of. In fact, when the Commissioner mounts his savage cheval he rides full tilt, and won't even look at the humble labours of his neighbours.

Dr. Sutherland, in his reply to my observations, is cynical about my recorded sanitary labours; but I beg to remind him that many suggestions are made by the principal medical officer of an army on service in the field to the general in command, which are never committed to writing, and he forgets that the daily detail of management and supply of all the hospitals in the Crimea, which at one time amounted to nearly 100, had to be attended to by me. This duty occupied much of my time, and was a constant source of toil and anxiety to me; and if he will permit me I will contrast it with his more agreeable position, as detailed in the following extract from a letter, written by a gentleman who was intimately associated with him for some time after his arrival in Balaklava:—"I look on Dr. Sutherland and the Commission as the same body virtually. Having messed and

associated with that individual for some weeks on his first arrival in the Crimea, I am enabled to give some of his impressions with respect to the sanitary state of our army. I judge from what dropped from his own lips, in conversation with myself and others. When well, he was talkative and communicative, with a disposition to look upon matters in rather an exaggerated and sentimental light. He was so engaged in writing in his cabin on board the 'Walmer Castle' when the cholera broke out and gave just cause for alarm, that even the captain and officers of the ship exclaimed—"Of what use is this man?"

"The weather was fine in April, when I and others used to take our evening walk to Kadekol, and stroll over the ground where Dr. Sutherland says that he saw human bodies buried almost in water, and so sparingly covered with earth that even their remains protruded through the surface. This statement I condemn as a ———, and an insult to our common sense feeling of decency, and I cannot conceive how Dr. Sutherland could dare to publish it in his Report."

Dr. Sutherland, at page 31 of his reply, states that the Sanitary Report does not say anything about the burial of the dead from the hospitals in the British burial-ground at the head of Balaklava harbour; but as that was the burial-ground of all who died in hospital there during part of the winter of 1854-5, if the Report does not allude to them, to whom does it allude?

Again, at page 22, he says, "The Military Board of Health 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."

The Military Board of Health did not advert to the British burial-ground in their Report, as they, like many thousand others who passed along the road close to it daily, failed to discover what Dr. Sutherland has described in his Report; and, I think, few men would have hazarded so bold an assertion as that given at the close of the above sentence. The Turkish burial-ground at the head of the harbour had been the subject of a special inquiry on account of its offensive condition, arising from the number of bodies deposited in it, and the superficial manner in which they were buried, and it was ordered to be closed, and the graves covered over with additional earth mixed with quick lime, which was carried into effect before the arrival of the Sanitary Commissioners, though I see they take credit for doing something of the same kind, without making any allusion to the previous labours of the military authorities. It is but fair to assume, had the British burial-ground been in the condition described by

Dr. Sutherland, it must have attracted the attention of either the Board of Mixed Officers appointed to inquire into the condition of the Turkish graveyard, which was not more than 150 yards from it, or the Special Military Medical Board of Health, as neither of them had any object to attain by concealing the circumstance, if the graveyard were in the state described by Dr. Sutherland.

This graveyard, which is put so prominently forward in Dr. Sutherland's Report and Reply, was a slip of ground by the road side at the head of the harbour, distant, I should say at a guess, about 250 yards from the general hospital. It was of small extent, and was only used during part of the winter, as the dead were buried at the foot of the vineyard, in front of the general hospital, when the army first took possession of Balaklava; and early in the spring of 1855, they were taken to a new burial-ground, about a quarter of a mile beyond the village of Kadakoi.

The piece of ground at the head of Balaklava harbour, in part of which the dead from the hospital were buried, and on which the Sanitary Commissioners expended so much of their labour, did not measure more than about 100 yards from the water of the harbour to the bridge over the small brook up the valley, and about as many from the road on the eastern side of the valley to where the brook discharged itself into the harbour originally, but a more direct course was cut for it afterwards to drain the valley of Balaklava. This piece of ground, which formed a truncated cone, was mired for some distance from the water of the harbour, and required an immense amount of labour and material to render it fit to erect wharves and storehouses on, which was eventually done, and they were of great convenience to the commerce of the port, but of insignificant importance to the health of Balaklava. The main trunk drain originally recommended by me—recommended again by the Military Board of Health, and finally cut the whole length of the valley to Kadakoi, was a measure of greater sanitary importance to the neighbouring camps than the petty sewage of the small village of Balaklava, to which the commissioners devoted so much of their time and attention, and from which Dr. Sutherland draws such exaggerated and erroneous conclusions, as I shall make manifest by and by.

#### BALAKLAVA,

which has been raised to the dignity of a small town by the Sanitary Commissioners, is a mere fishing village, the male inhabitants of which fled on its being taken possession of by the English, and the women and children were removed shortly after-

wards, by order of the Commander-in-Chief. Balaklava had the defects of all Eastern villages; and during the wet weather of the winter of 1854-5, the main street and quay, which were unpaved, became, from the constant traffic of men and animals, almost impassable.

Dr. Sutherland says, a sanitary police should have been established for the health of the troops in occupation, immediately the town was taken possession of. Now, as there were no troops in occupation of the place in the first instance, beyond a few invalids encamped near the general hospital, and as not a single soldier could be spared from his immediate and proper duty in front, and there were no civil inhabitants in the place, I should like to ask him how he would have managed to carry the measure out had he been there? I admit the advantage of a sanitary police in towns, but there was no means of carrying it into effect at Balaklava during the winter of 1854-5. It is true I might have made a written representation to the Commander-in-Chief, and put on record, as the term then was, my opinion on the subject; but knowing Lord Raglan's disposition to do all in his power for the good of the soldiers under his command, and knowing his inability to spare a single man at the time, I did not think it right to embarrass him by doing so.

In November, the sick of the Turkish army took possession of a number of houses in the village, and an effort was made to obtain Turkish soldiers for the sanitary affairs of Balaklava, and some were granted in November by the Pasha in command of the nearest Turkish camp; but the men were disgusted with the employment, and the prejudices of their faith rendered it still more irksome to them under Christian command, so that little good was effected by the measure. Any one who has ever served with an allied army, where the supreme command is not vested in one person, will readily understand the difficulty that was experienced in dealing with that part of the village which was occupied by the Turks; but after the arrival of the 71st Regiment, in Dec. 1854, some progress was made in repairing the streets and quay, but it was slow work, as the men had neither hand-carts nor barrows, and they were compelled to carry the stones in their hands. Fortunately, the cold of winter prevented any injurious effects from the filthy state of Balaklava; and when the Turkish sick were removed out of the place, immediate steps were taken to purify the houses they had occupied by lime-washing. About this time the railway navvies began to pull down houses to form the line of rail which ran through two-thirds of the village, and when the Sanitary Commissioners arrived at Balaklava at the end



of March 1855, these operations were in progress. The streets and quays were being repaired by the debris of the houses pulled down by the railway navvies, and Lieut.-Colonel Hardinge, the active and intelligent commandant of the place, was using energetic means to remove the accumulated dirt, not of six months, as stated by Dr. Sutherland, but of years, and in due course of time it would have been accomplished, and wharves would have been built, and other improvements carried out if the Commissioners had never arrived.

Dr. Sutherland himself must have been impressed with this idea, for when applied to in his capacity of Sanitary Commissioner about an accumulation of dirt near some huts that were occupied by native drivers and railway navvies, he referred the applicant to the commandant, observing, to the amazement of several persons who were present, that he had nothing whatever to do with the removal of nuisances. At a subsequent period the commandant, I was told, had even to remonstrate with the Sanitary Commissioners concerning the filth which had been allowed to accumulate in the immediate neighbourhood of their own dwelling.

At page 28, in his reply, Dr. Sutherland states, "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." This is a broad assertion of the doctor's, which is unsupported by experience, for it is well known that the troops encamped around Balaklava were infinitely healthier than those in front during the whole of the winter and spring of 1854-5, and at that period the place was certainly in its worst sanitary condition, so far as mud and other impurities were concerned, but the cold of winter rendered them in a great measure innocuous, so that the statement may be taken as a mere assumption on the part of Dr. Sutherland; and to prove that privation, exposure to inclement weather, and excessive duty, were the main causes of disease in the British army, one need only contrast a division encamped in front with one encamped in the immediate vicinity of Balaklava during the winter of 1854-5. Or what would be still more to the point, the 71st Regiment might be taken as an example, the reserve battalion of which, 417 strong, arrived from England at Balaklava about the middle of December 1854, and was landed and encamped at the head of the harbour for nine or ten days, when it was brought into the village, and quartered in houses and tents near the general hospital. In February, the 1st battalion, 473 strong, joined at Balaklava from Corfu, and the whole regiment was huddled in a

ravine above 250 yards above the head of the harbour, leading to the eastern heights of Balaklava, and remained there until the month of May, when it embarked with the expedition for Kertch. During the months of December 1854, and January 1855, only two deaths are returned in the regimental monthly sick returns, and as these were both from cholera, I apprehend their sick must have been treated and accounted for in the general hospital at Balaklava.

In February 1855, when their own regimental hospital was established, the surgeon returns 87 admissions and 5 deaths, out of a strength of 890 men; in March, 143 admissions and 5 deaths; and in April, 101 admissions and 4 deaths. In May the regiment embarked for Kertch.

The improvement in health of the brigade of Guards, which was brought down from the plateau in front of Sebastopol to the western heights of Balaklava, towards the end of February 1855, was very marked indeed; but as the health of the whole army was at that time beginning to improve, the same importance cannot be attached to this instance as to the cases of the regiments that were encamped near Balaklava during the whole winter; and I will merely give as an example the admissions and deaths in the Guards during January 1855, the month before they came down to Balaklava from the plateau in front of Sebastopol, and during the month of March, the month after their arrival on the western heights of Balaklava.

|                                                                      |                                 | Strength. | Admissions. | Deaths. |
|----------------------------------------------------------------------|---------------------------------|-----------|-------------|---------|
| On Plateau before Sebastopol.                                        | January, 1855, Grenadier Guards | 415       | 295         | 26      |
|                                                                      | " Coldstream Guards             | 429       | 182         | 35      |
|                                                                      | " Fusilier Guards               | 530       | 169         | 34      |
|                                                                      |                                 | 1374      | 619         | 95      |
| Being a ratio of Admissions to strength per month of 45.05 per cent. |                                 |           |             |         |
| And of Deaths to strength " 6.91 per cent.                           |                                 |           |             |         |
| On Western Heights of Balaklava.                                     | March, 1855, Grenadier Guards   | 325       | 68          | 0       |
|                                                                      | " Coldstream Guards             | 326       | 101         | 10      |
|                                                                      | " Fusilier Guards               | 725       | 106         | 2       |
|                                                                      |                                 | 1376      | 275         | 12      |
| Being a ratio of Admissions to strength per month of 19.98 per cent. |                                 |           |             |         |
| And of Deaths to strength " 0.08 per cent.                           |                                 |           |             |         |

The sickness and mortality in the Coldstream Guards were increased during the month of March by their occupation of some huts at the head of the harbour, near the Turkish burial-ground, which had been objected to by me, and there some cases of spotted

typhus fever occurred amongst the men before they were removed to the heights above.

The health of a wing of the 2nd battalion Rifle Brigade, which was quartered on the eastern heights of Balaklava during the winter, was comparatively good, while the other wing, which was stationed on the plateau in front of Sebastopol, suffered severely. The wing above Balaklava, which was 321 strong, lost only two men by disease during the quarter ending 31st March, 1855. One, a case of dysentery, and the other a case of apoplexy.

The light division, (which was encamped on the plateau in front of Sebastopol, had a fair share of the toil and privation which the army underwent during the winter of 1854-5, and was not more unhealthy than its neighbours,) may be contrasted with the cavalry division which was encamped in the Kadekoi valley, and two troops of horse artillery, one of which was encamped with the cavalry division in the Kadekoi valley, and the other close to Balaklava.

In the month of December, the cavalry division, consisting of the 4th and 5th Dragoon Guards, 1st, 2nd, and 6th Dragoons, 4th and 13th Light Dragoons, 8th and 11th Hussars, and 17th Lancers and C and I troops of Horse Artillery,

| Out of a strength of . | Admitted | and Lost | by Death. |
|------------------------|----------|----------|-----------|
| 1855 January . . . . . | 2386     | 537      | 16        |
| February . . . . .     | 2328     | 339      | 29        |
| March . . . . .        | 2268     | 274      | 11        |
|                        | 9616     | 1891     | 63        |

which gives a ratio of 78.66 per cent. of admissions to mean strength, and of 2.62 per cent. of deaths to mean strength, during the four months; but it must be borne in mind that these regimental returns merely embrace the medical transactions in the Crimea, and do not include the deaths in general hospital at Scutari. The same rule applies to the following statement, regarding the light division for the same period.

Regiments:—7th Fusiliers; 19th Regiment; 23rd Fusiliers; 33rd Foot; 34th Foot; 77th Foot; 88th Foot; 90th Foot; left wing 2nd Battalion Rifle Brigade; and, in February and March, the 97th Foot.

|                          | Strength | Admitted | Died |
|--------------------------|----------|----------|------|
| December, 1854 . . . . . | 5999     | 1663     | 238  |
| January, 1855 . . . . .  | 5061     | 1742     | 305  |
| February, " . . . . .    | 5337     | 1327     | 182  |
| March, " . . . . .       | 5391     | 851      | 97   |
|                          | 20879    | 5583     | 842  |

which gives a ratio of 106.95 per cent. of admissions to the mean strength, and of 16.13 per cent. of deaths to mean strength.

I have entered more at length into this subject than may be deemed necessary by some; but I was anxious to show that dirty as Balaklava was, it was not, even during the very worst period of its wretchedness, the focus of disease that has been represented by Dr. Sutherland in his Report and Reply. Nor can I believe he could ever have seriously thought it was so, or he would never have permitted the Army Works Corps to place one of their hutted encampments in the bed of the Balaklava valley, not more than 200 or 250 yards from the head of the harbour, and close to the Turkish and British burial-grounds, which have been so graphically described by him. It was not only near to these two burial-grounds, but close to, if not partly on, the burial-ground which was used by the Turks for a time after that at the head of the harbour had been closed in consequence of the Report of the Mixed Board which was assembled to take its condition into consideration. The encampment of the Army Works Corps was, in my opinion, placed in about as objectionable a site as it was possible to select; and I remember recommending the medical officer in charge to protest against its continuance. The medical officers of the Army Works Corps were not placed under my direction, nor did they report to me for the Commander-in-Chief's information, until March 1856, and beyond supplying their wants from the general medical stores of the army, I had no control over them; but on one occasion I recollect the medical officer in charge of the encampment complaining to me of the amount of sickness in the division, and my remarking I was not surprised at it from the site of their camp, which was in every way objectionable, and he ought to protest against it.

Now, it may be fairly asked, what could the Sanitary Commissioner have been thinking of to permit such a contradiction to his own expressed opinion to be carried out under his very eyes? I challenge him to produce anything more at variance with the laws of sanitary science in the whole army arrangements than this was; and in this case there was not even the plea of necessity to be advanced, as the Army Works Corps were not, like the army, compelled to be placed wherever military reasons required them.

At page 24 of his Reply, Dr. Sutherland says, "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."



This sentence must have been written for mere effect, as Dr. Sutherland cannot surely mean seriously to assert, that the ground occupied by the allied army before Sebastopol was peculiarly unhealthy. He knows, or ought to know, perfectly well that it was not so; and lamentable as the condition of the British army encamped there was in the winter of 1854-5, it was not owing to locality, or want of ordinary camp sanitary arrangements, which were enjoined by General Order, and in force when the army took post there, but to the depressing effects of constant exposure to wet, inclement weather, want of proper clothing, fuel, and shelter, and excessive duty, and insufficient means of cooking the rations which were issued to the men. These were the true sources of disease in the British army in the Crimea, and they were pointed out by me to Lord Raglan as early as November 1854, in as forcible language as I could use. I not only pointed them out, but I ventured to predict the result that would probably ensue if immediate measures were not taken to remedy them. I received for answer, through the Adjutant-General, "that Lord Raglan was as well aware of the condition of the army as I was," and General Estcourt added, "there are only two courses open to us in our present position, either to abandon the siege altogether for a time, or to conduct it with a certain loss of human life until the defects you mention are removed." During the hardships of the winter of 1854-5, when it was a bare struggle for existence with every one, ordinary camp regulations were to a certain extent overlooked in the general misery, and perhaps this was a circumstance of little importance so long as the country remained locked up in frost and snow; but immediately there was an appearance of open weather, I deemed it expedient to call attention to the necessary sanitary rules in camp, which were in abeyance, and the letter of the 24th January, 1855, to the Adjutant-General, at which Dr. Sutherland sneers, was written.

The doctor says, that as the country had been described by travellers and residents, as peculiarly unhealthy, more than ordinary precautions should have been taken. I admit this, if it had been found to be so on our arrival, but such was not the case. I had no means of access to the works of travellers. I was not certain the army was going to the Crimea until near the period of its embarkation, and I had no time to spare from important daily pressing duties, to draw up theoretical instructions to meet imaginary contingencies; but I did what was a better thing, I placed at the disposal of the medical officers of the army the following works, which had been considerably sent out for their instruction by the Director-General of the Army Medical

Department, and I informed them by a department circular memorandum, in November 1854, that any officer who chose to apply at the medical store, would be supplied with a copy of any one, or all of them:—

- "On Premonitory Diarrhoea in Cholera, by Dr. M'Langlin."
- "On the Diseases in Turkey, in reference to European Troops, by Dr. Shulkof."
- "On the Personnel and Material for an Army of 30,000 men sent out to Turkey."
- "On some Specialities in the Remittent Fever of the Levant, by Dr. Bryce."
- "On the Prophylactic Influence of Quinine, by Dr. Byrson and Mr. Drummond."

It must be borne in mind, when the army landed in the Crimea, it was generally believed that an attempt would be made to carry Sebastopol by a *coup de main*; and when it broke ground before the place, no one supposed the town would hold out more than a week, and until after the battle of Inkerman, on the 5th of November, few had any idea the army would have to winter on the plateau in front of Sebastopol. It was certainly very inadequately provided for such an undertaking; even the elements warred against the enterprise, and the result was very disastrous. I was absent from the Crimea from the 1st to the 23rd of October, 1854, but Dr. Dumbuck, an active, intelligent, and very energetic officer, who officiated as principal medical officer in my absence, did all in his power to further the sanitary concerns of the army; but the power of military medical officers in such matters, as is well known, is limited to suggestions and recommendations. They are not accompanied by engineers, inspectors of nuisances, and scavengers, as Dr. Sutherland was, or they would in all probability have effected as much as he did, had they been invested with the same power; but even he, I suspect, would have accomplished little, had he arrived in the first bustle of disembarkation and military preparation, when every man in the army was fully occupied with his own duties, and civilians could not be obtained for either love or money; indeed, judging from what I saw of Dr. Sutherland in comparatively quiet times, I think he would have been as helpless as any man breathing under such circumstances.

At page 21, Dr. Sutherland says, "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 of Sir John McNeill and Colonel Tulloch, with the Sanitary

Commissioners, arrived at Constantinople on board the French mail packet, on 6th of 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 inference here implied I do not object to. It is a legitimate deduction from what was stated in my observations, but it is not correct for all that. Sanitary matters had, long previous to the appointment of that board, been the subject of official correspondence with the Director-General of the Army Medical Department, and of consultation and correspondence with the military authorities on the spot, as far back as August 1854. It was in consequence of the conflicting opinions of medical officers, elicited in collecting material to enable me to furnish the statement Dr. Smith requested in January 1855, that I came to the conclusion, the general and uniform sanitary arrangements of the army would be most effectually secured by a board of superior medical officers assembled by order of the Commander-in-Chief, the proceedings of which, if approved by him, would have the support of his authority. Under this impression, my letter of the 8th of March, 1855, was written; but at that time I was not aware of the arrival of the Sanitary Commissioners at Constantinople on the 6th of the month, nor indeed, do I even think that I had then heard of their appointment, so that their arrival at a distant port could not possibly have influenced my application to the Commander-in-Chief. In my observations at page 52, there is an error in the date of the arrival of the Sanitary Commissioners at Scutari, which I beg to correct; it ought to have been the 6th of March, 1855, instead of the 26th, as printed in the observations.

At page 18, in his Reply, Dr. Sutherland makes a greater mistake than this, about the period of signing the armistice with Russia, and in his anxiety to convict me of error, he departs from his usual courteous and guarded style of writing, and indulges in stronger expressions than the case exactly merits. I stated in my observations, "that it appeared the privies themselves at Scutari were left in their original state, until March and April 1856, 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 a wanton waste of public money." Dr. Sutherland says, this is "simply contrary to fact." "The original state of the drainage was improved twelve months before, by temporary means well known to sanitary engineers, and the first soil-pans were put up in February 1856, while the real fact being, that the armistice was agreed to in the middle of March." Unfortunately for the

doctor's *real fact*, the armistice was agreed to early in February 1856, and was officially notified to the army in the Crimea on the 28th of that month. My observations had reference solely to the privies within the hospitals, and not to the hogsheds placed outside the walls of the building for flushing the drains, and it scarcely merited the harsh term applied to it, as I meant one thing and Dr. Sutherland another. With regard to the patent water-closets, I admit having overlooked the following observation in Mr. Unsworth's Journal, of work performed at Scutari, during the month of February 1856. "Some of the private quarters, at the barrack hospital, were provided with soil-pans and flushing cisterns, and six soil-pans were also fixed at the south-west angle of the barrack hospital, with a supply of water from the Turkish cistern." These, though overlooked by me, were not put up until after the armistice had been agreed to, on the 1st of February.

In his Journal for March 1856, Mr. Unsworth says, "At the barrack hospital thirty-six soil-pans with new seat boards, and six urinals, were put up in the north-east angle of the building; down pipes and stench traps being also provided."

In the month of April 1856, when peace had actually been proclaimed, Mr. Unsworth continues:—"During the month of April, the greater part of the labour at the disposal of the Sanitary Commission was employed in replacing the Turkish privies at the barrack hospital with soil-pans, with the requisite fittings, and connections to afford them a good and plentiful supply of water." If this, considering that active measures were then being taken to remove the sick from the hospital as speedily as possible, without any chance of their being replaced by others from the Crimea, does not prove a useless and extravagant waste of public money, I have nothing further to say.

At pages 25 and 26, in his Reply, Dr. Sutherland says the Commissioners recommended "surface draining of the ground around huts, ridge pole ventilation, and lime-washing all huts externally to keep them cool." "The plan proposed for ventilating huts by louvered 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."

The drainage of huts and tents had been adopted from the commencement of the campaign, and the temporary expedient of piling stones or earth against the huts when they were first erected, was to prevent them from being blown over by the wind, and



perhaps more importance has been attached by the Commissioners to this plan than it merits, for the interior of the huts was influenced more by the surface drainage, than by this expedient, which was continued to the very last without much detriment to the men's health. This plan of external protection to the huts was not only continued, but during the winter of 1855-6 it was much extended, and many huts were cased with rough masonry up to their very eaves, to the comfort, not detriment, of their inmates.

The plan of lime-washing the huts, recommended by the Sanitary Commissioners, was mischievous in its results, as it destroyed the texture of the felt covering, and rendered them leaky. Having this probable result in view, and conceiving that the temperature of the huts depended as much on the free circulation of air through them as on the colour of their roofs, I made that objection to the Commissioners' plan, when it was submitted for my opinion by the Quarter-Master-General.

The louvre turreted plan of ventilation, which was carried out in the light division by Mr. Alexander, and figured in the Commissioners' Report, was recommended by the Military Board of Health, and the ridge board plan, which Dr. Sutherland says the Commissioners recommended to be adopted, was also actually in use on their arrival in the Crimea; and Dr. Jephson, surgeon at present of the 1st King's Dragoon Guards, who suggested it from what he had seen at one of the hill stations in India, will be astonished at the doctor's assumption of credit for a recommendation that is due to himself. It is the more surprising that Dr. Sutherland should have overlooked this mode of hut ventilation, as it was adopted first at the castle hospital, Balaklava, where he had many opportunities of seeing it.

At page 32, in his Reply, Dr. Sutherland says, "The Commissioners are called to account for making certain supposititious statements, in regard to the general hospital in camp, which they are not aware exists 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."

This may be true, but the Commissioners must have selected the period when the huts, which composed the general hospital, were in a transition state from barrack to hospital use, and they must have wilfully shut their eyes to their improved condition, whenever they passed them afterwards. Their Report was not published until the spring of 1857, two years after the event described; and although the statement served well enough to make a point in it, it was neither just nor generous to resort to such an expedient, to the prejudice of their professional brethren in the

army; but as they have spoken of the undrained and imperfectly ventilated condition of these huts, we will see what the opinion of the civil surgeons employed in the general hospital was. These gentlemen are all eminent in their profession, they are men of high honour, and have no interest in the question beyond the cause of truth, and they write as follows to Mr. Mount, who was the principal medical officer of the establishment. Civil surgeon Dr. Macleod says:—"As to the question of ventilation, I may remark, that if by good ventilation is meant a free supply of air, then the arrangement at the general hospital could not be complained of, as though the urgency of the service often forced us to admit into our wards many more patients than any of us would have countenanced, except as a matter of necessity, still by means of the apertures cut in the walls, and the numerous holes and cracks which existed between the planks, together with the high position of the hospital, a deficiency of air was not felt."

Dr. Lyons, pathologist to the army in the East, says, "In reply to your letter of the 11th June, 1857, asking my opinion respecting the condition of the hospital huts of the general hospital in camp before Sebastopol, as to ventilation, I do not know whether I could add anything to what I have already stated in my Report to Lord Panmure (at p. 101). Having had opportunities of observing the arrangements of this hospital after the affairs of the 7th and 18th of June, 8th of September, 15th of November, and all intermediate periods, I cannot conceive that *want of ventilation* should be at all urged as a charge against the huts in question. The fragility of their construction rendered them almost self-ventilating; and independently of this, I am aware that particular attention was directed by you, and all the medical officers of the hospital, to the establishment of free ventilation, by the removal of plankings here and there, and the construction of valvular flaps. By these, and similar means, much was done towards mitigating the effects of the excessive temperature of the hot summer months of the Crimea. I have already borne my testimony officially to the great success attending the treatment of the wounded in the English hospitals, and the absence of gangrene in any epidemic form." Mr. Rowe, civil surgeon, says, "I have great pleasure in answering your questions concerning the efficiency of the general hospital in camp in the Crimea, of which you were principal medical officer. As I was appointed one of the surgeons of your medical staff before any patient had been received into the hospital, and having remained on duty until it was broken up, a period of more than twelve months, I may, without presumption, say that I had the

best opportunity of judging of the arrangements you made for the reception of the wounded,—the measures you adopted for the proper ventilation of the hospital huts, and of the unwearied zeal you daily evinced for the well-doing of the patients. I can bear my testimony to the healthy state, and efficient arrangements of the hospital with the greater pleasure, that being now unconnected with the military medical service, it cannot be supposed that any approbation I may express, is given in order to stand well with the powers that be. I can truly state that you availed yourself of every means in your power to make the huts as suitable as such buildings could be for the reception of the wounded. That the ventilation of the huts was not deficient, is sufficiently proved by the almost total absence of erysipelas in the hospital. After the affair of the 18th of June, I had a larger number of wounded under my care, than any other medical officer. Those whose wounds were not fatal, mostly remained until they were convalescent, a period of several weeks. I had not a single case of erysipelas attacking a wound, or following an operation, nor after the attack of the 8th of September, although my patients were as numerous as those of the other medical officers. The circulation of air through the huts was constant. I never found my wards close or disagreeable, even when all the beds were full." Such is the honourable testimony borne by these gentlemen to the condition of the general hospital in camp, and it may be well contrasted with the Sanitary Commissioners' paltry subterfuge to throw discredit on the medical department of the army. But it is in keeping with the tenor of both his Report and Reply, which are written with a species of special pleading cunning, which is intended to damn by implication, rather than by direct open manly accusation. It was not creditable for the Commissioner to creep into men's confidence, by professions of friendship and approbation, and then to throw them aside when it suited his purpose to do so.

At page 32 of his Reply, Dr. Sutherland says, I have made an unfounded statement about the two letters he wrote to me on the 16th May, 1855, concerning the removal of the Buffs, 48th and 71st Regiments, to new encamping ground, and the early treatment of the diarrhoeal stage of cholera. I do not exactly know what he means by using such a term, as I merely stated his letter of the 16th May, 1855, recommending measures that he saw being carried out on the 14th, could only have been written *pro forma*, so far as the removal of the camps was concerned; and as I had mentioned to him the precautions I had recommended on the 30th April, 1855, to be observed by medical officers for

the detection and treatment of cholera in its diarrhoeal stage, his second letter, and the only one to which he alludes in his reply, appeared to me to be equally written *pro forma*, as the measures he recommended were inapplicable to the circumstances of the case. At page 35, Dr. Sutherland insinuates that he had been misinformed by me regarding the measures directed to be taken for the detection of cholera amongst the men. I may therefore be permitted to quote part of a Medical Department Order, which I issued on the 22nd July, 1854, when cholera first broke out in Bulgaria. The first portion of the order relates to the distribution and use of cholera belts, which it is not of importance to insert here; but the part which I wish to quote is as follows, and was addressed to the principal medical officers of divisions:—"I beg you will be careful that medical officers of corps, now that cholera unhappily prevails, make diligent inquiry daily about the health of the men, and endeavour to impress on them the importance of immediately reporting any looseness of their bowels, and applying for appropriate remedies for checking it." Again, on the 30th April, 1855, when cholera re-appeared in the Crimea, the following circular memorandum was issued by me to all superintending medical officers:—"As cases of spasmodic cholera have occurred in different quarters within the last week or ten days, Dr. Hall requests superintending medical officers will call the attention of regimental medical officers to the subject in a manner not to create alarm, but sufficiently explicit to put them on their guard. It is of the utmost importance not to allow the first, or diarrhoeal, stage to pass over without treatment, for if collapse once set in the result is doubtful, whereas in the diarrhoeal stage it is for the most part amenable to medical treatment."

There was no reluctance on the part of the men to report their ailments, and the plan, without creating unnecessary alarm, was found to work well,—better, certainly, than that of frequent additional parades for inspection, recommended, I dare say, with the best intention by Dr. Sutherland and others, would have done, for the doctor is mistaken if he thinks suggestions to Government on sanitary matters were confined to himself and the other Sanitary Commissioners. They were not so, and the following extract from a paper of suggestions, sent out by authority, will show that the doctor's own sewage routine is viewed in pretty much the same light that he sees the sanitary labours of the medical officers of the army:—"The public is aware that a sanitary commission has been sent out to investigate the state of the hospitals at Scutari, and to employ scavengers to cleanse the camp at the Crimea. It is not our object to criticise the appointment, but there cannot be



a doubt that in this case, 'routine,' as in so many other cases, will be likely to mar useful results. The three commissioners have been long accustomed to one certain 'routine' of so-called sanitary operations, namely, *sewers, sewer-pipes, and sweeping*. We can scarcely expect them to travel out of what they have always practised; and if proof of this be wanted, it is to be found in the fact, that they have specially employed a staff of overseers, selected from Liverpool, who have been always accustomed to remove all nuisance from the streets, &c., by sweeping it up, and carting it away." "Any one who observes a scavenger's operations in sweeping even a paved court or lane, where filth has been thrown, will fully understand that the atmosphere has perhaps more power of producing evil *after the sweeping* than before it." This description, which is more graphic than complimentary, is shown, by their own published Report, to be substantially true of the labours of the Sanitary Commissioners at Scutari and Balaklava. The additional inspection parades, recommended by them and others for the detection of cholera, setting aside the alarm they would have created, must have been made without any consideration, or perhaps knowledge of the punishment they would have been, to men already worn down by duty. At home, in peaceable times, even one additional parade a day is considered a punishment; and I should like to know what any military man would have said to three additional parades a day in the Crimea, as was recommended by one gentleman, in a communication addressed to the Secretary of State for War. And as for Dr. Sutherland's grand scheme, which he takes so much credit to himself for suggesting, of setting men to watch the number of times soldiers obeyed the calls of nature in the open camp, or in the trenches, where about a third of them were daily employed, it is scarcely necessary to characterise it.

No army in this world was ever favoured with a greater number of suggestions from well-intentioned individuals, than the English army in the Crimea was; but, unfortunately, most of them were inapplicable to the wants of the period. For instance, one gentleman recommended vapour baths to be used in the Crimea for personal cleanliness and the destruction of vermin, at a time when there was insufficient fuel to cook the men's food with, and nothing but canvas cover to protect them from the inclement weather of the winter of 1854. Other suggestions that were made were of about the same value, in point of practical utility. And as for the remedies and specifics for cholera that were either recommended, or sent out by parties interested in their result, they were too numerous to mention, and ranged from extract of

arnica to burnt shoe leather! A munificent and kindly-intentioned gift of "Dalby's Carminative" was even included amongst the remedies forwarded for the use of Her Majesty's Army in the Crimea.

At page 35 in his Reply, Dr. Sutherland says I appear to have derived comfort from the comparison drawn between the sanitary condition of Balaklava and certain districts of London and other towns, in his letter to Lord Shaftesbury which was published in the *Times* newspaper. It was certainly a comfort to find such a candid statement, and I have no doubt the impression under which it was written was perfectly sincere, though the doctor seems now to be ashamed of it from the small portion he has quoted in his Reply. In the original, Dr. Sutherland stated for the information of his two friends, for whom he says the letter was written, "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 knackers' yards, and 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 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."

Dr. Sutherland, in his Reply, confines himself to the last part of the first sentence above, which is confessedly the most unfavourable; and he adds that Balaklava, from neglect of sanitary precautions, had descended in six months to the unhealthy position that those at home had only attained after long years of neglect. Oh, Dr. Sutherland, fie! have you no shame in making such a statement?

#### SCUTARI.

At page 10, Dr. Sutherland says I ought to have stated that the cleansing and whitewashing of the barrack rooms at Scutari were written about at the request of Lord Raglan, and that there

appears to have been no sanitary advice given by any one regarding the Kulali palace, or stable hospitals.

It is necessary I should state that nearly one of the first things I did when I joined head-quarters at Varna, in June 1854, was to recommend to Lord Raglan that the upper part of the west front, and one half of the south front of the main barrack at Scutari, should be given over to the medical department, in order that the rooms might be purified and fitted up for the reception of sick. I also requested that the hospital at Abydos might be completed, and that application should be made to the Turkish Government for the remainder of the general hospital at Scutari, and for the upper wards of the military hospital at Kulali.

The barrack and riding school hospitals at Kulali were fitted up under the immediate superintendence of 1st Class Staff-Surgeon, Dr. Tice; and those of the stables and Hyder Pasha palace at Scutari, under the supervision, I believe, of the principal medical officer there.

I had no personal knowledge of these buildings, and my duties in the Crimea were so constant and laborious, that, after October 1854, I had no time to visit them; but this was the less called for, as early in 1855 they came under the supervision of an old and experienced officer of my own rank, who, I have no doubt, will be able to give explanations of many things that are stated in Dr. Sutherland's Report. After October 1854, my control over the economy of the hospitals at Scutari was merely nominal, as the principal medical officer reported direct to London; but, in my capacity of principal medical officer of the army, I was to a certain extent held responsible for their condition, and of this I have no right or wish to complain.

The conversation with Lord Raglan, quoted in my letter to Dr. Menzies of the 13th August, 1854, and referred to by Dr. Sutherland, was evidently given to add weight to my instructions; but it can hardly be adduced as a proof, nor would it be so taken by any one acquainted with the forms of official military correspondence, that the idea originated with Lord Raglan, which it certainly did not.

The subject of hospital accommodation had been matter of conversation between us on several former occasions, and when the barrack rooms at Scutari were finally given over to the medical department, he directed me to urge on Dr. Menzies the necessity of taking immediate steps to get them purified. He also instructed me to desire him to apply direct to the principal dragoman of the embassy at Constantinople, for anything he might require from the Turkish Government, in place of sending

his applications through other channels; and in the same communication I pointed out to him the portion of the barracks which I thought he ought to avoid, on account of its faulty drainage and want of repair.

At page 11, Dr. Sutherland quotes from a letter of mine to the Director-General of the Army Medical Department, under date of the 28th October, 1854, and makes me say that the hospitals at Scutari "were in a very satisfactory condition." In the copy of my letter of that date I cannot find this expression; but I see I pointed out to him the discomfort that was occasioned, on the first opening of the barrack hospital, by the non-arrival of boards and tressels, which I had ordered on the 3rd of September, 1854, to be sent down from Varna, and mentioned that 500 sets had then been received, which had enabled us to put the whole hospital establishment at Scutari "in a very creditable state," and that the sick and wounded were all doing as well as could possibly be expected. I further stated, that by the strenuous exertions and unceasing labours of 1st Class Staff-Surgeon Dr. Menzies, and the medical officers under him, our difficulties had, in a great measure, been surmounted, and in a short time, I flattered myself, we should have an hospital establishment that would bear a comparison with any other of the same magnitude, formed under similar disadvantages.

Such was my opinion at the time, and such it still remains, notwithstanding the popular indignation, which, Dr. Sutherland says, "was at that very time roused throughout all England concerning them;" and I think I was borne out in my statement. Each patient had a comfortable bed and bedding all perfectly new, the rooms and galleries were clean and not overcrowded, as there were 600 spare beds in the hospitals at Scutari at the time my letter was written. The privies and drains, of which so much was subsequently said, were not then in any way offensive, and distant as the privies were from each other, and separated as they were by a room and passage from the corridors, and placed as they were in a distinct building at the inner angles of the barrack which measured 840 feet by 650 feet, it is difficult to conceive how, with an outfall of the drainage of 148 feet in less than 200 yards, they could under almost any circumstances have become so offensive and pestilential as they are represented to have been by the Sanitary Commissioner, for it must be borne in mind that the lower floor of the barrack was not occupied by sick. I am censured by Dr. Sutherland, and accused of ignorance and incompetency, for having allowed sick and wounded men to be placed in wards at the barrack hospital, Scutari, which



measured on an average  $49\frac{1}{2}$  feet in length,  $31\frac{1}{2}$  feet in breadth, and  $15\frac{1}{2}$  feet in height, each ventilated by three large windows opening outwards, and a door and two or more windows opening inwards into a corridor 18 feet wide, running the whole length of the building, which had numerous windows, and communicated with the inner square by means of large well staircases at certain intervals. With favourable weather, a class of patients by no means severe, and the regulated allowance of five feet of surface wall for each, few medical men, I fancy, will think there was anything so very faulty in this arrangement as a temporary expedient, nor will they perhaps consider that the necessity of resorting, in the first instance, to the more elaborate and scientific alterations of the building which were subsequently carried out by the Sanitary Commissioners, was so urgent as has been represented; but even had it been so at the period of its first occupation, there was neither time nor means to effect them.

In the course of the winter of 1854-5, the hospitals at Scutari became more crowded than was desirable, from the great influx of sick sent down from the Crimea; but that was matter of necessity, not choice, and the privies and their approaches may occasionally have been rendered dirty and offensive by the negligence of the hospital servants, but this could only have affected the corridors in their immediate neighbourhood, and not the whole of the 28 wards opening out of them, as one would be led to infer from reading Dr. Sutherland's statement, which leaves an impression as if the privies opened directly into the wards where the sick were.

Whereas, the privies were placed in the barrack hospital in detached buildings, in the inner angles of the square, and in the general hospital, in detached buildings at the outer angles of the square; and I can hardly imagine the principal medical officers at Scutari would have allowed such a nuisance, as is described by Dr. Sutherland, to exist in the hospitals there.

Unfortunately, much sickness, and lamentable mortality, occurred in the British army, during the winter of 1854-5; but when the Sanitary Commissioners arrived at Scutari, in March 1855, sickness was diminishing rapidly, and the cases of diseases which presented themselves, were of a much milder character than they had been during the winter. The Sanitary Commissioners, in their Report, gave a table showing the decrease of sickness and mortality in the Scutari hospitals after their arrival, which they ascribed to their own sanitary labours in and about the buildings; but as this did not strike me to be a correct deduction, I stated in my observations that the diminished number of sick, and milder nature of the cases of disease sent down to the hospitals at Scutari

from the Crimea, after their arrival, might have influenced the results more than their flaps and traps in the privy drains; and as an example, I mentioned the number that had been embarked, and the number that had died on the passage during two periods, the one immediately preceding, and the other immediately following the arrival of the Commissioners. I put this in as plain a manner as I could, and I thought it would have been intelligible to every one, but Dr. Sutherland has so mystified it by his subtle reasoning, that I can scarcely recognise my own statement; and the shortest way I suppose will be to admit, that, because the Sanitary Commissioners trapped the privy drains in the barrack hospital at Scutari, sickness and mortality diminished in the Crimea.

To prove that deaths on board the hospital ships had no relation to the deaths in hospital at Scutari, Dr. Sutherland instances the month of December 1854, when a number of the sick embarked at Balaklava were labouring under cholera and its sequelae; and the month of February 1855, when the hospitals at Scutari were filled with fever cases that had been accumulating during the previous month. In the one case it was reasonable to expect death to occur more speedily, and in the other, in addition to the chances of serious fever cases sent down there for treatment, the worst cases of those embarked for Smyrna and Abydos were removed from the ships as they passed Scutari. This alters the doctor's proposition very much, and in his comparison between the Crimea and Scutari he leaves out of sight the fact that every slight as well as every serious case of disease admitted into hospital is included in the former, whereas during the winter of 1854-5 only serious cases of disease were sent down to the latter.

In my abstract of admissions and deaths in the Crimea, from December 1854, to August 1855, I omitted the strength of the army, to save figures, which I admit I ought not to have done; and the doctor is quite witty on the subject: but, respectable as the increase of the British force in the Crimea was, it bore no relation to the comparative numbers of 25,000 and 2,500,000, which have been adduced as an example by Dr. Sutherland.

At pages 14 and 27 of his Reply, Dr. Sutherland gives two of what he calls corrected statistical tables, both of which are erroneous in almost every particular, but taken even according to his own showing, they tell against himself, and prove that sickness and mortality had begun to decrease in the army before the arrival of the Sanitary Commissioners at Scutari, and continued to do so until the month of May 1855, when they began to increase again; but it would be as unjust to charge this increase to the Commissioners, as it was unfair for them to claim the merit of the

decrease which had commenced before their arrival in the country, for both these changes were owing to causes over which their trifling sewage operations at Scutari had not the remotest influence. I do not know from what source Dr. Sutherland obtained information for the two Returns which he has given in his Reply, but the annexed tables, copied from documents in my possession, will show how erroneous they are, and what little reliance can be placed on conclusions drawn from such false premises.

No. 1.—Copy of Return, inserted at page 14 of Dr. SUTHERLAND'S REPLY.

| MONTHS.             | Sick admitted to Hospitals. | Died in Hospital. | HOSPITALS IN RUSSIA AND SCUTARI.     |                                     |                                    |                                    | Period of Sickness Improvements.     |
|---------------------|-----------------------------|-------------------|--------------------------------------|-------------------------------------|------------------------------------|------------------------------------|--------------------------------------|
|                     |                             |                   | Deaths per 1000 on Sick in Hospital. | Deaths per 1000 on Sick in Scutari. | Deaths per 1000 on Sick in Russia. | Deaths per 1000 on Sick in Russia. |                                      |
| 1854.               |                             |                   |                                      |                                     |                                    |                                    |                                      |
| September . . . .   | 3,997                       | 311               | 78                                   | —                                   | —                                  | —                                  |                                      |
| October . . . . .   | 1,721                       | 76                | 44                                   | 2,016                               | 128                                | —                                  |                                      |
| November . . . . .  | 1,962                       | 103               | 52                                   | 3,119                               | 158                                | —                                  |                                      |
| December . . . . .  | 3,309                       | 314               | 94                                   | 3,457                               | 144                                | —                                  |                                      |
| 1855.               |                             |                   |                                      |                                     |                                    |                                    |                                      |
| January . . . . .   | 3,144                       | 172               | 55                                   | 4,440                               | 142                                | —                                  |                                      |
| February . . . . .  | 5,119                       | 41                | 19                                   | 4,379                               | 427                                | —                                  |                                      |
| March 11th . . . .  | 1,067                       | 5                 | 4.6                                  | 3,779                               | 215                                | —                                  | Three weeks ending 11th March, 1855. |
| April 7th . . . . . | 860                         | 4                 | 4.6                                  | 3,300                               | 144                                | —                                  | April 7th.                           |
| May 19th . . . . .  | 793                         | 8                 | 10                                   | 2,063                               | 101                                | —                                  | May 19th.                            |
| June 9th . . . . .  | 471                         | —                 | —                                    | 2,019                               | 52                                 | —                                  | June 9th.                            |
| July 30th . . . . . | 615                         | 3                 | 1.6                                  | 1,554                               | 41                                 | —                                  | July 30th.                           |
| August . . . . .    | 995                         | 8                 | 8.0                                  | 1,454                               | 22                                 | —                                  | August.                              |

No. 2.—Return compiled from original documents furnished to the INSPECTOR-GENERAL OF HOSPITALS IN THE CHINA.

| MONTHS.            | Sick admitted to Hospitals. | Died in Hospital. | Return of Sick treated in the Hospitals at Moscow and Krasnoy. |                |             |       | REMARKS.                                     |
|--------------------|-----------------------------|-------------------|----------------------------------------------------------------|----------------|-------------|-------|----------------------------------------------|
|                    |                             |                   | Admitted.                                                      | Total treated. | Discharged. | Died. |                                              |
| 1854.              |                             |                   |                                                                |                |             |       |                                              |
| September . . . .  | 4030                        | 307               | 89                                                             | —              | —           | —     | Wounded from the Alma, and cases of cholera. |
| October . . . . .  | 1774                        | 77                | 43                                                             | 2277           | 1601        | 1011  | 21                                           |
| November . . . . . | 1366                        | 113               | 56                                                             | 2256           | 1611        | 1716  | 209                                          |
| December . . . . . | 4393                        | 325               | 74                                                             | 3667           | 3165        | 1391  | 504                                          |
| 1855.              |                             |                   |                                                                |                |             |       |                                              |
| January . . . . .  | 2149                        | 239               | 66                                                             | 4545           | 3900        | 4448  | 2046                                         |
| February . . . . . | 1894                        | 20                | 12                                                             | 5195           | 3608        | 7162  | 1294                                         |
| March . . . . .    | 969                         | 5                 | 5                                                              | 4351           | 2823        | 7184  | 2077                                         |
| April . . . . .    | 1163                        | 5                 | 4                                                              | 3792           | 1747        | 2559  | 2560                                         |
| May . . . . .      | 824                         | 2                 | 26                                                             | 2658           | 1878        | 4738  | 2333                                         |
| June . . . . .     | 1167                        | 12                | 10                                                             | 2308           | 1847        | 4155  | 2147                                         |

a. Included as casualties in my observations, but on more minute examination of the Returns, I find they were sick Croat volunteers, and ought to have been omitted, which would have made the number of deaths in the second period 17, instead of 19, as stated.

Return No. 2, shows so marked a decrease in the number and mortality of cases sent down from the Crimea to the hospitals at Scutari, for treatment, during the month of February 1855, that it is almost superfluous to state, that a favourable change in the health of the army had commenced before the arrival of the Sanitary Commissioners at Scutari; but if anything further were required to establish the fact, I might be allowed to quote the following extract from a communication of mine to the Director-General of the Army Medical Department, which was written on the 23rd February, and had no reference to any inquiry of this kind, so that it may be fairly taken as an unbiased expression of my opinion on the subject:—

"You will be pleased to learn that an improvement has taken place in the health of the troops of late, though I am sorry to say our sick list still continues very heavy."

"The type of fever which prevailed in the general hospital at Balaklava, and in the 93rd and some other regiments, has changed from the typhoid to the remittent, and even intermittent character. For a week or ten days preceding the 19th, the weather was mild and genial, and the men began to regain their health and spirits, but on the 19th, the wind changed to the north, and we had a violent snow storm during the 20th, but as yet I cannot observe that it has done much injury to the sick."

At the end of the month, in my weekly report to the Commander-in-Chief, I find the following observation on the same subject:—"It was wonderful to see the cheering effect the few fine days had on the health and spirits of the men; and as the winter may now be considered nearly at an end, I am full of hope and confidence."

In the 2nd part of Dr. Sutherland's Return, it will be seen that the deaths per 1000 of cases treated, is calculated from the sick in hospital at certain fixed periods, and not from the whole number treated, which makes the mortality, that is lamentable enough in reality, appear excessive.

At page 27 of his Reply, Dr. Sutherland gives the following Table of admissions and deaths in the whole army, from December 1854, to May 1855:—

| MONTHS.            | Admissions to Strength per 1000 per Annum. | Deaths to Strength per 1000 per Annum. | MONTHS.            | Admissions to Strength per 1000 per Annum. | Deaths to Strength per 1000 per Annum. |
|--------------------|--------------------------------------------|----------------------------------------|--------------------|--------------------------------------------|----------------------------------------|
|                    |                                            |                                        |                    |                                            |                                        |
| 1854.              |                                            |                                        | 1855.              |                                            |                                        |
| December . . . .   | 5888                                       | 721                                    | September . . .    | 2004                                       | 121                                    |
| 1855.              |                                            |                                        | October . . . . .  | 1380                                       | 49                                     |
| January . . . . .  | 4176                                       | 1173                                   | November . . . .   | 1176                                       | 32                                     |
| February . . . . . | 2760                                       | 979                                    | December . . . . . | 1352                                       | 32                                     |
| March . . . . .    | 2316                                       | 561                                    | 1856.              |                                            |                                        |
| April . . . . .    | 1716                                       | 223                                    | January . . . . .  | 1116                                       | 21                                     |
| May . . . . .      | 1944                                       | 202                                    | February . . . . . | 924                                        | 9                                      |
| June . . . . .     | 3396                                       | 318                                    | March . . . . .    | 972                                        | 10                                     |
| July . . . . .     | 2832                                       | 152                                    | April . . . . .    | 840                                        | 8                                      |
| August . . . . .   | 2760                                       | 181                                    | May . . . . .      | 720                                        | 7                                      |

From what data Dr. Sutherland has calculated the above table, I do not know; but it is at variance with the following per centages, which are taken from authentic documents.

In the following statement, the admissions are confined to those of a primary kind, as the transfers to general hospitals were only multiples of the same; but the

\* In my sanitary observations on the Adjutant-General's Monthly Return for February 1855, the subject is covered on at greater length.



deaths include the whole mortality of the army, whether in general or regimental hospitals, or on board ship at sea.

|                       | Per Centage<br>of Admissions to Strength<br>in the Crimea. | Per Centage<br>of Deaths to Strength<br>in all Places. |
|-----------------------|------------------------------------------------------------|--------------------------------------------------------|
| April, 1854 . . . .   | 3.9                                                        | 0.07                                                   |
| May " . . . .         | 10.2                                                       | 0.09                                                   |
| June " . . . .        | 9.3                                                        | 0.06                                                   |
| July " . . . .        | 17.5                                                       | 1.33                                                   |
| August " . . . .      | 28.2                                                       | 2.84                                                   |
| September " . . . .   | 22.3                                                       | 3.10                                                   |
| October " . . . .     | 23.6                                                       | 2.49                                                   |
| November " . . . .    | 27.8                                                       | 4.16                                                   |
| December " . . . .    | 32.4                                                       | 6.01                                                   |
| January, 1855 . . . . | 34.8                                                       | 9.78                                                   |
| February " . . . .    | 23.0                                                       | 8.16                                                   |
| March " . . . .       | 19.3                                                       | 4.68                                                   |
| April " . . . .       | 14.3                                                       | 1.86                                                   |
| May " . . . .         | 16.2                                                       | 1.69                                                   |
| June " . . . .        | 28.3                                                       | 2.62                                                   |
| July " . . . .        | 23.6                                                       | 1.27                                                   |
| August " . . . .      | 23.0                                                       | 1.51                                                   |
| September " . . . .   | 16.7                                                       | 1.01                                                   |
| October " . . . .     | 11.5                                                       | 0.41                                                   |
| November " . . . .    | 9.8                                                        | 0.48                                                   |
| December " . . . .    | 11.1                                                       | 0.27                                                   |
| January, 1856 . . . . | 9.3                                                        | 0.18                                                   |
| February " . . . .    | 7.7                                                        | 0.08                                                   |
| March " . . . .       | 8.1                                                        | 0.09                                                   |
| April " . . . .       | 7.0                                                        | 0.07                                                   |
| May " . . . .         | 6.0                                                        | 0.06                                                   |
| June " . . . .        | 3.6                                                        | 0.02                                                   |

The above Table exhibits a gradual increase of sickness and mortality from April 1854 to January 1855, when, from the improved condition of the men, they began to decrease; and after the capture of Sebastopol, in September 1855, which relieved the men from trench and night duty, a marked improvement in the health of the army took place, which was never interrupted so long as it remained in the Crimea.

The doctor is indignant at the sewage operations of the Sanitary Commissioners being undervalued; and, at page 11, he gives a table of the works performed, in which he allows it to be understood that they were all carried out before the 30th of June, 1855, the date to which my observations allude. But if the reports of others be taken, it will be found that some of them were not carried out for eight or nine months afterwards, and others not at all.

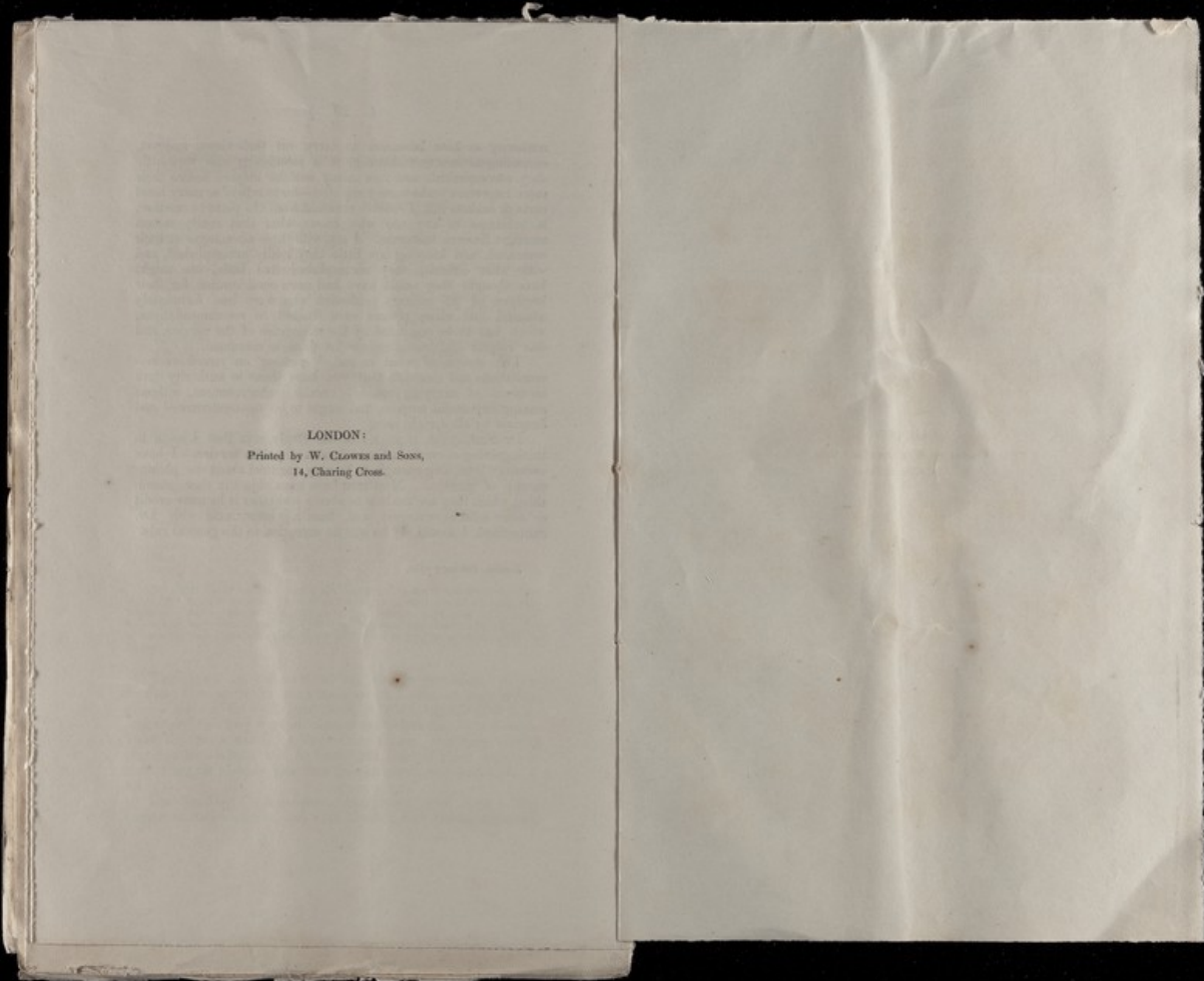
The Sanitary Commissioners brought out with them skilled engineers and workmen, and were invested with almost unlimited

authority to hire labourers to carry out their views, and yet, according to their own showing, it is astonishing how very little they accomplished, and how many months elapsed before their more important works were completed—for to talk of so many hand carts or baskets full of rubbish removed from one place to another, is ludicrous to any one who knows what that really means amongst Eastern labourers. I say, with these advantages at their command, and knowing how little they really accomplished, and with what difficulty they accomplished that little, one might have thought they would have had more consideration for their brethren of the military profession who were less fortunately situated, and whose powers were limited to recommendations, which had to be regulated by the exigencies of the service, and due respect and consideration for those in command.

The system of what is called putting on record recommendations and demands that you know those in authority have no means of carrying out, only creates embarrassment, without serving any useful purpose, and ought to be discountenanced and despised by all upright men.

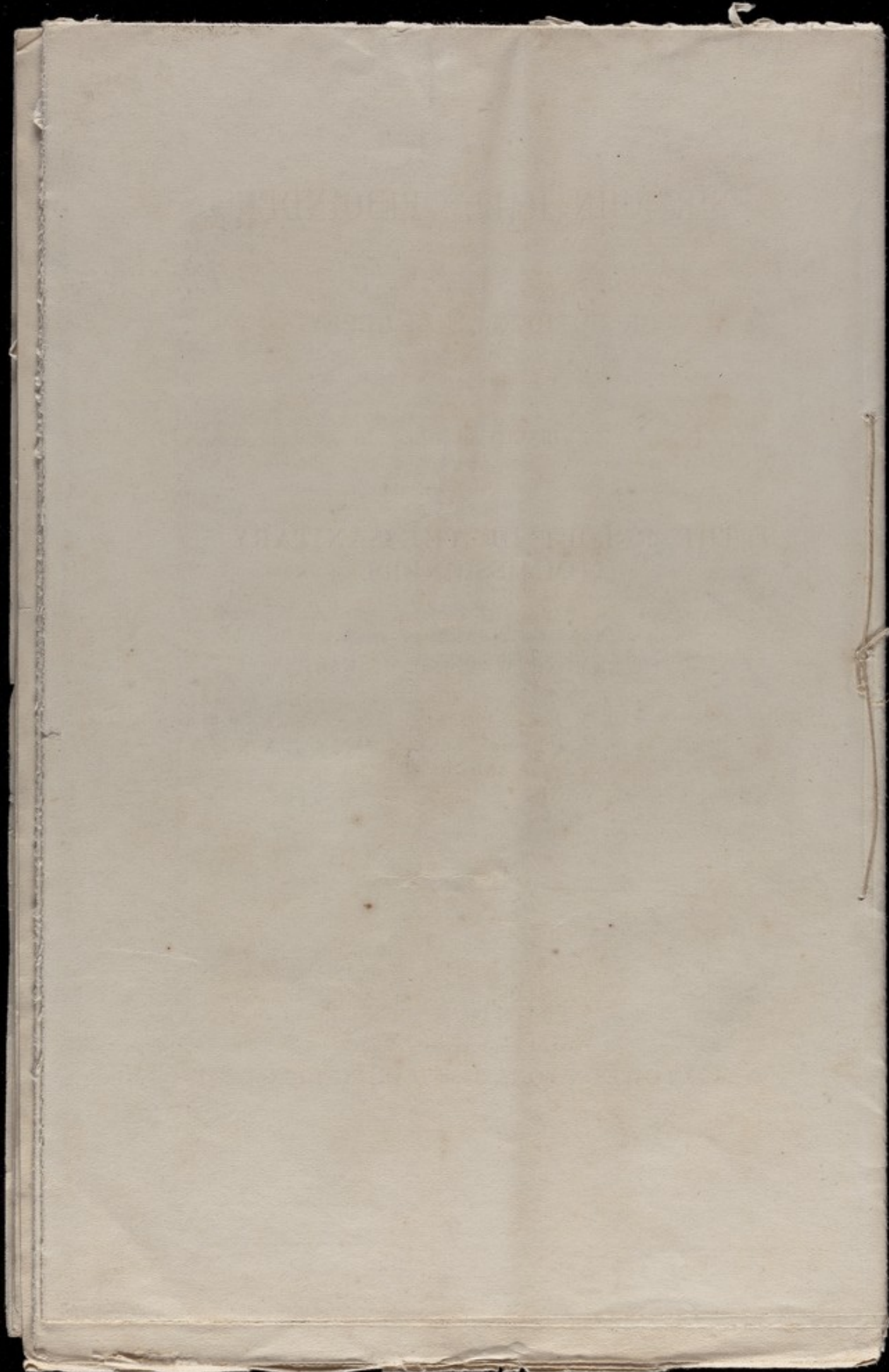
Dr. Sutherland, at page 1 of his Reply, says that I seem to think gaining of credit is the main aim of public service. I have certainly lived long enough to be very sceptical about the philanthropy of mankind. Most men have some object in view—something which they are anxious to obtain—whether it be mere credit or more solid advantages; and, from my intercourse with Dr. Sutherland, I should say he was no exception to the general rule.

London, February 1858.



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army ; but as they have spoken of the undrained and imperfectly ventilated condition of these huts, we will see what the opinion of the civil surgeons employed in the general hospital was. These gentlemen are all eminent in their profession, they are men of high honour, and have no interest in the question beyond the cause of truth, and they write as follows to Mr. Mount, who was the principal medical officer of the establishment. Civil surgeon Dr. Macleod says :—"As to the question of ventilation, I may remark, that if by good ventilation is meant a free supply of air, then the arrangement at the general hospital could not be complained of, as though the urgency of the service often forced us to admit into our wards many more patients than any of us would have countenanced, except as a matter of necessity, still by means of the apertures cut in the walls, and the numerous holes and crannies which existed between the planks, together with the high position of the hospital, a deficiency of air was not felt."

Dr. Lyons, pathologist to the army in the East, says, "In reply to your letter of the 11th June, 1857, asking my opinion respecting the condition of the hospital huts of the general hospital in camp before Sebastopol, as to ventilation, I do not know whether I could add anything to what I have already stated in my Report to Lord Panmore (at p. 101). Having had opportunities of observing the arrangements of this hospital after the affairs of the 7th and 18th of June, 8th of September, 15th of November, and all intermediate periods, I cannot conceive that *want of ventilation* should be at all urged as a charge against the huts in question. The fragility of their construction rendered them almost self-ventilating ; and independently of this, I am aware that particular attention was directed by you, and all the medical officers of the hospital to the establishment of free ventilation, by the removal of plankings here and there, and the construction of valvular flaps. By these, and similar means, much was done towards mitigating the effects of the excessive temperature of the hot summer months of the Crimea. I have already borne my testimony officially to the great success attending the treatment of the wounded in the English hospitals, and the absence of gangrene in any epidemic form." Mr. Rooke, civil surgeon, says, "I have great pleasure in answering your questions concerning the efficiency of the general hospital in camp in the Crimea, of which you were principal medical officer. As I was appointed one of the surgeons of your medical staff before any patient had been received into the hospital, and having remained on duty until it was broken up, a period of more than twelve months, I may, without presumption, say that I had the



best opportunity of judging of the arrangements you made for the reception of the wounded,—the measures you adopted for the proper ventilation of the hospital huts, and of the unwearied zeal you daily evinced for the well-doing of the patients. I can bear my testimony to the healthy state, and efficient arrangements of the hospital with the greater pleasure, that being now unconnected with the military medical service, it cannot be supposed that any approbation I may express, is given in order to stand well with the powers that be. I can truly state that you availed yourself of every means in your power to make the huts as suitable as such buildings could be for the reception of the wounded. That the ventilation of the huts was not deficient, is sufficiently proved by the almost total absence of erysipelas in the hospital. After the affair of the 18th of June, I had a larger number of wounded under my care, than any other medical officer. Those whose wounds were not fatal, mostly remained until they were convalescent, a period of several weeks. I had not a single case of erysipelas attacking a wound, or following an operation, nor after the attack of the 8th of September, although my patients were as numerous as those of the other medical officers. The circulation of air through the huts was constant. I never found my wards close or disagreeable, even when all the beds were full." Such is the honorable testimony borne by these gentlemen to the condition of the general hospital in camp, and it may be well contrasted with the Sanitary Commissioners' paltry subterfuge to throw discredit on the medical department of the army. But it is in keeping with the tenor of both his Report and Reply, which are written with a species of special pleading cunning, which is intended to damn by implication, rather than by direct open manly accusation. It was not creditable for the Commissioner to creep into men's confidence, by professions of friendship and approbation, and then to throw them aside when it suited his purpose to do so.

At page 32 of his Reply, Dr. Sutherland says, I have made an unfounded statement about the two letters he wrote to me on the 16th May, 1855, concerning the removal of the Buffs, 48th, and 71st Regiments to new encamping ground, and the early treatment of the diarrhoeal stage of cholera. I do not exactly know what he means by using such a term, as I merely stated, his letter of the 16th May, 1855, recommending measures that he saw being carried out on the 14th, could only have been written *pro forma*, so far as the removal of the camps was concerned; and as I had mentioned to him the precautions I had recommended on the 30th April, 1855, to be observed by medical officers for

the detection and treatment of cholera in its diarrhoeal stage, his second letter, and the only one to which he alludes in his reply, appeared to me to be equally written *pro forma*, as the measures he recommended were inapplicable to the circumstances of the case. At page 35, Dr. Sutherland insinuates that he had been misinformed by me regarding the measures directed to be taken for the detection of cholera amongst the men. I may therefore be permitted to quote part of a Medical Department Order, which I issued on the 22nd July, 1854, when cholera first broke out in Bulgaria. The first portion of the order relates to the distribution and use of cholera belts, which it is not of importance to insert here; but the part which I wish to quote is as follows, and was addressed to the principal medical officers of divisions:—"I beg you will be careful that medical officers of corps, now that cholera unhappily prevails, make diligent inquiry daily about the health of the men, and endeavour to impress on them the importance of immediately reporting any looseness of their bowels, and applying for appropriate remedies for checking it." Again, on the 30th April, 1855, when cholera re-appeared in the Crimea, the following circular memorandum was issued by me to all superintending medical officers:—"As cases of spasmodic cholera have occurred in different quarters within the last week or ten days, Dr. Hall requests superintending medical officers will call the attention of regimental medical officers to the subject in a manner not to create alarm, but sufficiently explicit to put them on their guard. It is of the utmost importance not to allow the first, or diarrhoeal, stage to pass over without treatment, for if collapse once set in the result is doubtful, whereas in the diarrhoeal stage it is for the most part amenable to medical treatment."

There was no reluctance on the part of the men to report their ailments, and the plan, without creating unnecessary alarm, was found to work well,—better, certainly, than that of frequent additional parades for inspection recommended. I dare say, with the best intention by Dr. Sutherland and others, would have done, for the doctor is mistaken if he thinks suggestions to Government on sanitary matters were confined to himself and the other Sanitary Commissioners. They were not so, and the following extract from a paper of suggestions, sent out by authority, will show that the doctor's own sewage routine is viewed in pretty much the same light that he sees the sanitary labours of the medical officers of the army:—"The public is aware that a sanitary commission has been sent out to investigate the state of the hospitals at Scutari, and to employ scavengers to cleanse the camp at the Crimea. It is not our object to criticise the appointment, but there cannot be

a doubt that in this case, 'routine,' as in so many other cases, will be likely to mar useful results. The three commissioners have been long accustomed to one certain 'routine' of so-called sanitary operations, namely, *sewers, sewer-pipes, and sweeping*. We can scarcely expect them to travel out of what they have always practised; and if proof of this be wanted, it is to be found in the fact, that they have specially employed a staff of overagers, selected from Liverpool, who have been always accustomed to remove all nuisance from the streets, &c., by sweeping it up, and carting it away." "Any one who observes a scavenger's operations in sweeping even a paved court or lane, where filth has been thrown, will fully understand that the atmosphere has perhaps more power of producing evil *after the sweeping* than before it." This description, which is more graphic than complimentary, is shown, by their own published Report, to be substantially true of the labours of the Sanitary Commissioners at Scutari and Balaklava. The additional inspection parades, recommended by them and others for the detection of cholera, setting aside the alarm they would have created, must have been made without any consideration, or perhaps knowledge of the punishment they would have been, to men already worn down by duty. At home, in peaceable times, even one additional parade a day is considered a punishment; and I should like to know what any military man would have said to three additional parades a day in the Crimea, as was recommended by one gentleman, in a communication addressed to the Secretary of State for War. And as for Dr. Sutherland's grand scheme, which he takes so much credit to himself for suggesting, of setting men to watch the number of times soldiers obeyed the calls of nature in the open camp, or in the trenches, where about a third of them were daily employed, it is scarcely necessary to characterise it.

No army in this world was ever favoured with a greater number of suggestions from well-intentioned individuals, than the English army in the Crimea was; but, unfortunately, most of them were inapplicable to the wants of the period. For instance, one gentleman recommended vapour baths to be used in the Crimea for personal cleanliness and the destruction of vermin, at a time when there was insufficient fuel to cook the men's food with, and nothing but canvass cover to protect them from the inclement weather of the winter of 1854. Other suggestions that were made were of about the same value, in point of practical utility. And as for the remedies and specifics for cholera that were either recommended, or sent out by parties interested in their result, they were too numerous to mention, and ranged from extract of

arnica to burnt shoe leather! A munificent and kindly-intentioned gift of "Dalby's Carminative" was even included amongst the remedies forwarded for the use of Her Majesty's Army in the Crimea.

At page 35 in his Reply Dr. Sutherland says, I appear to have derived comfort from the comparison drawn between the sanitary condition of Balaklava and certain districts of London and other towns, in his letter to Lord Shaftesbury which was published in the *Times* newspaper. It was certainly a comfort to find such a candid statement, and I have no doubt the impression under which it was written was perfectly sincere, though the doctor seems now to be ashamed of it from the small portion he has quoted in his Reply. In the original, Dr. Sutherland stated for the information of his two friends, for whom he says the letter was written, "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 imburied carcases 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 knackers' yards, and 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 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."

Dr. Sutherland in his Reply confines himself to the last part of the first sentence above, which is confessedly the most unfavourable; and he adds that Balaklava, from neglect of sanitary precautions, had descended in six months to the unhealthy position that those at home had only attained after long years of neglect. Oh, Dr. Sutherland, fie! have you no shame in making such a statement?

#### SCUTARI.

At page 10, Dr. Sutherland says I ought to have stated that the cleansing and whitewashing of the barrack rooms at Scutari were written about at the request of Lord Raglan, and that there



appears to have been no sanitary advice given by any one regarding the Kulali palace, or stable hospitals.

It is necessary I should state that nearly one of the first things I did when I joined head-quarters at Varna, in June 1854, was to recommend to Lord Raglan that the upper part of the west front, and one half of the south front of the main barrack at Scutari, should be given over to the medical department, in order that the rooms might be purified and fitted up for the reception of sick. I also requested that the hospital at Abydos might be completed, and that application should be made to the Turkish Government for the remainder of the general hospital at Scutari, and for the upper wards of the military hospital at Kulali.

The barrack and riding school hospitals at Kulali were fitted up under the immediate superintendence of 1st Class Staff-Surgeon, Dr. Tice; and those of the stables and Hyder Pasha palace at Scutari, under the supervision, I believe, of the principal medical officer there.

I had no personal knowledge of these buildings, and my duties in the Crimea were so constant and laborious, that, after October 1854, I had no time to visit them; but this was the less called for, as early in 1855 they came under the supervision of an old and experienced officer of my own rank, who, I have no doubt, will be able to give explanations of many things that are stated in Dr. Sutherland's Report. After October 1854, my control over the economy of the hospitals at Scutari was merely nominal, as the principal medical officer reported direct to London; but in my capacity of principal medical officer of the army I was to a certain extent held responsible for their condition, and of this I have no right or wish to complain.

The conversation with Lord Raglan, quoted in my letter to Dr. Menzies of the 13th August, 1854, and referred to by Dr. Sutherland, was evidently given to add weight to my instructions; but it can hardly be adduced as a proof, nor would it be so taken by any one acquainted with the forms of official military correspondence, that the idea originated with Lord Raglan, which it certainly did not.

The subject of hospital accommodation had been matter of conversation between us on several former occasions, and when the barrack rooms at Scutari were finally given over to the medical department, he directed me to urge on Dr. Menzies the necessity of taking immediate steps to get them purified. He also instructed me to desire him to apply direct to the principal dragoman of the embassy at Constantinople, for anything he might require from the Turkish Government, in place of sending

his applications through other channels; and in the same communication I pointed out to him the portion of the barracks, which, I thought, he ought to avoid, on account of its faulty drainage and want of repair.

At page 11, Dr. Sutherland quotes from a letter of mine to the Director-General of the Army Medical Department, under date of the 28th October, 1854, and makes me say that the hospitals at Scutari "were in a very satisfactory condition." In the copy of my letter of that date I cannot find this expression; but I see I pointed out to him the discomfort that was occasioned on the first opening of the barrack hospital by the non-arrival of boards and tressels, which I had ordered on the 3rd of September, 1854, to be sent down from Varna, and mentioned that 500 sets had then been received, which had enabled us to put the whole hospital establishment at Scutari "in a very creditable state," and that the sick and wounded were all doing as well as could possibly be expected. I further stated, that by the strenuous exertions and unceasing labours of First Class Staff-Surgeon Dr. Menzies, and the medical officers under him, our difficulties had, in a great measure, been surmounted, and in a short time, I flattered myself, we should have an hospital establishment that would bear a comparison with any other of the same magnitude formed under similar disadvantages.

Such was my opinion at the time, and such it still remains, notwithstanding the popular indignation, which, Dr. Sutherland says, "was at that very time roused throughout all England concerning them;" and I think I was borne out in my statement. Each patient had a comfortable bed and bedding all perfectly new, the rooms and galleries were clean and not overcrowded, as there were 600 spare beds in the hospitals at Scutari at the time my letter was written. The privies and drains, of which so much was subsequently said, were not then in any way offensive, and distant as the privies were from each other, and separated as they were by a room and passage from the corridors, and placed as they were in a distinct building at the inner angles of the barrack which measured 840 feet by 630 feet, it is difficult to conceive how, with an outfall of the drainage of 148 feet in less than 200 yards, they could under almost any circumstances have become so offensive and pestilential as they are represented to have been by the Sanitary Commissioner, for it must be borne in mind that the lower floor of the barrack was not occupied by sick. I am censured by Dr. Sutherland, and accused of ignorance and incompetency, for having allowed sick and wounded men to be placed in wards at the barrack hospital, Scutari, which

measured on an average 49½ feet in length, 31½ feet in breadth, and 15½ feet in height, each ventilated by three large windows opening outwards, and a door and two or more windows opening inwards into a corridor 18 feet wide, running the whole length of the building, which had numerous windows, and communicated with the inner square by means of large well staircases at certain intervals. With favourable weather, a class of patients by no means severe, and the regulated allowance of five feet of surface wall for each, few medical men, I fancy, will think there was anything so very faulty in this arrangement as a temporary expedient, nor will they perhaps consider that the necessity of resorting, in the first instance, to the more elaborate and scientific alterations of the building which were subsequently carried out by the Sanitary Commissioners, was so urgent as has been represented; but even had it been so at the period of its first occupation, there was neither time nor means to effect them.

In the course of the winter of 1854-5, the hospitals at Scutari became more crowded than was desirable, from the great influx of sick sent down from the Crimea; but that was matter of necessity, not choice, and the privies and their approaches may occasionally have been rendered dirty and offensive by the negligence of the hospital servants, but this could only have effected the corridors in their immediate neighbourhood, and not the whole of the 28 wards opening out of them, as one would be led to infer from reading Dr. Sutherland's statement, which leaves an impression as if the privies opened directly into the wards where the sick were. Whereas, the privies were placed in the barrack hospital in detached buildings, in the inner angles of the square, and in the general hospital, in detached buildings at the outer angles of the square; and I can hardly imagine the principal medical officers at Scutari would have allowed such a nuisance, as is described by Dr. Sutherland, to exist in the hospitals there.

Unfortunately, much sickness, and lamentable mortality, occurred in the British army, during the winter of 1854-5; but when the Sanitary Commissioners arrived at Scutari in March 1855, sickness was diminishing rapidly, and the cases of diseases which presented themselves, were of a much milder character than they had been during the winter. The Sanitary Commissioners, in their Report, gave a table showing the decrease of sickness and mortality in the Scutari hospitals after their arrival, which they ascribed to their own sanitary labours in and about the buildings; but as this did not strike me to be a correct deduction, I stated in my observations that the diminished number of sick, and milder nature of the cases of disease sent down to the hospitals at Scutari

from the Crimea, after their arrival, might have influenced the results more than their flaps and traps in the privy drains; and as an example, I mentioned the number that had been embarked, and the number that had died on the passage during two periods, the one immediately preceding, and the other immediately following the arrival of the Commissioners. I put this in as plain a manner as I could, and I thought it would have been intelligible to every one, but Dr. Sutherland has so mystified it by his subtle reasoning, that I can scarcely recognise my own statement; and the shortest way I suppose will be to admit, that, because the Sanitary Commissioners trapped the privy drains in the barrack hospital at Scutari, sickness and mortality diminished in the Crimea.

To prove that deaths on board the hospital ships had no relation to the deaths in hospital at Scutari, Dr. Sutherland instances the month of December 1854, when a number of the sick embarked at Balaklava were labouring under cholera and its sequel; and the month of February 1855, when the hospitals at Scutari were filled with fever cases that had been accumulating during the previous month. In the one case it was reasonable to expect death to occur more speedily, and in the other, in addition to the chances of serious fever cases sent down there for treatment, the worst cases of those embarked for Smyrna and Abydos were removed from the ships as they passed Scutari. This alters the doctor's proposition very much, and in his comparison between the Crimea and Scutari he leaves out of sight the fact that every slight as well as every serious case of disease admitted into hospital is included in the former, whereas during the winter of 1854-5 only serious cases of disease were sent down to the latter.

In my abstract of admissions and deaths in the Crimea, from December 1854, to August 1855, I omitted the strength of the army, to save figures, which I admit I ought not to have done; and the doctor is quite witty on the subject: but, respectable as the increase of the British force in the Crimea was, it bore no relation to the comparative numbers of 25,000 and 2,500,000, which have been adduced as an example by Dr. Sutherland.

At pages 14 and 27 of his Reply, Dr. Sutherland gives two of what he calls corrected statistical tables, both of which are erroneous in almost every particular, but taken even according to his own showing, they tell against himself, and prove that sickness and mortality had begun to decrease in the army before the arrival of the Sanitary Commissioners at Scutari, and continued to do so until the month of May 1855, when they began to increase again; but it would be as unjust to charge this increase to the Commissioners, as it was unfair for them to claim the merit of the



decrease which had commenced before their arrival in the country, for both these changes were owing to causes over which their trifling sewage operations at Scutari had not the remotest influence. I do not know from what source Dr. Sutherland obtained information for the two Returns which he has given in his reply, but the annexed tables, copied from documents in my possession, will show how erroneous they are, and what little reliance can be placed on conclusions drawn from such false premises.

No. 1.—Copy of Return, inserted at page 14 of Dr. SUTHERLAND'S REPLY.

| MONTHS.             | Sick admitted to Hospitals. | Died in Hospital. | Died on Ship. | Died on Shore. | Total Deaths. | Period of Sanitary Improvements. |
|---------------------|-----------------------------|-------------------|---------------|----------------|---------------|----------------------------------|
|                     |                             |                   |               |                |               |                                  |
| 1854.               |                             |                   |               |                |               |                                  |
| September . . . . . | 3,947                       | 211               | 72            | —              | 286           |                                  |
| October . . . . .   | 1,721                       | 16                | 44            | 2,016          | 124           |                                  |
| November . . . . .  | 1,262                       | 103               | 84            | 3,119          | 113           |                                  |
| December . . . . .  | 3,839                       | 214               | 84            | 3,637          | 144           |                                  |
| 1855.               |                             |                   |               |                |               |                                  |
| January . . . . .   | 2,144                       | 172               | 80            | 4,463          | 216           |                                  |
| February . . . . .  | 2,178                       | 41                | 19            | 4,178          | 427           |                                  |
| March . . . . .     | 1,047                       | 5                 | 4             | 3,179          | 215           | These weeks ending 17th          |
| April 7th . . . . . | 660                         | 4                 | 4             | 2,366          | 144           | March, 1855.                     |
| 24th . . . . .      | 793                         | 8                 | 19            | 2,803          | 107           | April 7th.                       |
| May 19th . . . . .  | 471                         | —                 | —             | 2,618          | 107           | 20th.                            |
| June 9th . . . . .  | 615                         | 1                 | 1             | 1,364          | 44            | June 9th.                        |
| 30th . . . . .      | 890                         | 8                 | 9             | 1,442          | 22            | 30th.                            |

No. 2.—Return compiled from original documents furnished to the Inspector-General of Hospitals in the Crimea.

| MONTHS.             | Sick admitted to Hospitals. | Died in Hospital. | Died on Ship. | Died on Shore. | Total Deaths. | Remarks.                                      |
|---------------------|-----------------------------|-------------------|---------------|----------------|---------------|-----------------------------------------------|
|                     |                             |                   |               |                |               |                                               |
| 1854.               |                             |                   |               |                |               |                                               |
| September . . . . . | 4,630                       | 357               | 88            | —              | 4,075         | Wounded from the Abies, and cases of cholera. |
| October . . . . .   | 1,774                       | 17                | 43            | 2,277          | 1,601         |                                               |
| November . . . . .  | 1,946                       | 113               | 56            | 2,256          | 2,611         |                                               |
| December . . . . .  | 4,393                       | 225               | 74            | 3,647          | 3,105         |                                               |
| 1855.               |                             |                   |               |                |               |                                               |
| January . . . . .   | 2,140                       | 230               | 66            | 4,848          | 2,900         |                                               |
| February . . . . .  | 1,884                       | 23                | 12            | 2,136          | 2,886         |                                               |
| March . . . . .     | 969                         | 5                 | 8             | 4,351          | 2,833         |                                               |
| April . . . . .     | 1,102                       | 8                 | 4             | 2,792          | 1,787         |                                               |
| May . . . . .       | 924                         | 2                 | 2             | 2,864          | 1,174         |                                               |
| June . . . . .      | 1,107                       | 12                | 10            | 2,309          | 1,147         |                                               |

8. Included in casualties in my observations, but on more minute examination of the Returns, I find they were sick Coast labourers, and ought to have been omitted, which would have made the number of deaths in the second period 17, instead of 19, as stated.

Return No. 2, shows so marked a decrease in the number and mortality of cases sent down from the Crimea to the hospitals at Scutari, for treatment, during the month of February 1855, that it is almost superfluous to state, that a favourable change in the health of the army had commenced before the arrival of the Sanitary Commissioners at Scutari; but if anything further were required to establish the fact, I might be allowed to quote the following extract from a communication of mine to the Director-General of the Army Medical Department, which was written on the 23rd February, and had no reference to any inquiry of this kind, so that it may be fairly taken as an unbiased expression of my opinion on the subject:

"You will be pleased to learn that no improvement has taken place in the health of the troops of late, though I am sorry to say our sick list still continues very heavy."

"The type of fever which prevailed in the general hospital at Balaklava, and in the 53rd and some other regiments, has changed from the typhoid to the remittent, and even intermittent character. For a week or ten days preceding the 19th, the weather was mild and genial, and the men began to regain their health and spirits, but on the 19th, the wind changed to the north, and we had a violent snow storm during the 20th, but as yet I cannot observe that it has done much injury to the sick."

At the end of the month, in my weekly report to the Commander-in-Chief, I find the following observation on the same subject:—"It was wonderful to see the cheering effect the few fine days had on the health and spirits of the men; and as the winter may now be considered nearly at an end, I am full of hope and confidence."

In the 2nd part of Dr. Sutherland's Return, it will be seen that the deaths per 1000 of cases treated, is calculated from the sick in hospital at certain fixed periods, and not from the whole number treated, which makes the mortality, that is lamentable enough in reality, appear excessive.

At page 27 of his Reply, Dr. Sutherland gives the following Table of admissions and deaths in the whole army, from December 1854, to May 1855:—

| MONTHS.            | Admissions to Strength per 1000 per Annum. | Deaths to Strength per 1000 per Annum. | MONTHS.             | Admissions to Strength per 1000 per Annum. | Deaths to Strength per 1000 per Annum. |
|--------------------|--------------------------------------------|----------------------------------------|---------------------|--------------------------------------------|----------------------------------------|
| 1854.              |                                            |                                        | 1855.               |                                            |                                        |
| December . . . . . | 5888                                       | 721                                    | September . . . . . | 2004                                       | 121                                    |
| 1855.              |                                            |                                        | October . . . . .   | 1380                                       | 49                                     |
| January . . . . .  | 4176                                       | 1173                                   | November . . . . .  | 1176                                       | 52                                     |
| February . . . . . | 2760                                       | 979                                    | December . . . . .  | 1532                                       | 32                                     |
| March . . . . .    | 2316                                       | 561                                    | 1856.               |                                            |                                        |
| April . . . . .    | 1716                                       | 223                                    | January . . . . .   | 1116                                       | 21                                     |
| May . . . . .      | 1944                                       | 202                                    | February . . . . .  | 924                                        | 9                                      |
| June . . . . .     | 3396                                       | 318                                    | March . . . . .     | 972                                        | 10                                     |
| July . . . . .     | 2832                                       | 152                                    | April . . . . .     | 840                                        | 8                                      |
| August . . . . .   | 2760                                       | 181                                    | May . . . . .       | 720                                        | 7                                      |

From what data Dr. Sutherland has calculated the above table, I do not know; but it is at variance with the following per centages, which are taken from authentic documents.

In the following statement, the admissions are confined to those of a primary kind, as the transfers to general hospitals were only multiples of the same; but the

\* In my sanitary observations on the Assistant-General's Monthly Return for February 1855, the subject is entered on at greater length.

deaths include the whole mortality of the army, whether in general or regimental hospitals, or on board ship at sea.

|                         | Per Centage<br>of Admissions to Strength<br>in the Crimea. | Per Centage<br>of Deaths to Strength<br>in all Places. |                                         |
|-------------------------|------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------|
| April, 1854 . . . . .   | 3.9                                                        | 0.07                                                   |                                         |
| May " . . . . .         | 10.2                                                       | 0.09                                                   |                                         |
| June " . . . . .        | 9.3                                                        | 0.06                                                   |                                         |
| July " . . . . .        | 17.5                                                       | 1.33                                                   | Cholera in Bulgaria.                    |
| August " . . . . .      | 28.2                                                       | 2.84                                                   |                                         |
| September " . . . . .   | 22.3                                                       | 3.10                                                   | Battle of the Alma,<br>and Cholera.     |
| October " . . . . .     | 23.6                                                       | 2.49                                                   | Battle of Balaklava.                    |
| November " . . . . .    | 27.8                                                       | 4.16                                                   | Battle of Inkermann,<br>and Cholera.    |
| December " . . . . .    | 32.4                                                       | 6.01                                                   | Cholera prevalent.                      |
| January, 1855 . . . . . | 34.8                                                       | 9.73                                                   | Fever.                                  |
| February " . . . . .    | 23.0                                                       | 8.16                                                   | Ditto.                                  |
| March " . . . . .       | 19.3                                                       | 4.68                                                   |                                         |
| April " . . . . .       | 14.3                                                       | 1.86                                                   |                                         |
| May " . . . . .         | 16.2                                                       | 1.69                                                   | Assault of Redan, and<br>Cholera.       |
| June " . . . . .        | 23.5                                                       | 1.27                                                   | Cholera.                                |
| July " . . . . .        | 23.6                                                       | 1.51                                                   | Cholera.                                |
| August " . . . . .      | 23.0                                                       | 1.01                                                   | Assault of Redan.                       |
| September " . . . . .   | 16.7                                                       | 0.41                                                   | Relieved from Trench<br>and Night Duty. |
| October " . . . . .     | 11.5                                                       | 0.48                                                   |                                         |
| November " . . . . .    | 9.8                                                        | 0.27                                                   |                                         |
| December " . . . . .    | 11.1                                                       | 0.18                                                   |                                         |
| January, 1856 . . . . . | 9.3                                                        | 0.08                                                   |                                         |
| February " . . . . .    | 7.7                                                        | 0.09                                                   |                                         |
| March " . . . . .       | 8.1                                                        | 0.07                                                   |                                         |
| April " . . . . .       | 7.0                                                        | 0.06                                                   |                                         |
| May " . . . . .         | 6.0                                                        | 0.02                                                   |                                         |
| June " . . . . .        | 3.6                                                        |                                                        |                                         |

The above table exhibits a gradual increase of sickness and mortality from April 1854 to January 1855, when, from the improved condition of the men, they began to decrease; and after the capture of Sebastopol, in September 1855, which relieved the men from trench and night duty, a marked improvement in the health of the army took place, which was never interrupted so long as it remained in the Crimea.

The doctor is indignant at the sewage operations of the Sanitary Commissioners being undervalued; and, at page 11, he gives a table of the works performed, in which he allows it to be understood that they were all carried out before the 30th of June, 1855, the date to which my observations allude. But if the reports of others be taken, it will be found that some of them were not carried out for eight or nine months afterwards, and others not at all.

The Sanitary Commissioners brought out with them skilled engineers and workmen, and were invested with almost unlimited

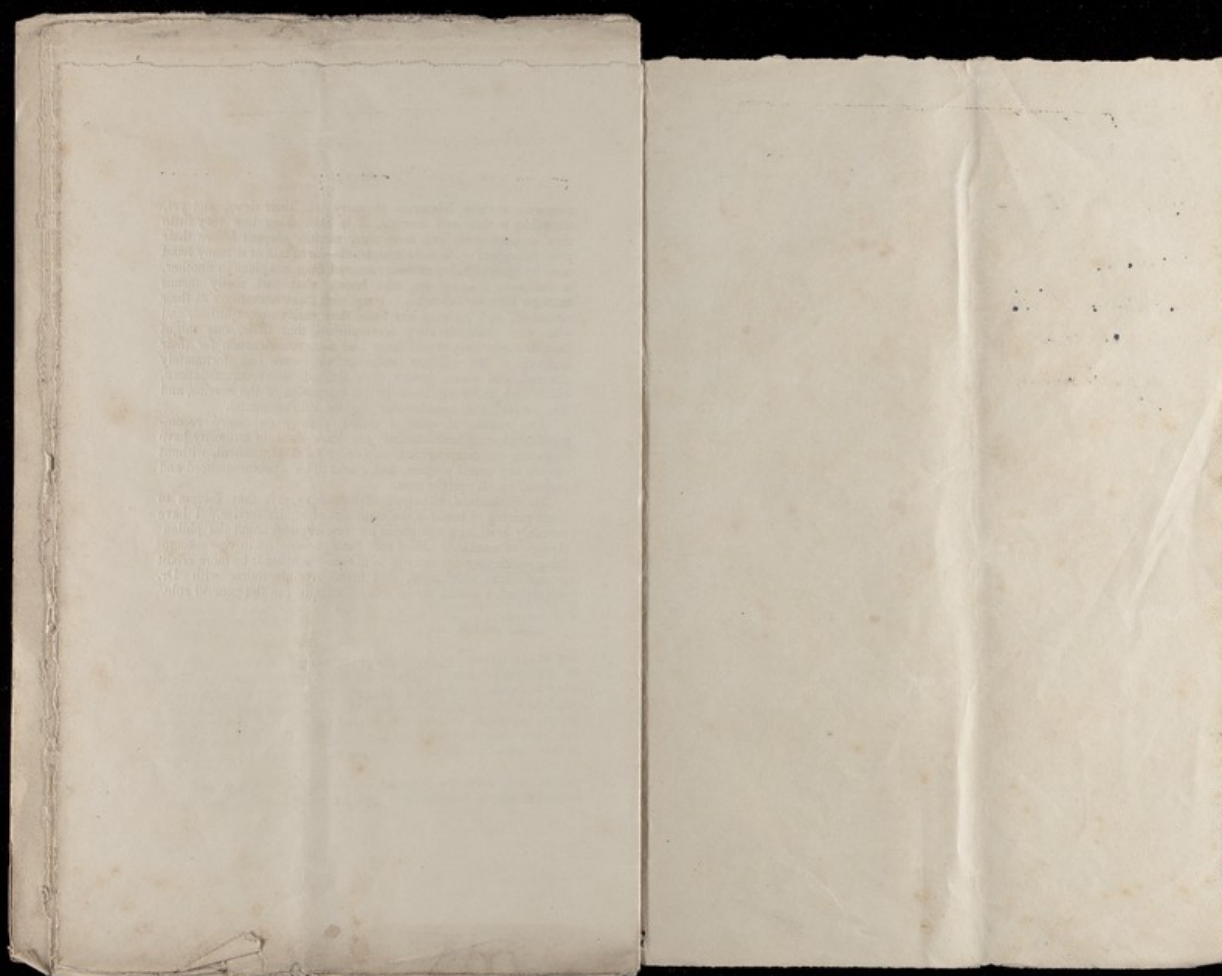
authority to hire labourers to carry out their views, and yet, according to their own showing, it is astonishing how very little they accomplished, and how many months elapsed before their more important works were completed—for to talk of so many hand carts or baskets full of rubbish removed from one place to another, is ludicrous to any one who knows what that really means amongst Eastern labourers. I say, with these advantages at their command, and knowing how little they really accomplished, and with what difficulty they accomplished that little, one might have thought they would have had more consideration for their brethren of the military profession who were less fortunately situated, and whose powers were limited to recommendations, which had to be regulated by the exigencies of the service, and due respect and consideration for those in command.

The system of what is called putting on record recommendations and demands that you know those in authority have no means of carrying out, only creates embarrassment, without serving any useful purpose, and ought to be discountenanced and despised by all upright men.

Dr. Sutherland, at page 1 of his Reply, says that I seem to think gaining of credit is the main aim of public service. I have certainly lived long enough to be very sceptical about the philanthropy of mankind. Most men have some object in view—something which they are anxious to obtain—whether it be mere credit or more solid advantages, and from my intercourse with Dr. Sutherland, I should say he was no exception to the general rule.

London, February, 1856.





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the losses of the British army during the Crimean and Peninsular wars will be presented with considerable interest. The improvements in firearms do not appear to have counteracted the destruction that was anticipated, the casualties being nearly balanced. There is, however, a marked increase in the average number of officers killed in the Crimean war, though not in that of the men. Inquiry should be instituted as to the causes, and remedies applied if possible. The numbers of non-commissioned and commissioned officers to each 1,000 rank and file in the British army may be estimated at 72 and 45 respectively. The proportion of the wounded officers who die from the injuries they have received is considerably less than that which obtains among the private men; for out of 1,673 officers (more than two-fifths of the total number) wounded from 1793 to 1815 only 164 died, being very nearly 1 to 12. The difference in favour of the officers is no doubt, due to the greater amount of comfort and attention which they are generally able to secure. At the siege of Gibraltar only 1 officer died out of 25 wounded, and out of 117 wounded at the battle of Toulouse only three died. In both these cases the wounded were able to find better accommodation than can be the case after a battle fought in an ordinary campaign. At Gibraltar the proportion of deaths among the private men was reduced from one in eight to one in 53, 101 having died out of 1,083 wounded. It may be estimated that from 1793 to 1815 the number of recruits raised for British regiments was 315,000, for foreign and colonial regiments 178,500, making a total of 493,500, besides 90,000 foreign troops temporarily employed,—to these being added the effective force on the 1st of January, 1793, 45,400 men, the total number employed during these wars will be 748,110. Of these 210,420 died, 221,111 were discharged, 30,000 taken prisoners, and 125,579 deserted,—leaving an effective force of 211,270 on the 31st of December, 1815. From a comparison of the mortality of the Army and Navy during war it appears that the man who entered the army, from 1793 to 1815, ran between two and three times, if a private, and between three and four times, if an officer, the risk of injury in battle than was encountered by one who entered the navy, and that the general chance of death in action to the one was double that of the other. When the soldier was ordered on service abroad, the risk became three times as great to the private, and nearly four times as great to the officer,—while, to those engaged in actual hostilities it was respectively 17 and 22 times that of the sailor, the whole navy being considered on active service in time of war. These ratios, however, would be greatly lessened if we were to include in our estimate the danger from shipwreck, which made the seaman's risk of death from the casualties of the service three times that of death in battle. A fleet of 30 sail of the line may be considered as equivalent to an army of 120,000 men; and a single battle on land has been more destructive to life than 20 years of combat at sea. During the Peninsular war, from 1808 to 1813, the average number of sick in each 1,000 was 200 in the British army; in the French army of Spain, 180; and in the French army of Portugal, 165. It appears that on the 22d of October, 1804, there were 5,777 sick and wounded out of 34,642, which is at the rate of 165 in 1,000. Of these 328 only were with the army, and deducting these and the 1,539 who were wounded at Albuera, we have 4,910 sick at Valence; and as the total strength at embarkation was about 35,000, we have 140 out of 1,000 in hospital before active hostilities took place. During the time from the landing in Turkey to the 6th of September, 1854, the mortality, which arose from disease alone, was at the annual rate of 87 per 1,000; during the five months from the 6th of September, 1854, to the 15th of February, 1855, it was equivalent to an annual mortality of 198 per 1,000 from casualties in action, and 201 per 1,000 from disease—making a total mortality of 499 per 1,000 per annum. Of 1,000 deaths in the hospital at Scutari, 375 were caused by diarrhoea and dysentery, 173 by fever, and 55 by wounds; in the Peninsula the respective proportions were 291, 308, and 201. Of 19 great battles of which details had been preserved, only 4 were fought by British armies unaided by allies of other nations, so that it is necessary to state separately the losses sustained by the British only and by the British and Allies together. It appears that in these 19 battles an aggregate British force of 488,235 officers and men was engaged; that of these 41,281 were either killed or wounded, and that of these again 14,517 (nearly 35 per cent.) died from the injuries they received—so that the casualties averaged 114 and the mortality 33 for every 1,000 men engaged. The lowest ratio of casualties in these 19 battles is that of the battle of Buzaco, 22 per 1,000; the highest loss for the whole force is at New Orleans, where the loss in killed and wounded on the side of the British was 317 in 1,000. At Albuera, though the casualties of the British and their allies were only 116 per 1,000, those of the British alone amounted to 355 per 1,000. A subject to which hardly sufficient attention appears to have been paid is the relative efficiency of different weapons. It appears from a return furnished by the surgeon of the Scots Fusiliers Guards, that of 120 men of that regiment wounded at the battle of Inkermann 7 were wounded by the bayonet and 79 by gunshot. Now, it has been confidently and repeatedly asserted that this battle was won by the bayonet; and in the Russian official account of the battle it is called an unbroken bayonet contest, and it is stated that their troops had challenged and routed the well-fed and powerful British troops with what the latter considered their own peculiar weapon. Yet the Brigade of Guards was more constantly and closely engaged in this action than any other portion of the army; for, out of 2,382 casualties suffered by 25 battalions, 594 were borne by the three battalions of Guards, so that it is not probable that the proportion of bayonet wounds was greater in any other regiment than that mentioned above—viz., 7 in 120, or about 58 in 1,000. Again, at the battle of Balaklava the heavy brigade were opposed by cavalry, and, therefore, most of the wounds which they received were made by lances and sabres. Of 136 casualties among them 9 were fatal; whereas, of the 281 among the light brigade, who suffered from artillery as well as from hand-to-hand fighting, 560 were fatal, or more than half, the ordinary proportion being 1 death in 5 casualties. The total amount of killed and wounded of the British forces in the Crimea, from the 15th of September, 1854, to the 8th of September, 1855, was 13,880, of which 4,565 arose from siege duties, 4,296 from assaults, and 4,019 from battles. The ratios of deaths among the wounded officers appears to have been nearly the same in 1793-1815 and in the Crimean campaign; but the proportions returned as killed vary considerably, being 164 officers killed to 836 wounded in the former period, and 233 to 767 in the latter. The proportion of killed among the private men was nearly the same in both wars, being 120 to 1,000 in the former and 120 to 1,000 in the latter. The loss sustained by the Russians during the siege is not known to us; but it appears that on the 17th and 18th of June, and from the 17th of August to the 3th of September, 1855, inclusively, their loss was 27,852. As the total loss of the English, in killed and wounded, in the siege and assaults was 8,961, we shall have, taking the loss of the allies at double that of the English, a total loss of about 27,000; so that the besieged lost as many in the 35 most sanguinary days of the siege as the besiegers did during all the 108 days during which it lasted. The French garrison of Budapecs in 1812, consisting of 4,870 men, inflicted 4,824 casualties on their own men, including deaths from sickness. 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### To Readers and Correspondents.

\* \* The publication of the 'Naval and Military Gazette' has been transferred to Mr S. H. Lindley, of 19 Catherine street, Strand, to whom alone all Orders for the Paper and Subscriptions should be addressed.

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To "Miles."—Your exertion is excellent; but what could easily be done here in London for an individual, or for even a thousand persons, would be impracticable in the Crimea for a whole Army.

To "L. B. L."—There is no intention, at least at present, of augmenting the number of Depot Battalions, or of giving those now formed a double number of Staff.

To "Robert."—You are under a mistake. There is not any recognised allowance for the conveyance of women and children at the public expense, but in all well-regulated Regiments "the commuted baggage allowance" in general meets the charges.

To "Query."—We are unable to explain to you the movements to which you refer.

To "A. W."—The commissions of Adjutants are not such as to entitle them to exchange from one Militia Regiment to another. If the Commanding Officers of the two Corps agreed to the exchange, it might be allowed.

To "W. S."—The pay of the two commissions cannot be drawn. The higher pay can alone be received.

To "Observer."—There may be jobbing of the canteen, and ale and pork stocks may have had their influence, but we cannot publish libels. If the Commandant and Barrackmaster have acted as you state, they have endangered their commissions. Fourteen out of fifteen companies having withdrawn from dealing at the canteen, it is a fact which will tell its own tale, and also settle the question of profits.

To "F. O."—The pay ceases from the date of not performing duty.

To "Alfred."—Interest with a Director of the East India Company is the sine qua non.

To "Evelyn."—The Kaffir War Medal ought, no doubt, to have been issued long ago, but the Mint, and not the Government, is in fault.

To "Samuel."—No more Regiments of Militia will be embodied until means have been provided for placing them in barracks. We believe the Bill will be enforced where the proper number of men have not been raised by voluntary enlistment.

To "A. Young Soldier."—The General Commanding-in-Chief and the Commander-in-Chief differ only in title and pay; their power is the same.

To "B. A. C."—When there are sufficient militia rifles manufactured, the Militia will be armed with them, and the officers and men will be instructed in their use.

To "Peninsula."—If the Paper does not arrive regularly, it must be occasioned by your having various addresses, which occasion inconvenience and mistakes.

To "Nauticus Equus."—If your name has been included in the List of those who are entitled to receive the Crimean Medal, send your application to the Secretary to the Admiralty, marking "Crimean Medal" in the left-hand corner of the cover.

To "W. P."—We for some time refrained from noticing the very extraordinary letters of Sir W. Codrington, in the hope that he might rectify a private hint on the subject. Government much needs at the head-quarters of our Army in the East an officer who is able to write a good official letter for the Commander of the Forces.

To "B."—However your peace may seem to be, the appearance may be a mirage. We are glad to say that our preparations for a campaign are going on vigorously, and should war be continued, we have a good hope of being able to strike blows this year by sea and land which will force Russia to yield. We suspect that the want of money at present more disposes the Czar towards peace than the dread of the Allied Armies.

Communications declined or rejected cannot be returned; they are usually destroyed; and no communication can be attended to, personally affecting individuals, unless authenticated by the name and address of the writer; when questions are pressing, they should be sent early in the week.

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## Naval & Military Gazette.

SATURDAY, JANUARY 19, 1856.

### THE SOLDIER'S BOUNTY IN FUTURE TO BE A BONA FIDE BOUNTY.

It is with the most lively satisfaction that we announce the intention of Lord Panmure to advise Her Majesty immediately to issue Her Royal Warrant, commanding that in future every recruit who may, after a certain date, join the Army, shall be provided with an outfit of necessities at the public expense, and that the Bounty shall in no way include the money to be paid for this purpose. Whatever bounty the Queen may be pleased to offer to those who are willing to accept service in the Army, is in future to be paid in cash, without the smallest deduction. The recruit will no longer suffer under the deception that a bounty is to be paid which, when he is expecting to receive it in solid cash, he learns has been to a great extent spent in the purchase of his Military outfit. For many years we have advocated the entire separation of the Bounty, large or small, from the sum to be expended in necessities, well knowing the sore feeling of all young soldiers on the subject, who have always expressed themselves to us as having been "done out of their bounty by a 'hogus'."

It is a reward for our labours indeed, when, after years of patient and persistent advocacy, we find a measure which we have so strenuously urged on the Authorities at last conceded. Lord Panmure has done much for the British Soldier: he has obtained for him the Limited Enlistment Act, and many ameliorations of his condition, and he has now removed a grievance of no ordinary severity by at once and for ever separating the Bounty from the supply of necessities. We look with anxiety to the wording of the forthcoming Warrant, and here express our hope that its provisions may be few, and that the rawest of recruits may be able to clearly understand them. The great defect in all the Warrants we have ever seen issued from the late War Office consisted in this, that the apparently liberal grant of the first clause was, by provisions, exceptions, conditions, and stipulations, made not only utterly unintelligible to the poor soldier, but so reduced in its beneficial operation that it was notoriously in the Army held to be "A RUMRUG."

We offer our thanks in the name of the Army to Lord Panmure for this long-desired measure—one which we have never ceased to urge as best calculated to impress the young soldier, from the first, with the conviction that he was to be honourably dealt with. We may overrate the immediate effects of the measure on recruiting, but we are convinced that it will in a short time have the happiest results, by removing from the minds of the young soldiers the notion that they have been "done." It will also, we anticipate, lessen desertion, for we are well persuaded that many a recruit has reconciled to himself the crime of desertion because he fancied faith had not been kept by the Government with him, as he had been promised a bounty which he never received.

Long years we toiled to obtain the abolition of the sale of spirits in canteens, and when hope deferred had made the heart sick we were gratified by one evening suddenly hearing that Government had at last determined to cease raising a revenue from the sale of spirits in canteens. In like manner we now feel honest delight that after many years of advocacy we have learned from

undoubted authority that Lord Panmure has burst through all the routine difficulties put in his way, and has recommended to Her Majesty the immediate issue of a Warrant giving to the soldier the full amount of bounty fixed, in money, and providing that every recruit shall be furnished, free of all charge, with a full equipment of necessities.

In announcing the issue of this Warrant to the Army, we feel assured that they will agree with us, that no one measure of amelioration recently adopted is more fully calculated to improve the soldier's confidence and loyalty. The days of Sergeant Kite are numbered: honesty will henceforth be found in enlistment, as in all other transactions, the best policy. We have too long tried the dishonest practice, and have found it fail of success.

### THE GRAND COUNCIL OF WAR.

It is, we believe, the general opinion that England is not sufficiently represented at the Council of War now sitting at Paris, and by which the future destinies of Europe will probably be influenced in a no trifling degree.

Wherefore was Sir Colin Campbell not required to give his opinion on this momentous occasion? Wherefore were not Generals Sir De Lacy Evans, Simpson, and Brown summoned likewise to attend? And as regards the Naval operations in the Baltic, why were Napier, and Chads, and Plumridge not likewise consulted in a case, in the peculiar circumstances of which the advice of Lord Dundonald might surely not irreverently have been asked?

How long shall private interest and a paltry party spirit be permitted to influence our Rulers, and allow them to neglect their duties towards the nation by whom they are so largely paid? Are we doomed at the Council Board, as in the field, ever to play a secondary part to our gallant Allies the French?

### WHO ARE TO COMMAND OUR FLEET AND ARMY IN THE COMING CAMPAIGN?

The Council of War will hardly close its deliberations without giving an opinion on the fittest field for operations, and the best means for carrying them to a successful issue. It must be mere matter for surmise to attempt to point out, without the information the Council of War possesses, the probable course that war may take during the present year. A general opinion, however, prevails in this country that a double attack is about to be made on Russia, one by sea and land in the Baltic, and the other in the direction of Asia Minor and the Caspian. It is generally asserted that England and France are quite agreed in the advantage of breaking up the Crimean Army as now constituted, and that the attack in the Baltic is to be made by the Navy of England and the Army of France, while the English Army is to be chiefly employed in Asia Minor, in conjunction with the Turkish Forces. Whether this opinion has been founded on good data we cannot say, but we confess that any arrangement by which the English Army can obtain separate action will gratify us.

In any plan which may be adopted for carrying on the war, much will depend on the promptitude and firmness of the Generals and Admirals to be employed. Sad experience of the sluggishness and vacillation of Commanders by sea and land has made us feel anxious on the subject, and desirous to see some life and energy infused, where they seem more required than among the commanded. It is peculiarly essential in the coming campaign that the British Fleet may be led by a true sailor, one who is resolved to fight. That is all we ask, as we well know that if our Fleet be only properly led to fight, the result will be victory. We firmly believe that our Navy is now what it was, and will ever be—the finest in the world; and men have not yet been born who can beat British seamen, if only led into action and told to conquer or die.

Photographs - crops and retouching  
 sent not very long ago

2/2W

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city of powder expended in blowing up this dock alone was 15,000 lbs., with 33 charges in all. The 12 side charges were each 500 lbs. Behind the steps leading down to the bottom of the dock there were 1 charge of 1,000 lbs. and 2 of 500 lbs. of powder each. The remaining charges, those under the docks and the floodgates, averaged about 150 lbs. each. After the Russians had fired a few badly-aimed shells, and the French and English Engineers had examined the debris, the former again fired the four charges that had not gone off. After the lapse of a few minutes, these exploded, and thus the west and east docks of the French half, together with the left side of the large basin, even to the gates, were completely destroyed. Sir W. Codrington now asked Col. Lloyd how long he thought it would be before our Engineers would be ready to blow up the bottom of their east dock. The answer was, "As soon as Mr Deen, who has charge of the voltaic batteries, is ready." Mr Deen, on being asked, stated he could not be ready for two hours; and at this time it was about two. Our three docks, on account of being about four feet lower than the two French docks and entrance, have about half a foot of water in each of them. As a result of this, great difficulties have had to be contended with; and, owing to the severity of the weather, the Sappers have suffered terribly, both by night and by day. At about five, the wires and cables appeared to be getting fixed. The bank where Mr Deen had his ten voltaic batteries, and from which he fired the mines, was on the other side of the dockyard high white wall, and up a steep hill. In the bottom of the dock were ten charges, each of 150 lbs. These were connected by electric wires to the two cables, making five wires for each cable, and these two cables, with an electric wire inside, ran up the hill through holes in the wall to Mr Deen's bank. Just before the explosion, the force of the electricity was tested at the end of the cables, which were about 100 yards long. At twenty minutes past five o'clock, just before dark, Private Sulley, tinsmith by trade, of 60th Co. of Sappers, was ordered by Maj. Nicholson to connect the ten wires to the two cables. In another two minutes all had cleared away. The moment the word "all right" was passed up to Mr Deen, eight of the ten charges blew up, which were quite sufficient completely to destroy the bottom of this dock. The latter was 171 feet long on the stone skids at bottom, 40 feet wide, and 20 feet deep. At top it is 238 feet long and 95 feet 4 inches wide. The revetment at top was 6 feet 8 inches broad. Our centre dock, which in all probability will have its bottom blown up to-morrow evening, is 230 feet long, and the west dock is 233 feet. There is every reason to expect that in another fortnight the whole of the Sebastopol docks will be totally worthless for any purpose whatever. The French appeared to be much pleased at our engineers being so successful under water. They will have nearly as great an obstacle to contend with in their centre entrance. As for the Russians, they took even jumping up on their parapets. The French and English have been each taking down one of the large floodgates complete, to send home as trophies; either half of a gate contains 12 iron hollow ribs, each weighing about 2½ tons. The French took down their two halves bodily, and now that these are at bottom of the dock, they have been obliged to take the ribs off and drag them across the basin at an immense cost of labour. We, on the contrary, by means of 160 Artillerymen, under the charge of Maj. Andrews, R.A., and two Lieutenants, the whole under the superintendence of Lieut. Col. Bent, R.E., have been lifting the ribs up by pulleys, one by one, as the halves of the gates stand. Two ribs have by accident been broken, for they are very brittle, so that a half of another gate will have to supply them.

CAMP, JAN. 2.—Wherever one goes he is sure to be asked—Have you read the Guards' Memorial to be placed upon the same footing with their more fortunate brethren of the Line? With the Memorial every one is disgusted, and appears to wish that the Guards were placed upon the same footing. The Junior Brigadier with this Army is Col. Lyons, C.B. who commands 22nd Rl. Welsh Fusiliers. He has had 21 years' service, and on July 17 last was made full Col. for distinguished service in the field—in other words, for June 15. In the three Regts. of Guards there are, without any distinguished service, all the Lieut.-Cols. and Majs.—total 10—altogether with 15 Capts. who are at this moment senior to Col. Lyons. What right, then, have these fortunate gentlemen to grumble when there are 26 officers amongst them who would take Command of the acting Brigadier who wears the Alma and Inkermann charges, and was engaged with his Regt. both on June 18 and Sept. 8, on which last two days the Guards were not engaged?

#### THE ARMY IN THE CRIMEA.

EXTRACTS FROM GENERAL ORDERS.

Continued from page 23.

Head-Quarters, Sebastopol, Dec. 22.—At a General Court-Martial held at Camp before Sebastopol, on Dec. 22, Serj. Charles Wilson, 11th Hussars, was tried upon the following charge:—For that he did at Kamiesch, in the Crimea, on or about Dec. 10, feloniously, wilfully, and of malice aforethought, kill and murder John Forrest. The Court found the prisoner "Guilty of Manslaughter." Sentence.—The Court having found the prisoner guilty of manslaughter, and having received evidence of his previous good character, do now adjudge him to be transported for the term of fourteen years.—W. G. ROMAN, Dep.-Judge Advocate.—J. R. CHA-

PER, Brig.-Gen. and President. After a careful consideration of these proceedings, it is my opinion that the Court has taken an extremely lenient view of the case, as proved by the evidence before them. I cannot concur in this view; but I nevertheless confirm the sentence of the Court.—WILLIAM CODRINGTON, Gen. Com. the Forces.

Serj. Wilson, 11th Hussars, was stationed at Kasatch, or Kamiesch, on some detached duty connected with the telegraph, and the orderlies under the command of Capt. Budge, and appears to have been reported by Forrest for not paying what he owed for drink at a kind of café, where Forrest was employed. This created an ill feeling, and as Forrest was known to be a deserter from some man-of-war, Serj. Wilson, out of spite, rode up and told him to follow him, as he was a deserter. On this the deceased asked him for his authority, asking at the same time, if he was a deserter, what business it was of his? The serj. told him that if he did not follow he would shoot him, on which the deceased turned round and told him to shoot away. Wilson then and there drew his pistol out of his holster and shot him. Most think that this was either a case for acquittal, or for death, according to the circumstances brought in before the General Court-Martial, of which Brig. Cranford, Grenadier Guards, was President. Lieut. Nicholas, 2nd, will be attached to the Land Transport Corps until further orders. Leave is granted, at the recommendation of Medical Boards, to Lieut. Johnston, 89th; Lieut. A. Ferguson, 42nd; Ena. G. Hutchins, 15th; and Surg. Forreth, 1st Dragoons—to proceed to England; to Maj. Lowndes, 47th; Lieut. O. De Laney, 47th; and Assist.-Comm.-Gen. Archer—to proceed to Malta. On Medical Certificates, to Act. Staff Assist.-Surg. C. Morris, to Jan. 31—to proceed to Scutari; Capt. Barrow and Lieut. Dickson, 82nd, to Jan. 15—to proceed to the Monastery; First Class Staff Surg. Roberts, to Jan. 5—to go to hospital at Balaklava; on Medical Certificates, in extension, to Maj. Lowry, 47th, to Jan. 14; Lieut. Notting, 19th, to Jan. 25; Lieut. Birch, 88th, to Jan. 10; Vet.-Surg. Lord, R.A., to Jan. 19; Purveyor's Clerk Blackman, to Jan. 25—to remain at Scutari; on urgent private affairs, to Lieut.-Col. Hon. F. Colborne, C.B., Assist.-Quarterm.-Gen., to Feb. 29; Capt. Vaseout Kirkwall, 71st, to Jan. 31; Quarterm.-J. Graham, 21st, to Feb. 29. Medical Boards will assemble to inquire into the state of health of Lieut. H. J. Stokes, 39th; Lieut. Roberts, R.A.; Surg. Gilbourne, 89th. Serj. H. Grimson, 82nd, is appointed Dep. Provost-Marshal, with pay at 4s. 9d. a-day from this date.

Dec. 30.—The Field-Marshal Com.-in-Chief has been pleased to appoint Lieut. Lorenz Lerch, 2nd Light Dragoons, British-German Legion, to be extra Aide-de-Camp to Col. Woodbridge, Commanding 1st Brigade, British German Legion. The Field-Marshal Com.-in-Chief has been pleased to grant leave, at the recommendation of a Medical Board, to Maj. Lord Bracerich, 10th Hussars, to Feb. 4; and, on private affairs, to Lieut.-Col. Hume, 56th, to Jan. 14; and Brev.-Maj. Green, 30th, to Jan. 31. The following promotions in the Land Transport Corps are made until Her Majesty's pleasure is known:—To be Sec.-Capt.—Regimental Quarterm. John James, Quarterm. of Brigade C. Hutton, J. Young, and J. Harris. Capt. Harriet, C.B. R.N., has been appointed principal agent of transports at Balaklava. Leave is granted, on urgent private affairs, to Capt. J. W. Percy, 9th; Capt. R. Whitehead, 97th, to Feb. 29. The following Officers, being in command of cos., may draw field allowance and forage as Captains: Lieut. F. Bonham, 71st; Lieut. J. O'Neill, 20th, from Dec. 1. Serj. Charles Hackett, 77th, is appointed Act. Serj.-Maj. at Fort, with additional pay at 6d. a-day from Dec. 19. Serj. C. Ford, 60th, and W. Rowe, 44th, are appointed barrack serjs. at Scutari, with extra pay at 6d. a-day from Dec. 8.

Dec. 31.—Col. Wetherall, Scots Fusilier Guards, being the duty of Director-General of Land Transport, will receive the allowances lately drawn by Col. M-Murdo, from Nov. 29. The undermentioned non-commissioned officers of the R.A. are appointed Cornets in the Land Transport Corps, pending Her Majesty's pleasure being known: Colour-Serj. John Sweeney, Serj. John Wilson, Henry Adams, George Alexander. Medical Boards will assemble to inquire into the state of health of John Barlow, Aide-de-Camp, 14th; Surg. Creeker, 1st Batt. 1st Reg. The following sergeants are appointed Deputy Provost-Marshal, with pay at 4s. 9d. a-day, from Jan. 1: Colour Serj. Thomas Fowler, Gren. Guards; Serj. William Pipe, Coldstream Guards; Serj. John Andrews, 2nd Batt. Rifle Brigade; Serj. Richard Connor, 69th, will act as Quarterm.-Serj. at Karabekia, with pay at 1s. a-day, vice Serj. Seale, 55th, from this date.

By order, C. A. WINDHAM, Chief of the Staff.

#### THE ARMY MEDICAL OFFICERS IN THE EAST.

It was an axiom of Napoleon I, that "rewards are the food which nourishes Military virtue;" and it is a remark as forcible in its application to the medical as to the other executive officers of the Army. But the principle laid down by this great man does not appear to be recognised by the supreme Military Authorities in this country. While promotion and honour have been lavished with unparalled hand upon the other officers—both Staff and Regimental—the Medical Officers have been left unnoticed, unrewarded, unhonoured. We understand that some officers have been promoted, on the recommendation of the Director-General, for meritorious services, but we are unable to state the number or

their names. In the other ranks such promotions have always been gazetted as "for distinguished services in the field;" but in the case of Medical Officers this has not been done, and thus one-half the credit has been stolen from them, and its effect as a stimulus to honourable exertion on the part of the others has been lost.

But these very promotions bring out in bold relief the injustice with which the Medical Department has been treated. Lord Hardinge has been made Field-Marshal, Lord Panmure a G.C.B., while Dr Smith, whose exertions have been beyond all praise, and who conducted the responsible duties of his department at least with as much efficiency as either of them, has not only been unrewarded, but, after being acquitted by a Committee of the House of Commons of the grave but unjust charges lavished upon him, has been left to the vituperative abuse of the "Times," without any step being taken by the Government to save him from this injustice, by a public expression of their opinion of his zeal and efficiency. Lord Hardinge stated before the Sebastopol Committee, that he considered Dr Smith a "very faithful and good public servant." Why, then, has he not recommended Her Majesty to stamp her approbation of his conduct by some honorary reward? But the same laudible distinction has been observed in the Crimea. While the various grades of the Order of the Bath have been showered upon the others, not a single Medical Officer has been included in the list. It may be true they are not so much exposed to the fire of the enemy as the others, but the number who have been killed and wounded in the present war proves that they are by no means exempt from this danger, and they are required to show a much higher degree of courage than the other ranks, for in the midst of danger and general excitement they must, to be efficient, remain cool, collected, and unflinching. That as a body they have nobly done their duty, is the unvarying testimony of all who have had personal opportunities of judging. But it is still more clearly shown by the numbers who have fallen victims to that pestilence which proves far more destructive to an Army than the sword of the enemy. Many of them died at their posts who might have saved their lives by a timely retreat, but were kept back by a conscientious sense of duty; and many more have come home as invalids, with broken constitutions, broken hopes, and broken spirits from a keen sense of the neglect with which they have been treated by their country. Is it, then, surprising that our letters should speak of a general feeling of discontent and dissatisfaction at the Service, among the whole of the members of the department? Of an average of about 600 Medical Officers, 42 have died, and 160 been invalided since the beginning of the war, but not one has been decorated, except with that Medal which has been given indiscriminately to all, from the General commanding down to the smallest drum-boy. When Parliament assembles, we trust Sir De Lacy Evans—who well knows their worth—will ask on what principle the Medical Officers have been excluded from all honours, and will agitate till he obtains for those of the Crimean Army that share of justice which he was before so instrumental in extorting for the Medical Officers of the Army generally. To contribute our feeble quota towards doing justice to the memory of those Medical Officers who have nobly sacrificed their lives in the discharge of their duty with the Army in the East, we subjoin the following comical list:

Deputy Inspector-General.—Thomas Spence, M.D., Nov. 14, 1854.

Staff Surgeons, First Class.—G. K. Pittcairn, M.D., Aug. 18, 1854; John Mitchell, M.D., Sept. 24, 1854; John Marshall, Feb. 10, 1855; Chillyer Fane, March 6, 1855.

Surgeons, Regimental and Second Class Staff.—F. C. Huthwaite, Gren. Guards, Sept. 30, 1854; Peter Mackay, M.D., Staff, Oct. 3, 1854; D. Anderson, M.D., Staff, Nov. 5, 1854; William Browne, 95th Reg., Nov. 25, 1854; William A. Anderson, 41st Reg., Jan. 3, 1855; John Newton, Staff, Jan. 26, 1855; Frax. Smith, 30th Reg., Feb. 9, 1855; M. A. Jane, Staff, March 7, 1855; Christ. Macartney, M.B., 77th Reg., April 11, 1855; James A. Wisbart, M.D., Staff, May 25, 1855; Walter Simpson, M.D., 17th Reg., May 31, 1855.

Assistant-Surgeons.—R. A. Jenkin, 32nd Reg., Aug. 2, 1854; Frederick Y. Shagor, 88th Reg., Aug. 28, 1854; P. G. Martel, 50th Reg., Sept. 11, 1854; James A. Shorrocks, Rifle Brigade, Sept. 21, 1854; James Thomson, M.D., 44th Reg., Oct. 5, 1854; A. R. Reed, M.D., Staff, Oct. 5, 1854; Henry Hackett, 69th Reg., Oct. 18, 1854; John James Norris, 55th Reg., Nov. 22, 1854; Edward P. Boyle, Staff, Dec. 8, 1854; Joseph Lamont, M.D., 41st Reg., Jan. 5, 1855; Alexander Struthers, M.D., Acting, Jan. 19, 1855; John F. Langham, 7th Fus. Reg., 4, 1855; E. S. Wason, M.D., 13th Reg., Feb. 8, 1855; Frederick A. Macartney, Staff, Feb. 11, 1855; John Graham, 71st Reg., Feb. 16, 1855; William Herwick, 14th Reg., March 4, 1855; Frederick Graham, Acting, March 21, 1855; Harvey Ludlow, Acting, April 5, 1855; Robert T. Simons, Acting, April 28, 1855; John H. White, Acting, July 3, 1855; Malcolm C. Ansell, 11th Hussars, Aug. 10, 1855; John Longmore, Acting, Aug. 22, 1855.

Hospital Dispensers.—Harrison, May 23, 1855; —Fell, Aug. 2, 1855. Principal Apothecary.—George Home Read, Nov. 28, 1854. Dispenser of Medicines.—Whitwell, Sept. 2, 1855.

List of Killed.—Surg. Le Blanc, 9th Reg.; Assist.-Surg. O'Leary, 68th Reg.

Wounded.—Surg. Gordon, 95th Reg.; Assist.-Surg. Wilson, 7th Hussars; Assist.-Surg. Read, Rifle Brigade; Asst.-Surg. Cockrell, R.A.; Asst.-Surg. Lundy, 77th.



C. PINE, Esq., Staff Surgeon, 1st Class, Principal Medical Officer 3d Division.

GENTLEMEN,

Camp before Sebastopol, 3d Division, January 13, 1855.

I HAVE the honour to acknowledge the receipt of your letter of the 6th inst. It is utterly impossible that I can comply with your requests.

I assumed charge of a division, the 3d, upon the 26th December. It has been no part of my duty to make requisitions; I have had merely to approve or disapprove of them, when forwarded to me by regimental surgeons, but in no instances have I kept copies of those requisitions. These remarks will not apply to requisitions for medicines or medical comforts.

I have written at great length to Dr. Smith upon the subject of our deficiencies, and upon the manner of conducting the war generally, in relation to medical affairs, and if you will call upon him for those letters, doubtless he will hand them to you. The story, necessarily, is a long one, and requisitions complied with, or not complied with, throw but little light upon the subject.

The crying evil, from the beginning, has been want of transport, both by sea and land. On shore it has always been, not "what will be useful?" but, "you shall not take this—you shall not take that," without regard to the usefulness of the articles in question. These objections have been made by the military authority—chiefly by the Quartermaster General's department—which, so far as I have observed, has fulfilled no useful function at all. The commissariat department, too, has quite failed in the performance of its duties.

Owing to the want of transport, the sick have accumulated necessarily in camp, where, at this season of the year, they cannot be properly treated; and thus an inordinate demand has been made for tents, marquees, &c. not to be complied with, if reference be made to carriage alone; for instance, at this moment we have stoves, but no fuel, because the commissariat department cannot bring it up from Balaklava!

The sick of the division in camp amount to 939, and we cannot keep it under; it is daily increasing. For these, medicines and medical comforts have to be provided; yet I have no carriage allotted to me for the bringing up of such articles, and I am obliged to do as I best may, using private horses, ambulance mules, and whatever conveyance I can lay my hands. In this way I always manage to have in store, for issue, a supply of the most necessary medicines and medical comforts; but I am not prepared to feed 900 men, whenever salt meat may be issued,—a food quite unfit for those under treatment;—yet, in great measure, the medical department has been called on to feed them, and consequently the supplies have sometimes failed.

We came here expecting, I presume, to carry Sebastopol by a coup-de-main. We failed in our intentions, and we have attempted a regular siege at a most inclement season of the year, and without making any the least preparation. No system of hutting has been adopted; no sufficiently good roads made by which communication with Balaklava can be properly maintained; no reserve supplies of provisions on the ground; in short, nothing has been done,—not even arrangements made for supplying the troops with fresh meat, although horned cattle abound on the shores of the Black Sea.

We have set aside the laws of nature, and we are reaping the consequences. The men are worked to high pressure degree, have been ill fed, badly housed, insufficiently clothed, and are totally without comforts, even without fuel. Abundance exists at Balaklava, but that abundance cannot be transported to the camp before Sebastopol. We started on the expedition at too late a period, and since, everything has been too late.

One word more in relation to requisitions. It has been the custom, since I have been in charge, to send to Balaklava to the purveyor and apothecary there, to inquire what medical comforts and medicines might be in store, then to make out the requisitions accordingly, and to take all we could get; but I again observe, that our demands are necessarily very large.

I have, &c.

(Signed) C. PINE,

Staff Surgeon, 1st Class, P.M.O. 3d Division.

A. MACDONELL, Esq., Staff Surgeon, 1st Class Cavalry Division.

GENTLEMEN,

Camp, Kadikoi, January 13, 1855.

I HAD the honour to receive, at six o'clock last evening, the letter which you addressed to me on the 7th January, requesting me to state the number of requisitions I, or any person directly under me, made for marquees, tents, hospital furniture, medicines, &c. I beg to state for your information, that I make no requisitions for the above named articles for the cavalry division under my medical superintendence, but that the medical officers of each corps of cavalry make separate requisitions for their hospital wants, which requisitions are countersigned either by the Inspector General of Hospitals or myself, when the things indented for, are issued to them at the general stores at Balaklava.

I have, &c.

(Signed) A. MACDONELL,

Staff Surgeon, 1st Class, Cavalry Division.



T. ALEXANDER, Esq., Staff Surgeon, Light Division.

GENTLEMEN,

Camp, Heights, Sebastopol, January 15, 1855.

IN reply to your communication of the 7th instant, received on the 12th, I have the honour to inform you that I, generally speaking, made no "requisitions for marquees, tents, hospital furniture and stores, medicines, and medical comforts, &c.," but that they were made by the medical officers in charge of corps and detachments. Of course, I occasionally suggested to the above-named officers, their making demands for what would add to the comforts of the sick, &c. &c., and I always desired Assistant Surgeon Grier, who was in charge of medicines, and Mr. Harrington, in charge of purveyors' stores, comforts, &c., to arrange all their requisitions so as, if possible, to have a fresh supply before those in hand were exhausted. I, of course, either recommended or approved of all requisitions; and those for medicines and comforts, &c. were at first sent direct to the apothecary and purveyor, until Dr. Hall desired their being sent in direct to him, for his approval, &c. I have called upon the above-named officers for copies of their requisitions, and as soon as received they will be forwarded to you.

I may, however, to prevent the wretchedness and misery that the sick and wounded have experienced during the present campaign in the ensuing one, inform you of the following facts, viz.:

Having been appointed to the charge of the 1st Brigade Light Division, as soon as I arrived at Scutari from Gallipoli, I set at once about preparing for the field (having had some experience during more than two years in the field during the late Kaffir war), and called upon all the surgeons of my brigade to furnish me with a list of what they conceived necessary for the field, and that we would arrange together. Such was done, and communicated to the Principal Medical Officer of the Division, whose answer was, that he would not break bulk; and on repeatedly reasoning with him, and urging him to have some supplies, save the paltry pannier one, the same answer as above was given, with "I am responsible." I believe, however, some small supplies of tea and arrowroot were issued, prior to our embarking for Varna.

Having arrived at Varna, the Light Division (of which I was then in medical charge) was encamped at a short distance from the town. On being ordered on to Aladyn, it was with the greatest difficulty that the smallest allowance of transport was granted by the military authorities. No medicine chests, reserve supplies of medicines, or comforts were allowed to be carried, not even a small supply of medicine for the staff, &c. We were encamped at Aladyn for some time; and hearing that we were likely to move forward, I endeavoured to obtain a second supply of medicines and comforts to accompany us, and eventually wrote a letter to General Airey, then commanding the Division in the field, stating how we were circumstanced, and what misery and wretchedness would ensue unless a supply of the above stores were allowed to accompany the Division. He forwarded my letter to General Brown, who referred the same, with some remarks, to the Principal Medical Officer; but as I had also written to him, urging that a supply should be sent out to accompany us, he, the Principal Medical Officer, took my view of the case, and wrote to General Brown requesting that a supply should be permitted to join the Division and accompany it, which was eventually done. A medicine chest was also got, after great difficulty, for the staff, &c.; at the same time I was ordered, on our moving forward, to hand the same over to those that relieved us, and if not relieved, it was to be returned to Varna. Surely, if requisite at Aladyn, it was equally, if not more so, when further removed to head-quarters.

We moved to Devna, and had not been long there before cholera, in its most malignant form, broke out among the troops, and luckily the small supply of medicines and comforts we then had, were of some use in alleviating the distress of the sufferers. We proceeded to Monastir, where cholera continued to rage among us while we remained there; and there it was, although thirty miles or so distant from the head-quarters at Varna, it was with much difficulty that small supplies of the most necessary medicines and comforts could be obtained; so much so, that I authorised the medical officers to purchase whatever they could, and was requisite for their sick, &c., that could not be obtained from the limited stores of the Division, and that I myself would be responsible for the payment of the same, should the Government refuse to pay the amount. The requisitions were so tardily complied with, that, during the height of cholera, one dated 5th August, sent off early on the morning of the 6th, and approved by the Principal Medical Officer on the 7th, still the medicines did not reach Monastir until 4 P.M. on the 18th, and the reason given by the Principal Medical Officer, "the medicines have been ready for days, but as it was not an araba road, we had no means of sending it out." Again, the medical comforts were issued so liberally, that at one time three pounds of arrowroot was sent for the whole Division; at another, I was informed "that the demand for essence of beef amounts to almost the whole of the supply originally sent from England."

We moved from Monastir to Varna, and when within a day's march or so of the latter, I heard we were intended for the Crimea. I rode into Varna next morning, and as our supplies of medicines and comforts had been doled out to us in such small quantities, I trusted as we were certainly going into an enemy's country, and consequently to be engaged in certain warfare, and as they had been nearly expended, I fully expected that ample supplies both of medicines and comforts would have been ready prepared for each Division. On seeing the Principal Medical Officer, and telling him the exhausted state of our medicines and comforts, and that I trusted a good supply was ready for the Division to take with them, I was coolly told, "it was my business, not his."

I begged to differ from him, and said, I was not even aware that I was going to the Crimea.

He then said, "I was not even aware that I was going to the Crimea."

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From Varna to  
20 miles.

The divisional  
transport should  
have been sent on  
arrow root could not  
be obtained at one  
and with an unlimited  
supply of poultry and  
beef &c. &c. &c.  
I was told that the  
Principal Medical Officer  
of the Division  
of beef is bought at  
no information was  
given to the Principal  
Medical Officer by the  
military authorities that  
the division was moving -  
no information  
was given to him by  
Dr. Alexander that he  
required anything, and  
the first information  
he had was the arrival  
of the Dr. and the whole  
sink of the division  
to be provided  
for -

See Alexander's Narrative



This argues as much  
want of administrative  
arrangement on  
the part of the  
P.M.O. whose conduct  
he is criticizing -

Crimea, &c. &c.; he then told me I might order the surgeons to send in their panniers. I did so, and those of the First Brigade got in some measure replenished; not so, however, the Second Brigade, as they being behind had not time.

The Second Brigade, they being behind had not time. We embarked on the 30th August, and having gone on board the "Emperor," steamship, I found about 500 men and officers of the 7th Fusiliers, with two assistant surgeons, but without one grain of medicine. I desired one of them to go on shore at once and obtain a supply; he succeeded in getting a small medicine chest, which he brought on board with him. Unfortunately cholera broke out on board on the passage to the Crimea, and having embarked on the 30th August, and disembarked on the 14th September, with such a disease prevailing, it may easily be imagined that the pannier supply was all but expended. My Division marched the same day they landed about six miles into the country. Cholera still continued amongst us, and several fatal cases occurred in the 88th Regiment. I went in daily to the landing-place to see the Principal Medical Officer. I, however, did not succeed in seeing him until the 17th; he was then on the beach. On my telling him how we were situated as regarded medicines, comforts, &c., I was informed that "I was making difficulties." I replied "Those of the Light Division never make difficulties." He then said, "Make a requisition." Dr. Pine, who was present, asked him "If one was made could the same be complied with?" when it was elicited that some supplies were on board some ship, but where she was, was quite another thing. We got nothing of course.

We marched on the 19th, and fought the battle of Alma. On the 20th, when the Light Division had about 1,000 killed and wounded, there were no ambulances &c. &c., or lights (save the personal property of the officers)—nearly all the operations requiring to be performed on the ground. I, myself, operated the whole of the first day on the poor fellows on the ground, and had performed many on the second (two of them beign hip joint cases), until an old door was discovered, of which we made a table, and of course performed all my other operations (including another hip joint case on a Russian) on the same. Had it not been for the French and the navy, Heaven only knows how we could have had our wounded moved to the shipping. On the first day of the battle, several hundreds of the Light Division had the necessary operations performed, and their wounds dressed, &c. A marquee and some tents were pitched, and waterdecks, waterproof bed-covers, and blankets were issued to all, with tea, chocolate, wine, brandy, &c., were distributed to all the sufferers requiring the same. The chocolate, with some blankets, sugar, and the marquees, were supplied from the head-quarters stores. We marched on the 23d, and reached Balaklava, and eventually came hither. Being so close to Balaklava, only about seven miles distant, whence steamers were continually plying between it and Scutari, I was in hopes that supplies of medicines, comforts, beds, bedding, tents, marquees, &c., would have been liberally issued. But, alas! such was not destined to take place. We have been much worse off here for medicines, comforts, &c., than we were in Bulgaria; in proof of which, with a sick list of 636, of cholera, dysentery, diarrhoea, fevers, &c., on the 1st December four ounces of pulv. opii, and the same of calomel were issued for the Division, which was about three doses of one grain of each of these two medicines to each patient: other most important medicines none could be supplied; others were much curtailed. Again, on the 13th December, one ounce of pulv. opii and four ounces of blue pill were sent to the Division, consisting of eight and a half battalions, besides marines and artillery, the sick list being 619, of cholera, dysentery, diarrhoea, fevers, &c. About the same period, although the troops were on sufficient rations, few or no medical comforts could be had, there being at the time neither sago or arrowroot when applied for, &c.<sup>x</sup> Now, I must acknowledge, with the ample supplies sent out by the Director-General for any contingency, and command of the Constantinople market, I cannot conceive why anything tending to the comfort of the sick and wounded were not always at hand when required, both in Bulgaria as well as here in the Crimea, more particularly as we had command of the sea, and steamers continually plying, both when we were in Bulgaria, between Scutari and Varna, and now between the former and Balaklava.

The misery and wretchedness the troops have suffered here, but more particularly the sick, are scarcely credible, and require to be seen to be believed,—poor sick wretches lying on the ground, with some miserable blankets, in tents that let in rain as if they were sieves, and with no fuel save the miserable brushwood and roots that could be gathered for cooking, &c. Marquees have now, however, been got for all the regiments, and some bedsteads of Clarke's, Smith's, &c., have been obtained; but the latter, unfortunately, are without feet, and the cross parts for keeping them stretched. Some buffalo robes have also been obtained. Tressel beds and fuel have been issued latterly, but the same must be brought up from Balaklava, which is no easy matter with the present transport; still, what with the above, waterdecks, extra blankets, tarpaulins, as well as a better supply of medicines and comforts, the patients are somewhat more comfortable, but still treatment is of little use in tents or marquees, although stoves are placed in them, with more than a foot of snow on the ground during a Crimean winter. Great misery has also been caused from the want of transport for the sick, our ambulances having been latterly quite useless, so that we have been nearly entirely indebted to French ambulance mule corps for the removal of our sick, with the exception once of our sick being sent down on cavalry horses, which thinned the marquees, &c., but did not remove those cases that required it most, they being unable to sit on horseback.

From the above statement of facts I think the Board will perceive that much blame is due somewhere for all the wretchedness and misery that has taken place during the present campaign, and which, in my opinion, could have been so easily prevented, and I sincerely hope they will be the means of placing the blame on the proper persons, and preventing similar scenes of wretchedness and misery in the ensuing campaign.

It was, I thought,  
fault of the light  
I was in, had no  
light as they  
ought to have  
hold that closely  
in their power.

© The 2<sup>nd</sup> mile  
 1<sup>st</sup> modern Nat  
 on the 9<sup>th</sup> m<sup>ile</sup>  
 4<sup>th</sup> of road driv  
 at 8<sup>th</sup> of  
 of Calverton  
 to that aver  
 to the 1<sup>st</sup> own  
 having the  
 of 2<sup>nd</sup> between the  
 Jan 15 of 1881  
 9<sup>th</sup> of P<sup>er</sup>ham  
 1<sup>st</sup> 12<sup>th</sup> Calverton  
 2<sup>nd</sup> 4<sup>th</sup> Bluefield  
 8<sup>th</sup> 4<sup>th</sup> c Calverton  
 1<sup>st</sup> 1<sup>st</sup> Tourt Point  
 2<sup>nd</sup> 2<sup>nd</sup> c. modern  
 d. 6<sup>th</sup> P<sup>er</sup>ham Co

Where were these  
Supplies - and how  
to get them - and  
to get them that no  
one was made  
to obtain supplies  
X Sergio & Arroyo 20th  
don't contribute the  
whole range of goods



It is due to the medical officers of the Division, as well as those in charge of medicines and purveyors' stores, to state, that no men could have worked harder, or performed more zealously their arduous and onerous duties, both in Bulgaria during the ravages of cholera, as well as in the Crimea, and that none of them have spared either trouble or inconvenience in doing all they could to obtain whatever would tend to the comforts of their sick, &c., &c.

I may add in conclusion, that several divisions have applied to me for medicines and comforts,—one for one bottle of wine, half pound of arrowroot, and one pound of sago, when at Monastir, and they had to come about two miles for the same. Again, I received an express from a first-class staff surgeon in charge of a cavalry brigade, requesting me to send him some medicines, as "he was completely run out of everything," and his men were dying from cholera. One of the surgeons of the Light Division called upon me one afternoon, and told me had come from visiting a General Officer of another Division (a personal friend of his), who was severely wounded, and as he had nothing, he intended sending him some essence of beef, and hoped that I did not consider that he was wrong in doing so. Others have also applied to the Light Division for extras, &c., but the above will show how some other Divisions were provided, &c., &c., and the above facts speak for themselves.

I have, &c.,

(Signed) T. ALEXANDER,

Staff Surgeon, 1st Class in Medical Charge, Light Division.

P.S.—Enclosed are the copies of requisitions, &c., by Mr. Harrington; Assistant Surgeon Grier's will be furnished to-morrow.

T. A.

Assistant Surgeon Grier's requisitions are also enclosed.

T. A.

MR. SYDNEY C. HARRINGTON, Purveyor's Clerk in Charge.

SIR,

Light Division, Heights of Sebastopol, January 16, 1855.

In obedience to the order which you conveyed to me on the 12th inst., I have the honour to inform you, that it not being generally the custom in the service, as far as I have been able to learn, to keep copies of requisitions, I have not the whole of those made by me either in Bulgaria or during the early part of the present campaign, but enclosed are the greater part of the latter, marked 1.

I now proceed to inform you that in the month of May last, Deputy Inspector General of Hospitals Dumbreck desired me to furnish him with estimates of the medical comforts which it would be necessary to take into the field with a Division of 5,000 men. Accordingly, I drew up four from what had been the actual expenditure in the British military hospital at Ciudad Rodrigo in 1812. On submitting them to him they were approved of, but at the same time he desired me to reduce the quantities, as he thought that there would not be sufficient transport allowed for them. I then made out another copy, of which enclosure marked 2 is a copy. The others being in the baggage which I left at Varna, I am unable to furnish of them. Shortly afterwards I was ordered to Varna in charge of stores, and at the end of three weeks I was directed to join the Light Division, then at Aladyn, and to take with me a supply of comforts, &c. (enclosure 3). On joining the Division I represented to you the insufficiency of the supply, and you then directed the regimental surgeons to replenish their panniers from the depôt at Varna, in order to reserve those in my charge for any emergency, the depôt being then within a short distance.

On the outbreak of cholera on the 23d July at Devna, the supplies under my charge came into use, and I immediately wrote to the purveyor at Varna for further supplies, representing to him the urgency of the case. Several requisitions were made by me between that date and the 1st August; I also wrote to him urging that they should be sent without delay, as those I had brought forward were nearly exhausted. At last, on the 1st August, some supplies were sent out (enclosure 4); from which time until the return of the Division to Varna at the end of August, the requisitions which I sent in were pretty regularly complied with as far as the store there would allow. On our arrival outside the town of Varna I was informed that we were to embark the next morning. I immediately went in with a requisition recommended by you, which I showed to the Inspector General for his approval. The articles asked for were port wine, brandy, and waterproof covers, of which the brandy alone was allowed, as the Inspector General said that I should not be allowed transport for any more than I then had, if for that.

During our stay in Bulgaria, I ought to mention that I was compelled to borrow from a supply of wine which had been entrusted to you for distribution among sick officers, on account of a delay which occurred in the transport of stores from Varna to Monastir.

When the expedition reached Kalamita Bay no steps were taken to land either the Assistant Surgeon in charge of medicines or myself; consequently we remained on board ship for two days, and then our stores were disembarked, and we had to remain two days more before we could obtain transport, on obtaining which we immediately joined our division.

At the battle of Alma I obtained some small supplies from Purveyor Jenner, as I did not wish to expend the whole of those I had with me without knowing whence I was to obtain more.

Since our division has been encamped before this place, the supplies have been very irregular, as will be seen by enclosure 1, partly caused, as I have understood, from the manner in which the cargoes were stowed, and partly from want of sufficient transport.

I have, &c.

(Signed)

SYDNEY C. HARRINGTON,

Purveyor's Clerk in Charge.

*Mr. Alexander Harrington's  
before the Medical Commission*

ma/9

*whose fault was  
this.*