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ON THE EFFECTS OF

THE ANTISEPTIC SYSTEM

OF TREATMENT

UPON THE SALUBRITY OF A SURGICAL HOSPITAL

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THE EFFECTS OF THE ANTISEPTIC SYSTEM OF TREATMENT UPON THE SALUBRITY OF A SURGICAL HOSPITAL.

THE antiseptic system of treatment has now been in operation sufficiently long to enable us to form a fair estimate of its influence upon the salubrity of an hospital.

Its effects upon the wards lately under my care in the Glasgow Royal Infirmary were in the highest degree beneficial, converting them from some of the most unhealthy in the kingdom into models of healthiness. The interests of the public demand that this striking change should be made generally known; and in order to do justice to the subject, it is necessary, in the first place, to allude shortly to the position and circumstances of the wards.

Each of the four surgeons of the infirmary had charge of three large wards, two male and one female, besides several small ones for special cases. Of these, the most important were the male accident ward and that for female patients, the former containing the chief operation cases as well as those of injury. The third main ward of each surgeon was devoted to chronic male cases, and was in the old infirmary building; but the other two were in the "New Surgical Hospital," erected nine years ago. This consists of four stories above a basement, each floor containing two large wards communicating with a central staircase, besides several smaller apartments. The wards are spacious and lofty, and in the centre of each are two open fireplaces, in a column which runs straight up to the roof, conveying the chimneys of all the floors, and also collateral ventilating shafts, which are warmed by the chimneys that accompany them, and,

communicating with various apertures in the ceilings, form excellent means of carrying off the vitiated atmosphere, while fresh air is amply supplied by numerous windows at both sides, the beds being placed in the intervals between them, at a considerable distance from each other. Except the serious defect that the water-closets in many cases open directly into the wards, the system of construction seemed all that could be desired.

But to the great disappointment of all concerned, this noble structure proved extremely unhealthy. Pyæmia, erysipelas, and hospital gangrene soon showed themselves, affecting, on the average, most severely those parts of the building nearest to the ground,[1] including my male accident ward, which was one of those on the ground-floor; while my female ward was on the floor immediately above. For several years I had the opportunity of making an observation of considerable, though melancholy, interest—viz., that in my accident ward, when all or nearly all the beds contained patients with open sores, the diseases which result from hospital atmosphere were sure to be present in an aggravated form; whereas, when a large proportion of the cases had no external wound, the evils in question were greatly mitigated or entirely absent. This appeared striking evidence that the emanations from foul discharges, as distinguished from the mere congregation of several human beings in the same apartment, constitute the great source of mischief in a surgical hospital. Hence I came to regard simple fractures, though almost destitute of professional interest to myself and of little value for clinical instruction, as the greatest blessings; because, having no external wound, they diminished the proportion of contaminating cases. At this period I was frequently compelled to oppose the wishes of the managing body, who, anxious to provide hospital accommodation for the increasing population of Glasgow, for which the infirmary was by no means adequate, were disposed to introduce additional beds beyond those contemplated in the original construction. It is, I believe, fairly attributable to the firmness of my resistance in this matter that, though my patients suffered from the evils alluded to in a

[1] Statistics collected by desire of the managers established the fact that the ground-floor wards were, on the average, most liable to pyæmia, whoever might be the surgeon in charge; and that those on the floor immediately above came next in this respect.

way that was sickening and often heart-rending, so as to make me sometimes feel it a questionable privilege to be connected with the institution, yet none of my wards ever assumed the frightful condition which sometimes showed itself in other parts of the building, making it necessary to shut them up entirely for a time. A crisis of this kind occurred rather more than two years ago in the other male accident ward on the ground floor, separated from mine merely by a passage twelve feet broad; where the mortality became so excessive as to lead, not only to closing the ward, but to an investigation into the cause of the evil, which was presumed to be some foul drain. An excavation made with this view disclosed a state of things which seemed to explain sufficiently the unhealthiness that had so long remained a mystery. A few inches below the surface of the ground behind the two lowest male accident wards, with only the basement area, four feet wide, intervening, was found the uppermost tier of a multitude of coffins, which had been placed there at the time of the cholera epidemic of 1849, the corpses having undergone so little change in the interval that the clothes they had on at the time of their hurried burial were plainly distinguishable. The wonder now was, not that these wards upon the ground-floor had been unhealthy, but that they had not been absolutely pestilential. Yet at the very time when this shocking disclosure was being made, I was able to state, in an address which I delivered to the meeting of the British Medical Association in Dublin, that during the previous nine months, in which the antiseptic system had been fairly in operation in my wards, not a single case of pyæmia, erysipelas, or hospital gangrene had occurred in them; and this, be it remembered, not only in the presence of conditions likely to be pernicious, but at a time when the unhealthiness of other parts of the same building was attracting the serious and anxious attention of the managers. Supposing it justifiable to institute an experiment on such a subject, it would be hardly possible to devise one more conclusive.

Having discovered this monstrous evil, the managers at once did all in their power to correct it. The extent of the corrupting mass was so great that it seemed out of the question to attempt its removal; but it was freely treated with carbolic acid and with quicklime, and an additional thickness of earth

was laid over it; and, further, a high wall at right angles with the end of the building, and reaching up to the level of the first floor, so as necessarily to confine the bad air most prejudicially, was pulled down, and an open iron railing was substituted for it.

There can be no doubt that these measures must have proved salutary. But even if it were admitted that they cured completely the particular evil against which they were directed, it would still have to be confessed that the situation of the surgical hospital has been far from satisfactory. Besides having along one of its sides the place of sepulture above alluded to, one end of the building is conterminous with the old Cathedral churchyard, which is of large size and much used, and in which the system of "pit burial" of paupers has hitherto prevailed. I saw one of the pits some time since, having been requested to report upon it by one of the civic authorities, who is also a manager of the infirmary, and who, having accidentally discovered what was going on, at once took steps to prevent for the future the occurrence of anything so disgraceful. The pit, which was standing open for the reception of the next corpse, emitted a horrid stench on the removal of some loose boards from its mouth. Its walls were formed, on three sides, of coffins piled one upon another in four tiers, with the lateral interstices between them filled with human bones, the coffins reaching up to within a few inches of the surface of the ground. This was in a place immediately adjoining the patients' airing ground, and only sixty yards from the windows of the surgical wards. And the pit which I inspected seems to have been only one of many similar receptacles, for *The Lancet* of Sept. 25th contains a statement, copied from one of the Glasgow newspapers, that "the Dean of Guild is said to have computed that five thousand bodies were lying in pits, holding eighty each, in a state of decomposition, around the infirmary."[1] Just beyond the churchyard rises an eminence covered by an extensive necropolis, which, however, from its greater distance, must

[1] I doubt if even my sense of the importance of the subject I am dealing with would have induced me to enter into these disagreeable details, were I not able at the same time to bear my testimony to the zealous manner in which the managers of the Infirmary and the Town Council are exerting themselves to correct the evils referred to. I understand that it is in contemplation to abolish entirely intra-mural interment in Glasgow.

have comparatively little deleterious influence. When I add that what is called the fever hospital,[1] also a long four-storied building, extends at right angles to the new surgical hospital, separated from it by only eight feet, and that the entire infirmary, containing 584 beds, stands upon an area of two acres, and that the institution is almost always full to overflowing,[2] I have said enough to show that the wards at my disposal have been sufficiently trying for any system of surgical treatment. Yet, during the two years and a quarter that elapsed between the Dublin meeting and the time of my leaving Glasgow for Edinburgh, those wards continued in the main as healthy as they had been during the previous nine months. Adding these two periods together, we have three years of immunity from the ordinary evils of surgical hospitals, under circumstances which, but for the antiseptic system, were especially calculated to produce them.[3]

It may be well to mention in detail some facts regarding the comparative frequency, before and after the period referred to, of the three diseases to which surgical wards have hitherto been peculiarly liable—namely, pyæmia, erysipelas, and hospital gangrene.

And first of pyæmia. This fearful disease used to occur principally in two classes of cases—namely, compound fractures and the major amputations. In compound fracture, it was so rife just before the introduction of the antiseptic system that I had one of the sulphites administered internally as a prophylactic, in accordance with Polli's views, to every patient admitted with this kind of injury; though I cannot say that we observed any distinct evidence of advantage from the practice. But since I began to treat compound fractures on the antiseptic system, while no internal treatment has been used, I have not had pyæmia in a single instance, although I have had in

[1] About half the wards of the fever hospital are used for surgical cases.

[2] The rapid increase of Glasgow has rendered the Infirmary, in spite of considerable additions of late years, quite inadequate to the wants of the population; but this evil will shortly be remedied by the construction of a general hospital in connexion with the new College.

[3] The antiseptic system was commenced nearly five years ago, but was for the first two years employed almost exclusively in compound fractures and abscesses, which form but a small proportion of surgical cases; so that the system cannot be said to have been in operation for more than three years with reference to the subject of the present paper.

all thirty-two cases—six in the forearm, five in the arm, eighteen in the leg, and three in the thigh. These cases do not include those in which the injury was so great as to demand immediate amputation. But it must be remarked that many of the limbs saved were so severely injured that I should formerly have removed them without hesitation. I almost forget the kind of considerations which used to determine me to amputate under the old treatment; though I know that experience taught us that it was only in comparatively mild cases that it was justifiable to attempt to save the limb. Now, however, there is scarcely any amount or kind of injury of bones, joints, or soft parts which I regard as inconsistent with conservative treatment, except such destruction of tissue as makes gangrene of the limb inevitable as an immediate consequence.

But I may take this opportunity of observing that the attempt to save a limb which, under ordinary treatment, would be subjected to immediate amputation, ought not to be made lightly, or without a thorough acquaintance with some trustworthy method of carrying out the antiseptic system; by which I mean, not the mere use of an antiseptic, however potent, but *such management of the case as shall effectually prevent the occurrence of putrefaction in the part concerned.* Without this such endeavours are far worse than useless; for by the time that local disturbance and constitutional disorder have made it apparent that the antiseptic means have failed, the patient is so much prostrated by irritation and blood-poisoning, that the operation, if performed, is probably too late; and thus a loose and trifling style of "giving the treatment a trial" swells the death-rate at once of compound fracture and of amputation.

On the other hand, the surgeon will not on this account be justified in contentedly pursuing the old practice of primary amputation; for the antiseptic means which it has been the main labour of the last five years of my life to improve are now so satisfactory,[1] that any one duly impressed with the importance of the subject, and devoting to it the study and practical attention which it demands, will, with little trouble to himself, securely attain the results which he desires.

[1] I hope to bring before the profession the improved antiseptic means above alluded to by publishing from time to time cases illustrative of their employment.

I lately visited my wards in Glasgow, after an absence of some weeks, and saw, amongst other cases, a compound dislocation of the ankle in a man who had fallen about four feet from the platform at a railway station, and lighted on the outer side of the right foot, which had been forced violently inwards, producing a contused and lacerated wound, about four inches long, crossing the external malleolus, and communicating with the articulation. When I saw the patient the wound had been converted into a superficial sore, cicatrizing rapidly; and there had been from first to last no deep-seated suppuration, nor any local or constitutional disturbance. I asked my then house-surgeon, Mr. James Coats, with whom the most critical part of the treatment had rested, whether he could reckon pretty securely upon such results. He replied, "With certainty." I asked the question for the sake of others who were standing by, having little doubt what the answer would be, for when I left him in charge I felt sure that the antiseptic management of the cases would be as satisfactorily conducted as if I were present.

At the same time, it is only right to add, that when he entered upon his office, though convinced of the truth of the theory of the antiseptic treatment, he by no means felt the confidence in carrying it out which he has since acquired; and if an able man like Mr. Coats, imbued with the principles which I have striven to establish, required some practical initiation into the subject before he could be regarded as trustworthy, still more must such be the case with those who, educated in the old system, and long habituated to its practice, have to unlearn cherished ideas and instinctive habits.

But, returning from this digression, I must now speak of pyæmia after the major amputations, before and after the introduction of the antiseptic system.

The hospital records are unfortunately imperfect for one of the three years immediately preceding the antiseptic period. In the other two years, the mortality after amputations in my wards may be gathered from the following tables:—

Before the Antiseptic Period.

1864.

Seat of Amputation.	No. of Amputations.	Recoveries.	Deaths.
Shoulder	1	0	1
Arm	3	1	2
Forearm	3	2	1
Thigh	1	1	0
Leg	4	3	1
Knee	2	1	1
Ankle	3	2	1
Totals	17	10	7

1866.

Arm	2	1	1
Elbow	1	0	1
Forearm	2	2	0
Thigh	4	0	4
Knee	6	4	2
Leg	1	1	0
Ankle	2	1	1
Totals	18	9	9

On the other hand, we have—

During the Antiseptic Period.

1867.

Seat of Amputation.	No. of Amputations.	Recoveries.	Deaths.
Arm	1	1	0
Forearm	2	2	0
Knee	2	2	0
Leg	1	1	0
Ankle	1	1	0
Totals	7	7	0

1868.

Shoulder	1	1	0
Forearm	2	2	0
Thigh	1	1	0
Knee	8	5	3
Ankle	5	5	0
Totals	17	14	3

1869.

Shoulder	2	2	0
Arm	2	2	0
Forearm	2	1	1
Thigh	1	0	1
Knee	3	2	1
Leg	3	3	0
Ankle	3	3	0
Totals	16	13	3

Comparing the aggregate results, we have—

Before the antiseptic period, 16 deaths in 35 cases; or 1 death in every $2\frac{1}{8}$ cases.

During the antiseptic period, 6 deaths in 40 cases; or 1 death in every $6\frac{2}{3}$ cases.

These numbers are, no doubt, too small for a satisfactory statistical comparison; but, when the details are considered, they are highly valuable with reference to the question we are considering. This is especially the case with amputation in the upper limb, where neither injuries requiring primary amputation, nor the operations, involve, as a general rule, much loss of blood or shock to the system; so that, if death does occur, it is commonly the result of the wound assuming unhealthy characters. It happens that there were 12 amputations altogether in the upper limb in each of the two periods referred to. Of the 12 cases before the antiseptic period, no fewer than 6 died—a frightful mortality certainly. And it is recorded that, of those 6, 4 died of pyæmia, and 1 of hospital gangrene. Also that one of those which recovered had pyæmia; but, though the symptoms were well marked and severe, presented an example, unhappily too rare, of recovery from that disease.

Very different was the result of the corresponding amputations during the antiseptic period. Eleven of the twelve cases recovered; and the one death which did occur was not the result of the operation, but took place in spite of it, from pyæmia, which had resulted from fetid suppuration in a metacarpal bone, and continued after I had removed the hand, in the faint hope that the constitutional mischief might be thrown off when its original source had been taken away. Some of the successful cases, I may add, were by no means favourable subjects for operation: as, for instance, a completely shattered hand in a very aged person; the avulsion by machinery of nearly the entire arm, one of the flaps of the amputation at the shoulder-joint being left contused and lacerated as it had been formed by the injury;[1] and, again, an enormous osteoid cancer of the upper end of the humerus, involving the deltoid muscle, and permitting only the formation of skin flaps, attended with profuse hæmorrhage, in a patient already anæmic from the disease.

[1] This case was treated by my colleague, Dr. Dunlop, during my temporary absence.

In the lower limb, 28 amputations in all were performed during the antiseptic period. Out of these, death took place in 5; but was generally sufficiently accounted for by the severity of the case, as when the thigh was amputated immediately below the hip-joint in a patient greatly exhausted by hæmorrhage from malignant disease; or, to take another example, when primary amputation was performed at the knee on one side, and immediately below it on the other, in a man who had sustained very severe injuries to both legs, and had been transported a considerable distance by railway to Glasgow.

In one case only did pyæmia result from the operation—viz., after amputation at the knee in a young man of weakly constitution, where putrefaction occurred in the stump through mismanagement. Here the symptoms of pyæmia presented themselves during life, and the femoral vein was found loaded with pus on dissection. When putrefaction occurs after such an operation, there is no security against pyæmia, even in private practice; and a single instance of the kind in three years, and that in a feeble subject, is certainly no evidence of any peculiarity in the hospital atmosphere.

In mentioning the fact that putrefaction occurred from mismanagement, I do not wish to be understood as implying that it can always be avoided in stumps. In the present state of surgical practice, this is far from being the case. When sinuses exist in connexion with a diseased joint, putrefaction is present in them at the outset; and even if they are injected with an antiseptic solution before the operation, it can never be certain that the liquid penetrates to every recess of these often complicated passages, or destroys the vitality of the putrefactive organisms lurking, perhaps, in portions of lymph or slough. And if a single such organism remain alive, it will propagate and spread in the wound as soon as the antiseptic applied at the time of the operation has been absorbed into the circulation; and any external antiseptic dressing will, under such circumstances, be of course entirely nugatory. It is, I suspect, for want of bearing this point in mind that disappointment has often been experienced in applying antiseptic treatment to amputations and excisions. The full possible benefits of the system can never be obtained in such cases till it shall be deeply impressed upon the profession and the public that abscesses, more

especially those in connexion with diseased joints, must never either be allowed to break of themselves, or be opened without antiseptic precautions.[1]

I am bound to add that there is another respect in which the antiseptic principle has not yet had justice done to it in the larger amputations in the lower limb. Of all incised wounds, these have proved the most difficult to manage; and putrefaction has repeatedly occurred in my practice, even where no sinuses were present. It was so in the two cases above referred to, of amputation just below the hip-joint for malignant disease, and double primary amputation for injury. Considering the condition of those patients on the day after the operation, I believe both would have recovered had we succeeded in avoiding putrefaction, which, apart altogether from the risk of pyæmia, terribly aggravates formidable cases, like those, by the irritation and prostration which it occasions. Hence we may fairly look for better results in the future from amputation in the lower limb. For I am satisfied that the difficulties of the antiseptic management are not insuperable. I have devoted much attention to this branch of the subject during the last twelve months, and steady progress has been made in it; so that the proportion of stumps in which healing has taken place without any deep-seated suppuration has been markedly increasing, and I anticipate that before long we shall be able to reckon with certainty on the absence of putrefaction in all cases where sinuses are not present.

But to return to the subject of pyæmia. The two cases above alluded to were the only instances of its occurrence in my department during the antiseptic period. One of them requires further notice here. It belonged to a class of injuries in which the benefits of the antiseptic system have been conspicuously

[1] The practice which I have found to answer best in amputations and excisions in parts affected with sinuses is, after injecting the sinuses with a powerful antiseptic, to apply to the cut surface a pretty strong solution of chloride of zinc (say forty grains to an ounce of water), such as was recommended by Mr. Campbell De Morgan, and then employ an external antiseptic dressing, in the hope, though never in the certainty, that putrefaction will be avoided. Chloride of zinc, having the peculiarity of producing a remarkably persistent antiseptic effect upon the cut surface, protects it during the dangerous period preceding granulation, when the recently divided tissues are both sensitive and prone to absorption; so that even if putrefaction does occur, the risk of inflammation and pyæmia is greatly diminished.

apparent—namely, severe contused wounds of the hand or foot, such as are very frequent in a great centre of manufacture like Glasgow. Formerly there were no injuries more unsatisfactory to deal with. The uncertainty of the extent of the damage inflicted by the contusion made it a most perplexing question where amputation should be performed. On the one hand, if too little was removed, sloughing of the flaps ensued, or diffuse suppurative inflammation of the weakened tissues infiltrated with extravasated blood; and, on the other hand, if it was determined to avoid that error, and to amputate through perfectly sound tissues, an extravagantly large portion of the limb was often sacrificed. It is therefore an unspeakable satisfaction to be able to avoid amputation altogether in such cases, merely taking away such portions as may be actually destroyed, and leaving the weakened tissues in the vicinity to recover themselves quietly, instead of perishing under the irritating and poisoning influence of putrefaction; while any dead portions that may remain are absorbed more or less completely, like the extravasated blood, and replaced by tissue of new formation. If the history of all the contused wounds of the hands and feet that have been treated in my wards during the last three years were recorded, including many compound fractures not reckoned as such in our classification and several compound dislocations, it would be enough to convince the most sceptical of the advantages of the antiseptic system.

But the case to which I am now alluding was an exception to the general rule of satisfactory progress. It was a severe injury to the hand from machinery. My then house-surgeon, who had only just entered upon his office, and had not as yet the confidence in the antiseptic system which he soon afterwards acquired, took it for granted that I should amputate the hand, and committed the error of leaving it till my visit on the following day, without adopting efficient antiseptic measures. When I saw the case I decided to try to save the greater part of the hand, and endeavoured to correct the mistake which had been made. Putrefaction, however, ensued, and after some days pyæmia occurred, and continued, as before stated, in spite of amputation of the hand. On dissecting the parts, one of the metacarpal bones was found split up, with putrefactive suppuration developed in its interior. Under such circumstances

pyæmia might occur in a perfectly sound constitution and in the most healthy atmosphere, just as, in Cruveilhier's highly instructive experiment, suppurative phlebitis of the femoral vein and its branches, exactly corresponding to that which is seen in traumatic pyæmia, was induced in a healthy dog by introducing into the vessel a bit of wood which, from its porous nature, could not but originate putrefaction.[1]

Considering, then, the circumstances of the only two cases of pyæmia which have occurred in my department during the three years of the antiseptic period, I am justified in saying that the wards have been completely freed from their former liability to this frightful scourge.

Next of erysipelas, a disease which, though not so fatal as pyæmia, used not unfrequently to occasion death amongst my patients. During the antiseptic period several cases have been admitted into my wards from without, but one only has originated in them. This occurred in a young man with disease of the foot, accompanied by sinuses extending into the leg. I performed amputation at the ankle, but putrefaction continued in the sinuses; and after the lapse of a considerable period erysipelas occurred in connexion with them. He recovered from the complaint, and after a while went to his lodgings for change of air, with the sinuses still unhealed, and subsequently had another attack of erysipelas there, implying that the tendency to it was in his own system rather than in the locality. That such was really the case was afterwards fully demonstrated. The sinuses refusing to heal, and disease recurring in the bone, he was re-admitted under my care, and I performed amputation in the leg above the sinuses. The stump healed without any deep-seated suppuration, presenting a very good example of the result of a modification of Mr. Teale's method of amputation; and I requested him to ascertain, by Mr. Teale's plan of introducing circular pieces of flannel into the socket of the artificial limb, how much of his weight he could conveniently rest upon the end of the stump. As he did not call to report the result on the day arranged, I inquired into the cause, and learned that the stump had been seized with a third attack of erysipelas, although

[1] See Cruveilhier's *Anatomie Pathologique*, livraison xi., where will also be found the records of important experiments, proving how readily liquids introduced into the interior of bones pass into the general circulation.

perfectly cicatrized without sinus or sore of any kind.[1] Thus, as regards erysipelas, our only exception to perfect immunity from the disease during the three years was one that strikingly proves the rule.

It remains to speak of hospital gangrene. This was formerly both frequent and severe amongst my patients. It often grievously marred the most promising results of surgery, and sometimes committed fearful ravages. Thus, I have known a boy admitted with a small superficial wound near the elbow, in which hospital gangrene occurring caused such destruction of tissue, deeply as well as superficially, in spite of the most energetic treatment, that it became necessary to amputate the limb. Now and then it led to a fatal result, as in one of the amputations before referred to. In that case I removed the arm at the shoulder-joint for injury in a boy, and for some time all went on well, till I regarded him as perfectly safe; but hospital gangrene came on in the stump, and, advancing insidiously in all directions, defied my best attempts to check it, and had reached beyond the sternum before the poor fellow sank exhausted from its effects.

The contrast under the antiseptic system has been most striking. For the first nine months, as before mentioned, we had not a single case of the disease. Since that time it has shown itself now and then, but in a mild form, invariably yielding to treatment, never occurring in recent cases, but only in old sores weakened by the influence of surrounding cicatrix. But even this has been very rare, and I do not recollect more than one example of it during the last year. In short, hospital gangrene, like pyæmia and erysipelas, may be said to have been banished by the antiseptic system.

Such being the case, I have insensibly relaxed in different ways my former vigilance regarding the wards. I have allowed cribs for children to be introduced without remonstrance, having practically the effect of increasing the number of beds for adults; and I have, in the pressure of deficient accommodation, often permitted two children to be put in one bed—a thing which I should formerly not have thought of. I used to make a point

[1] This case seems to me to possess considerable interest, as something intermediate—as it were a connecting link—between traumatic and idiopathic erysipelas.

of having both the large fires in each ward kept alight night and day during the heat of summer, for the sake of making the ventilation as perfect as possible. But during the last season the nurses were left to follow their inclination, and keep only one of the fires lighted. I may add that my wards have remained during the three years without the annual cleaning, which used to be thought essential. On my asking the superintendent the reason for the omission, he replied that, as those wards had continued healthy, and there was nothing dirty in their appearance, it had seemed unnecessary to disturb them. Thus the wards have been in various respects subjected to greater trial than usual, and yet have remained, as I may repeat without any exaggeration, models of healthiness.

That such should have been the case under the unfavourable hygienic conditions above referred to seems at first sight very surprising. The immediate vicinity of a burying-ground such as has been described, together with the position of the wards at the base of an hospital of four stories, with the air confined by neighbouring buildings, may seem conditions utterly inconsistent with health in the patients. That these circumstances were very unfavourable is undoubtedly true; and that they were highly injurious before the antiseptic period seems clearly indicated by our experience. But a little consideration will show that it is not unreasonable to suppose them of secondary importance—as aggravators of the evil, rather than the essential causes of it. The corpses in the places of sepulture beside the infirmary were for the most part covered by at least some inches of earth, which has a most powerful effect in checking the evolution of noxious effluvia; and even the foul gases from the open pits were perpetually diluted by the air with which they mingled, so that but a small proportion of them would enter the wards; and accordingly, when the patients were cleared out for the purpose of the annual cleaning, there was nothing in the wards to offend the nose. But the emanations from sores are poured directly into the confined atmosphere in which the patients are; and any one familiar with the faint sickly smell commonly perceptible in surgical wards under ordinary treatment, and still more with the stench which prevails at the time of the daily dressing, will readily understand that putrid exhalations from the patients may be a source of mischief, compared

with which the other circumstances alluded to may be of comparatively trifling consequence.

With the object of getting rid of this great evil as much as possible, I have used antiseptic means, not only where they are of essential importance for the treatment of the individual case concerned, as in recent wounds and abscesses, but also in superficial sores. For though granulating surfaces will commonly heal well enough under a putrid dressing (for such the cleanly water dressing becomes within a few hours of its application), every case so treated furnishes its quota to the vitiation of the general atmosphere of the ward. Hence, for the sake of the inmates generally, it is obviously desirable that healing sores should be dressed with some application which, while permitting or, if possible, favouring cicatrization, should prevent odour. For this purpose some dressing, unstimulating, but at the same time persistent in antiseptic action, is requisite,—a combination which I have sought in various different forms to obtain, and, of late more especially, with very satisfactory results, so that while the healing of superficial sores proceeded with greater rapidity than under water dressing, all my sixty patients might sometimes be dressed without the odour of putrefaction being perceptible in one of them.

The result of this great change has been such as to demonstrate conclusively that the exhalations from foul discharges are the essential source of the insalubrity of surgical wards; and that when this is effectually suppressed, other conditions, which we are accustomed to regard as most pernicious, become powerless to produce serious evil.

It is obvious that the facts recorded in this paper are of extreme importance with reference to the vexed question of hospital construction. With the view of assimilating the atmospheric condition of our large hospitals to that of a private dwelling, it has been lately proposed to do away with them altogether in their present form, and to substitute for them congeries of cast-iron cottages, capable of being occasionally taken down, cleansed, and reconstructed,—a plan which, besides involving enormous expense, would interfere most seriously with efficient supervision of the patients, and with the teaching of students at the bedside. But from what has been related above, it is plain that no material alteration of the existing system will

be required. We have seen that a degree of salubrity equal to that of the best private houses has been attained in peculiarly unhealthy wards of a very large hospital, by simply enforcing strict attention to the antiseptic principle. And, considering the circumstances of those wards, it seems hardly too much to expect that the same beneficent change which passed over them will take place in all surgical hospitals, when the principle shall be similarly recognised and acted on by the profession generally. The antiseptic system is continually attracting more and more attention in various parts of the world; and, whether in the form which it has now reached, or in some other and more perfect shape, its universal adoption can be only a question of time. The noble institutions of which our country is justly proud, admirably adapted alike for the treatment of the sick and the instruction of the student, will then be cleared of the only blot that now attaches to them,—the malignant influence of impure atmosphere.

Edinburgh, *December* 1869.

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REPORT

ON THE

CONTAGIOUS DISEASES ACT,

SHEWING THE

EXPENSE, IMPOLICY, AND GENERAL INUTILITY
OF ITS PROPOSED EXTENSION

TO THE

CIVIL POPULATION.

BY JOHN SIMON,

FELLOW OF THE ROYAL SOCIETY AND COLLEGE OF SURGEONS, SURGEON
TO ST. THOMAS' HOSPITAL, LECTURER ON PATHOLOGY,
AND MEDICAL OFFICER OF THE PRIVY COUNCIL.

Reprinted from the Blue Book, containing the Eleventh Annual Report of the Medical Officer to the Lords of Her Majesty's most Honourable Privy Council,

BY THE

NATIONAL ANTI-CONTAGIOUS DISEASES ACT ASSOCIATION.

TREASURER:—
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Letters for information, supplies of Pamphlets, &c., to be addressed to the Secretary,
Mr. FREDERICK CHARLES BANKS, Mansfield Road, Nottingham.

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ON THE PROPOSED STATE DISINFECTION OF PROSTITUTES.

The inquiry of the department into the prevalence of venereal diseases among the civil population, was intended to contribute some of the elements necessary for judging a question which of late has been much agitated before the public: the question, *whether it is expedient to have in this country a systematic sanitary superintendence of prostitutes.* During the last few years, under the provisions of special Acts of Parliament—the so-called "Contagious Diseases Act" of 1864 and 1866, a system of this sort has been administered on a small scale, by the War Office and Admiralty, at certain military and naval stations; and recently, while these departments have been proposing to extend their own operations with respect to the two public services which they direct, the more general question has been raised by the advocacy of a voluntary association formed for the purpose of promoting the extension of the Contagious Diseases Act, 1866, to the civil population of the United Kingdom.

There are here two questions which, I think, cannot be too strictly distinguished; the question concerning the army and navy, and the question concerning the civil population. It has not been any part of my duty to advise on the former of these questions; and I now only advert to it for the sake of greater clearness in proceeding to discuss the other. It seems to me that prostitution and its attendant diseases, in their relation to the army and navy are, in two different points of view, matter of public concern and responsibility; first, because military and naval services at their respective stations are essential *determining causes of prostitution*, and the State, which for its own purposes keeps those masses of male population unmarried, cannot claim to be indifferent to the result; and, secondly, because the specific diseases which arise in that mode of life occasion so great a quantity of temporary disablement in the two services, as to be of pecuniary importance to the entire tax-paying community. These, I apprehend, are the grounds on which rests all that has yet been done by the Legislature with reference to venereal diseases; grounds which are in the utmost degree exceptional as regards the nature of the case; and to argue from such a case to the case of the civil population, would

manifestly be a confusion of judgment. Of the venereal diseases of the civil population, English sanitary law has not hitherto taken any special cognizance; and whether this neutral state of the law ought or ought not to be abandoned is a separate question, of far more intricacy than seems to be generally imagined, and which on all accounts certainly deserves most careful consideration.

In proceeding to discuss this question, I may conveniently first refer to the programme of the Association which I have mentioned—the "Association for promoting the Extension of the Contagious Diseases Act, 1866, to the Civil Population of the United Kingdom." The Association contends "that sufferers under any kind of [venereal] contagious disease are dangerous members of society, and should, so long as they are in this state, be prevented from communicating it to others; · · · that common prostitutes should be subject to a compulsory medical examination, and to compulsory detention in hospital as often as they are found diseased, and as long as they continue so; · · · · · · that, for the reception of prostitutes suffering from venereal disease, hospital accommodation should be provided in all towns where such persons congregate." To give a notion of the quantity of hospital accommodation which would be requisite to satisfy this programme, I may observe, for instance, that London is conjectured to have some 18,000 women whose living is gained by prostitution: and that according to one of the secretaries of the society, on any given number of prostitutes, always about one-third may be assumed to be diseased. If instead of insisting on these colossal estimates, we take only half their total result, the plan would require *for London alone* the creation and maintenance of new hospital accommodation nearly equal to that which is now given by the twelve general hospitals of London for all bodily diseases put together; accommodation, namely, for 3,000 patients. *The charge of maintaining (independently of the cost of constructing) such lazarets as the above would probably be at least* 100,000*l.* per annum; *and their construction would probably represent a first cost little short of half a million of money: besides all which there would be the considerable annual charges for police arrangements and medical inspections.* This for London alone!!! And the requirements of other large towns would probably be of like proportions.

Demands like the above are evidently not likely to be met by voluntary contributions. The result, if to be got at all, can only be got under action of law; and any such law, whether empowering the central government to defray expenses out of proceeds of general taxation, or empowering municipalities to assign local funds for the purpose, is of course, in relation to minorities, compulsory. Now, it

is quite certain that, rightly or wrongly the proposed appropriation of money would, in the eyes of very large numbers of persons, be to the last degree odious and immoral! *In most municipal constituencies, there are swarms of persons who already find it no easy matter to satisfy the collectors of rates and taxes; they would see the prostitute kept in the hospital at their expense for weeks or months, not necessarily from the exigencies of severe illness of her own, but essentially that she might be made clean for hire, lest any of her users should catch disease from her; they would remember in contrast that for themselves wonderfully little is done by authority to protect them against adulterations of food, or against false weights and measures; and they might regard it as a strange caprice of law which should oblige them to contribute to the cost of giving an artificial security to their neighbours looseness of life.* It seems to me very important to measure beforehand the degree in which such arguments would be valid, or rather to consider on what principles (if any) the proposed intervention of law is to be justified.

I suppose it may be assumed that public policy is very decidedly in favour of marriages against promiscuous fornication; that the latter, however powerless may be laws to prevent it, is, at least an order of things which no State would willingly foster; that, whereas it has some inherent inconveniences, among which is the liability to specific contagious maladies, such drawbacks from its attractions are not in their kind a matter for general social regret; that venereal diseases are, in principle, infections which a man contracts *at his own option, and against which he cannot in any degree claim to be protected by action of others*—the less so, of course, as his option is exercised in modes of life contrary to the common good; that thus, primâ facie, the true policy of Government is to regard the prevention of venereal diseases as matter of exclusively private concern. *Caveat emptor!* And though it must be admitted that, to some extent, the consequences of promiscuous fornication spread beyond the persons of the original performers: (the infections of the brothel being oftentimes carried into simultaneous or subsequent wedlock, and in some cases fixing their obscene brand even on the offspring of such marriages;) this horrid fact is only one of many which might be cited, where innocent wives and children participate more or less severely in consequences which husbands and fathers have earned. To be wife or child of a drunkard or a gambler involves evils against which the State does not affect to give security; and, primâ facie, the dependent interest must be equally unprotected by the State against harms which that other sort of looseness may bring on it.

I am very far from thinking that the above are the sole considera-

tions to which regard must be had in deciding such questions as the present. But they seem to me to define a position which ought not to be abandoned, except under strong compulsion of circumstances, and with reasonable prospects of success. Evidently, if venereal disease were now the same gigantic scourge and terror which they were some 350 years ago, when they inspired Fracastoro's poem, and if curative medicine had continued as powerless against them as then; if we saw them still raging as great intractable epidemics, impeding national movements, and forcibly occupying the mind of society with all sorts of lazarous presentations; the reasons for legislative action, *provided such action could be effectual*, might be stronger than the reasons for neutrality, and considerations as to the personal ætiology of the disease might perforce have to be subordinated to the urgency of a public danger.

The cardinal questions, then, are two:—First, does the detriment which venereal affections cause to public health, reach those limits at which principles generally preferable ought to be exceptionally abandoned by the State? Secondly, would the good which can be got through State interference in this matter, be enough to reasonably compensate for the cost at which it would have to be attained? I must confess that I cannot with any approach to confidence answer either of these questions affirmatively! As regards the first of them, I have not the least disposition to deny that venereal affections constitute a real and great evil for the community; though I suspect that *very exaggerated opinions are current as to their diffusion and malignity;* but since the resources of curative medicine against them are constantly becoming stronger and stronger, it seems probable that the worst of them will year by year become less and less important (as endangering life or limb) in cases where infection may obtain. It may also be anticipated that the greatly improved knowledge which late years have given to the medical profession with regard to the venereal contagia will spread, and not very slowly spread, through the minds of the general public, and will soon very much reduce the number of those sad cases where infected men give syphilis to their wives and offspring. On the other hand, as regards our power of preventing venereal diseases by such a superintendence of prostitution as is proposed, it is certain that *no appreciable good would be got except with much organization, and at very large costs of money;* and there are strong reasons for believing that the gain so purchased would, on analysis, be found to belong *very predominantly to those kinds of venereal disease in which the community has little or no permanent interests.*

First, as regards the actual quantity of venereal disease current in

this country, and the importance of such disease to the public health, it is to be remembered that under the head of "venereal diseases" are included three chief sorts of disease, and of course in each sort many different degrees of severity. The three sorts to which I refer, and which in any given person are not incompatible with one another, are gonorrhœa, pseudo-syphilis, and true syphilis. *Gonorrhœa* is never even temporarily of much importance to women, nor ever, unless very exceptionally, of much permanent importance even to men; but thus far it is not a quite unimportant infection, that in men it is often extremely inconvenient, indeed sometimes involves for a time painful and even disabling complications, and cannot absolutely be said never to leave permanent local damage behind it. *Pseudo-Syphilis* or so-called "simple chancre," is a form of ulcer which may be of considerable local destructiveness, and is often attended by inguinal buboes, but leads to no specific ulterior consequence. *True Syphilis* arising as "hard chancre," or other less characteristic primary affections, involves an outbreak or successive outbreaks of so-called "secondary symptoms;" which though almost invariably amenable to medical treatment as they arise, and probably, *in an immense majority of cases, not of more than transient importance to the person attacked*, are yet not infrequently a more or less troublesome relapsing illness, and sometimes, even in spite of treatment, a long subsequent danger to life; and this true syphilis is of permanent interest to society, partly because of the cases *(though comparatively very few)* in which it is intractable in the person of the original sufferer, but still more because of the indefinite duration of time for which he or she may at intervals be capable of infecting others, and because the issue of syphilitic parents is apt to perish during utero-gestation, or to be born more or less syphilitic. In seeking to estimate, without exaggeration, the harm which society suffers from venereal diseases, and the good which preventive measures may possibly effect, it is, of course, essential to observe the distinctions between the above-described three sorts of disease; above all not to use the word "venereal" as if it were synonymous with "syphilitic;" and it is also essential that whatever purports to be statistical evidence on the subject should be evidence on a sufficiently large and impartial scale. The report of the "Association for promoting the extension of the Contagious Diseases Act to the Civil Population" gives some statistics which might lead to an impression that in London from one-fifth to one-third of the sick poor are suffering from "a contagious disease of the gravest character, which is constantly transmitted from parent to offspring;" but the contents of Mr. Wagstaffe's report,

(given in the Appendix to the Blue Book) satisfy me *that no sufficient grounds for any such impression exist:** rendering it, I think, highly probable that, of the sick poor who at any given moment are receiving medical relief under the poor law, and at dispensaries and general hospitals, in London, only about 7 per cent. have venereal disease of one kind or another, and that only in about half the proportion the form of disease is true syphilis. Again, a piece of the experience of the Children's Hospital in Great Ormond Street, as quoted in the report of the Association, may seem to suggest that "about one-fifth" of the sick children of the poor are sick with immediate consequences of inherited syphilis; but on inquiry I find that, of 118,590 children of the poor treated during the last ten years for all sorts of diseases at the Ormond Street Hospital, the proportion recorded to have been syphilitic has been only 1¼ per 100. *Thus in both cases the quantity of evil appears to be many times less than advocates of legislative interference may imagine;* and it must be remembered that London probably illustrates the *utmost dimensions* which the evil can attain in this country.

Then, as regards the preventability of venereal diseases, even the abstract question—(abstract, I mean, from consideration of cost)—is by no means an easy one. Especially we are in want of exact discriminative information as to the good which other countries have got from their sanitary superintendence of prostitution. I believe it to be the fact, that *even under strict systems of police, prostitutes in very large proportions escape the intended supervision; and that in their evasive traffic so large a dissemination of venereal diseases may be kept up as to leave in nett result very little apparent success to be boasted of.* Let it be assumed, however, that, in any place where circumstances are favourable, "venereal diseases" in mass may be greatly reduced under such a system: but there remains as an unfortunate accident of the case, that this reduction might *least of all affect those sort of diseases in which society is incomparably most interested;* and in the absence of exact records on this point, expectation ought, I think, to be very moderate. For the various local states which most habitually spread the infection of true syphilis are apt to be in themselves such slight and painless affections as almost or entirely to escape the patient's notice; and, indeed, in women primary syphilitic ulcers, and other local states

* Mr. Wagstaff's elaborate and carefully compiled statistics prove the extent and severity of the disease has been grossly exaggerated by the Association for forcing this Act on the Civil Population. —Mr. Skey, who has given particular attention to the study of these diseases, said in his evidence before the Leeds' Committee that the Association has *spread an alarm to an unnecessary extent.* The evil has been *coloured too highly,* several leading Members of the College of Surgeons were all of the same opinion, that the evil *is not so large by any means* as is represented by the Association. *The disease is not so common, and is not so severe.*

capable of infecting with syphilis, *not only very often pass unnoticed by the patient herself, but* HAVE OFTEN BEEN OVERLOOKED IN EXAMINATIONS MADE EXPRESSLY FOR THEIR DISCOVERY. And with reference to proposals that particular inspections of women should take place on the information of men whom they have infected, insuperable difficulties are created in the case of true syphilis by the very long incubation-time of the primary infection: an interval generally of at least three weeks, and capable apparently of extending to six weeks or more: during which time the inoculated part presents absolutely no sign of infection; and at the end of which time the infected man may (for obvious reasons) be in utter ambiguity as to his infectress.

When the question of preventing venereal diseases is considered as one of administration and finance, some of the above facts become important difficulties. It is proposed that the organization should take equal cognizance of all sorts of venereal disease; indeed this, if the organization were in existence, would seem practically inevitable; partly because of uncertainties and precariousness of diagnosis; partly because cases, taken in the order of their permanent interest to society, would very often be in inverse order to that which the relative urgency of personal sufferings would dictate. And thus, so far as the extinction of true syphilis is to be deemed the essential object of the system, the organization would in two ways tend to be disproportionately expensive: on the one hand *because expending a very large share of its strength on diseases of no permanent importance to society, and, on the other hand, in such measure as cases of true syphilis would escape the intentions of the system.*—Further when the administrative question is considered, not as a national one, but as distributed among many local authorities, a new sort of difficulty presents itself. Whatever good can be got from a sanitary superintendence of prostitution, if worked with uniform strictness through the entire country, the good will not only of course diminish, but will diminish at an immensely increasing rate of diminution, in proportion as the system is not universal and uniformly strict; so that a local expenditure which would give remunerative results, if other places were acting on the same system, might easily, in the contrary case, appear comparatively unproductive. This has been a chief point in the case of those who have pressed for an extension of the present venereal diseases law; and the Association's report has for one of its chief texts, "Free communication between localities, fatal to success of Act in limited districts."

The broad result in my mind from the various above-stated considerations is, that at present, I VERY DECIDEDLY REFRAIN FROM

RECOMMENDING ANY CHANGE IN THAT NEUTRAL POSITION WHICH ENGLISH LAW HAS HITHERTO HELD IN REGARD OF THE VENEREAL DISEASE OF THE CIVIL POPULATION. SO FAR AS MY PRESENT KNOWLEDGE ENABLES ME TO JUDGE, I BELIEVE THAT ANY DEPARTURE FROM THAT POSITION COULD DO LITTLE BUT EMBARRASS AND DISAPPOINT.

That under a well-planned national system, obligatory in its local operation, and stringently directed from the centre, with an enormous establishment of lock hospitals, with prostitution universally submitted to strict methodical supervision by police, and with very frequent recurring minute surgical examination of the persons of prostitutes, a great reduction might be made in the present prevalence of venereal diseases among the civil population; and that as part of such reduction (though probably in comparison but *a small part*) there would be a diminution in the prevalence of true syphilis; these are propositions which I do not dispute; but their very important converse has to be remembered, that in proportion as the above conditions cannot be attained, the hope of results becomes chimerical. The conditions, I need hardly observe, are such as there can be no *reasonable present expectation* of seeing realized in this country; and I must add that, in the present state of my knowledge, *I could not advocate any such legislation as would ever approximately fulfil them.* Not only do I doubt whether the evil can in any reasonable sense be said to call for the *repugnant* and very costly measures of prevention, which alone could pretend to be of effect against it, but also I feel bound to press for something like proportion in the treatment of such matters. And recognizing how incomplete is hitherto our sanitary system, and particularly how little pressure is yet put on local authorities in matters of far more general importance to life; recognizing, for instance, that it is almost entirely a question of private charity whether fever hospitals exist in a town, and that such hospitals are most insufficiently provided; *I cannot but think that during this state of things compulsory legislation in the present matter would be a disproportion not to be justified.*

On the other hand, I have to observe that the somewhat uncertain amount of good which very strict compulsory legislation might produce, would less and less admit of being realized, in proportion as the provisions of law were non-compulsory; and a law, giving to local authorities or populations any considerable scope for option in the present matter would quite unquestionably be futile. Everyone knows how valueless such legislation has been in the greater part of the province of sanitary law, even as regards objects of foremost necessity to the public health; so valueless, that in all chief respects compulsory

legislation has already had to be substituted for it; and the light of those experiences may be applied, mutatis mutandis, to the present extremely difficult and delicate subject matter. There probably would be detailed discussions, often indefinitely prolonged, and resulting in inharmonious conclusions, in innumerable vestries and town councils and wardmotes; discussions which, if not to bear fruit, ought in the interests of decency to be deprecated; but of action, capable of giving success, there certainly would be little or nothing. It is true that under permissive law there have been exceptional instances of local exertion for other sanitary purposes; but even solitary instances of such exertions could not in the present matter be anticipated; for here the peculiar discouragement would exist, that no town could be sure of satisfactory results from its own superintendence of prostitution unless other towns, in communication with it, were acting upon the same system.

In a particular proposal, which I think it my duty to mention, permissive legislation, of a sort which would almost entirely rest on a system of voluntary contributions, has been contemplated; and this proposal was received last year with some favour by the Committee of the House of Lords which had the Contagious Diseases Act under consideration.* The proposal, viewed in relation to its professed aim, is of course open in the very utmost degree to the objections which I have just stated generally against permissive legislation; indeed, I can scarcely conceive that, if enacted, it would in any single case be of good effect; and there is a different point of view in which I would venture to submit that its admissibility (as well as that of any permissive legislation) requires to be most cautiously considered. For it seems to me that the proposed legislation, *powerless though it would be for any sanitary result*, would in principle be the thin end of a wedge; that the question of its acceptance or rejection is, as precedent, of fundamental importance; that, between permissive general legislation to-day and compulsory general legislation to-morrow, there would stand but the question of expense. In courses called tentative it is so easy to drift into positions which become pledges, that I venture to press this consideration. Whether the venereal diseases of the civil population are henceforth to be deemed matter of public concern, whether the *civil fornicant may reasonably look to constituted authorities*

* I describe the financial basis of this proposal as "almost entirely" voluntary contribution. The proposal, as I understand it, is that Government should be authorised to confer the requisite police powers for sanitary superintendence of prostitution on any local authority shown to have at command (as by voluntary contribution) the proper hospital accommodation for such purposes. And the proposal seems to assume that, if lock hospitals were established by voluntary contribution, the local authority could provide (presumably from proceeds of rates) for the cost of the medical inspections and police arrangements.

to protect him in his commerce with prostitutes, is the principle which I conceive to be at stake. And I would repeat my opinion that, if that principle is affirmed, the responsibilities implied in it cannot be adequately met without stringent compulsory general legislation.

Whether particular municipalities wishing to exercise within their respective jurisdictions special powers in relation to venereal diseases might properly be let acquire such powers by purely local Acts of Parliament, is, I think, a somewhat different question; and possibly such special Acts (provided they contained proper obligatory provisions) might, in certain cases, be conceded without any sacrifice of the real principles which are at stake. Every such case would then have to be judged on its own merits. BUT AS REGARDS ANY GENERAL LEGISLATION, WHETHER COMPULSORY OR PERMISSIVE, IN REGARD TO THE VENEREAL DISEASES OF THE CIVIL COMMUNITY, MY CONCLUSION IS VERY DECIDED THAT AT PRESENT I CANNOT RECOMMEND ANY SUCH LEGISLATION.

Finally, there are some incidental considerations to which I beg leave briefly to advert.

Among arguments put forward to recommend a general superintendence of prostitution, there is one which seems to have gained for the proposal a considerable quantity of non-medical, particularly clerical, support. The report of the Association, namely, alleges "that a collateral but not unimportant result which inevitably follows the establishment of preventive measures is the improvement in the moral and social condition of the women;" and a memorial which was last year addressed to the then Lord President of the Council, by the President of the Royal College of Physicians and others, supported the view "that, of the unfortunate women who are subjected to these restrictive and sanitary measures, a comparatively large proportion have been reclaimed." I believe it to be unquestionable that such women as have hitherto come under medical inspection have generally been influenced by it to become cleanlier in their persons, and that the brothels inspected by police are less apt than they were to be scenes of riotous disorder; *changes, on which no doubt the users of those persons and places may congratulate themselves; but which cannot without extreme abuse of terms be described as of any moral significance.* On the other hand, the last clause of the statement cannot fail to seem morally important to anyone who accepts it without reserve. I fear, however, that such hopes as it at first sight would seem to justify, as to possible moral results of a government superintendence of prostitution, would on any large scale show themselves *essentially delusive;* not, perhaps, as regards individual reclamations to be effected, even from brothels, by pure and kindly human contact, but as regards the

statistics of prostitution, broadly and practically considered. For I apprehend that the concubinage market, like other markets, tends to be fed according to demand; and that, if prostitution is really to be diminished, the principles of those who would diminish it must be *preventive*. Of the many roots of the evil some are practically immutable, but others will undoubtedly vary with the general moral sentiments of the time. Always, of course, there are certain large quantities of mere brute passion, forcing at any price to have their way; and always, in our present social state, there are large unintelligent masses of human life with little sense of right and wrong, and much of abject poverty ready to sell itself for food, and even more of uneducated frivolous temperament. But if these be regarded as in my present sense "fixed" elements (though indeed all of them are happily susceptible of reduction) a comparatively very variable force is represented in the influence of public opinion. That parents of the educated classes regard with immeasurably different degrees of interest the chastity of their daughters, on the one hand, and the continence of their sons, or future sons-in-law, on the other, is a fact which probably has its basis, in a doctrine of supposed general consequences; but knowledge which is supplied in studying the venereal diseases of the civil population—a knowledge of the mischief and misery which a young man's transient incontinence may be preparing for his whole future domestic life, certainly gives room for consideration whether these ingredients of the one case ought not to be more popularly understood. The only state of things which can be regarded as essentially antagonistic to prostitution is *the system of early marriages:* which, in this respect, commends itself equally on moral and physical ground, *for, in proportion as it is accepted, the promiscuous intercourse of the sexes ceases to excuse itself by circumstances, and the chances of venereal infection fall to the lowest level they can attain.*

Also in conclusion I would beg leave (though perhaps superfluously) to protect parts of my above argument from misapprehension. In the proposals which I have had to criticise, hospitals for diseased prostitutes have not come under discussion as charitable institutions, but solely as elements in a machinery proposed to be constituted by law *for giving an artificial security to promiscuous fornication.* In the latter sense I may have seemed indifferent to their existence; but in the other sense, if this occasion permitted, I would willingly plead in their favour. For some thirty-five years of hospital-surgery in London have given me the amplest opportunities of knowing what physical miseries (as well as what worse mental states) attach to the career of prostitutes; and in this point of view I cordially agree with those persons who

deplore the extreme insufficiency of hospital accomodation provided among us for prostitutes venereally diseased. The defect may not be for legal remedy, but not the less it is real, and I sincerely hope it may be dealt with by agencies appropriate to its nature. Such are not for me here to discuss. But *considering how large a proportion of society has responsibilities of causation or connivance in that sphere of suffering and shame, and considering again what case for compassion even those who are purest from such responsibilities may recognize in states of human life so estranged and so bitterly punished, I should suppose that dictates of justice on the one side, and impulses of charity on the other, would respond, and not parsimoniously, to any well-considered appeal in the matter.*

SOUTHAMPTON BRANCH

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CAPTAIN STRUTT
MR. G. SMITH
MAJOR-GENERAL TRYON, J.P.
MR. J. T. TUCKER
MR. EDWARD WESTLAKE
REV. F. E. WIGRAM
REV. DR. WRIGHT

"SOUTHAMPTON TIMES" STEAM PRINTING WORKS, 31, ABOVE BAR.

The following petition has been transmitted from the clergy and ministers of Southampton:—

To the Honourable the Lords Commissioners of the Admiralty.

We, the undersigned clergy and ministers of all denominations officiating in the borough of Southampton, having learnt that the provisions of the Contagious Diseases Acts are to be enforced in this borough, desire respectfully to lay before your lordships our most earnest protest against this extension of the Acts to a civil population.

We believe that the apparent official sanction given by the Acts to a certain form of vice cannot but prove lowering to the general tone of public morality, as well as ensnaring to many whose moral and spiritual welfare we have deeply at heart.

We believe, further, that the experience of the working of similar legislation in other countries is such as to justify the anticipation that the Acts will fail in diminishing disease; and we believe the Acts to be dangerous to the liberties of all women; and in certain respects degrading to the women who are subjected to them.

We therefore hope at no distant period to see the repeal of the Acts, and earnestly request your lordships to use your powerful influence for their immediate suspension in the borough of Southampton.

The petition is signed by the

Rev. Arthur Bradley, M.A., Rector of All Saints,
Rev. G. Bradshaw, D.D., Chaplain of the Gaol and Union,
Rev. Alexander B. Burton, M.A., Vicar of Holy Trinity,
Rev. John Bullen, M.A., perpetual Curate St. Matthew's,
Rev. George S. Barrow, M.A., Vicar of Northam,
Rev. T. D. Bolton, Incumbent of St. Deny's, Portswood,
Rev. Mark Cooper, M.A., Rector of St. Mary's,
Rev. T. Garrett, Chaplain of the South Hants Infirmary,
Rev. S. M. Innes, Vicar of St. Michael's,
Rev. G. M. Procter, M.A., Vicar of St. James',
Rev. Frederick Russell, M.A., Rector of St. Luke's,
Rev. C. E. Steward, M.A., perpetual Curate St. Peter's,
Rev. William Wilson, D.D., Vicar of Holy Rood,
Rev. Benjamin Westbrook, Curate of St. Mary's,
Rev. C. E. Wilkinson, Curate of St. Luke's,
Rev. F. E. Wigram, M.A., Curate Christchurch, Portswood,
Rev. H. H. Carlisle, LL.B., Above Bar Chapel,
Rev. R. Caven, B.A., Baptist Chapel, East-street,
Rev. J. Collins, B.A., Carlton Baptist Chapel,
Rev. H. N. Dupont, pastor of the French Church,
Rev. G. W. Gregg, Congregational Chapel, Northam,
Rev. J. Higman, Bible Christian Chapel,
Rev. R. G. Harper, New Congregational Chapel,
Rev. Edmund Kell, M.A., Unitarian Chapel,
Rev. S. March, Albion Congregational Chapel,
Rev. Peter Galbraith, Presbyterian chaplain at Netley,
Rev. James J. Prescott, Wesleyan minister,
Rev. John G. Wright, L.L.D., St. Andrew's Presbyterian Church.

THE APPLICATION OF THE CONTAGIOUS DISEASES ACT TO SOUTHAMPTON.

(From "The Southampton Times" of April 2, 1870.)

A public meeting in connection with the Southampton branch of the National Anti-Contagious Diseases Act Association was held at the Victoria Rooms on Tuesday evening, when Mr. Baxter Langley, M.R.C.S., was announced (in the terms of the circular) to deliver a lecture "exposing the futile, immoral, and unconstitutional character" of the act. Mr. Alderman Lamb, J.P., presided, and in addition to the lecturer, he was supported by the Rev. A. B. Burton, Rev. H. H. Carlisle, Rev. A. Bradley, Rev. J. Bullen, Rev. R. Caven, Rev. F. E. Wigram, Rev. E. Kell, Rev. J. G. Procter, Rev. T. Garrett, Rev. G. Gregg, Rev. S. Higman, Dr. Cheesman, Dr. Cooper, Dr. Churchill, Lieutenant-Colonel Close, Messrs. J. Clark, J.P., W. Lankester, J.P., W. C. Westlake, E. K. Stace, J. T. Tucker, Dowman, James Sharp, Evans, G. Ivimey, Savory, A. J. Knight, &c.; while the general attendance, which filled about two-thirds of the hall, included Alderman Stebbing, J.P., Alderman Emanuel, J.P., Dr. Aldridge, Dr. Griffin, Messrs. D. G. Douglas, F. Churton, T. Falvey, T. Hill, D. Cruickshank, James Cocks, J.P., T. Fox, H. Pond, J. D. Blackman, Breton, Hornsey, and many other well known residents.

The Rev. A. B. Burton expressed, at the outset of the proceedings, his regret that he was obliged to leave the room almost immediately, in order to be present at another public meeting in which the Rev. Mr. Wigram, the Rev. Mr. Procter, and himself had been announced to take a prominent part. Having given the subject, however, his attentive consideration, he attended there to express the irreconcilable repugnance which he had to the introduction of this Act into Southampton, and to throw whatever influence he possessed into direct opposition to it (applause). He would propose that the chair be taken by Mr. Alderman Lamb—a gentleman who was always ready to forward every good work—whether religious or benevolent (applause).

This proposal was seconded by Mr. W. Lankester, J.P., and having been unanimously agreed to,

The Chairman briefly explained the object of the meeting, and stated that Captain Strutt, who had been unavoidably called away, regretted his inability to be present. He then requested Mr. W. C. Westlake, one of the local honorary secretaries, to read letters which had been received from Major-General Tryon and others, expressing their concurrence in the object of the meeting, and giving the reasons for their absence. Dr. Hearne, J.P., wrote that having given considerable attention to the question, he could arrive at no other conclusion than that the interference with the liberty of the subject legalised by the Act should be resisted by all legitimate means, for even assuming that all the good would result from the discreet application of the

Act which its sanguine supporters had so energetically asserted—the proof of which, however, remained to be adduced—he was still of opinion that the evils necessarily attendent upon its working would far more than counterbalance any possible gain.

Mr. Baxter Langley, having been introduced by the chairman, then proceeded with the delivery of his lecture. He wished for his own part that he could have addressed ladies as well as gentlemen, for he felt that it was always beneficial when they were brought under the elevating influence of pure, high minded women (hear, hear). Although this question presented itself to some merely as the application of a certain Act to a particular town, it involved a number of other most important national considerations, which it was impossible to separate from it. It involved not only the question as to the morality of the army, but whether the regulations now prevailing in the army should be continued—whether national morality must be sacrificed to the health of the army—whether, with the arms of precision and destruction we now possess and protected as we are with water on all sides, we had not arrived at a period when invasion or offensive warfare was rendered impracticable by the overwhelming superiority of offensive force, and when, as a consequence, we might look forward to the cessation of large standing armies, which, being condemned to celibacy, exercised such a pernicious influence not only upon the morality of the district where the men happened to be stationed, but also indirectly upon that of the entire country. The subject before them bore not only upon a broad political question of that sort but upon general sanitary questions. He thought they had all very just ground for complaint that the parties who brought forward and pushed these Acts through the legislature had not adopted the ordinary course of making them the result of a general public opinion (hear, hear). They preferred a policy of secrecy, and they adopted a name which did not even carry to the general intelligence the nature of these Acts; and so complete was the secrecy that Mr. Gilpin, Mr. Jacob Bright, and other members of Parliament had told him they had no conception whatever what the Acts were, and that amid the pressure of legislative business at the end of the session they just saw the title "Contagious Diseases Act," at the head of the paper, and simply imagining it was something connected with the cattle plague, they took no notice of it (laughter). Certain he was that these Acts could never have been brought into anything like their present position, or have been furnished with such clauses as were now proposed to be put into operation in the borough of Southampton, had it not been that secrecy and privacy were the modes by which they were introduced and carried through the House of Commons (hear, hear). When they remembered that in addition to the immediate subject proposed to be dealt with there were involved in the operation of this Act the morality and comfort of every one of their homes, the morality of the whole country, and the consideration of the necessity of marriage, with many other collateral questions, it was evident that this was one of the most important subjects in its political and moral bearings that had been brought before the mind of the country for many years past. The difficulty of the question had been admitted on all hands; and one of the difficulties was implied in the argument of their

opponents that the evil sought to be regulated always had existed and therefore always would exist; but he should despair of Christianity itself if he did not believe that such an evil was capable of diminution, and that under proper influence it must ultimately cease (hear, hear). It was in 1864 that certain *dilettanti*, (people who dealt with symptoms and not with causes), proposed a system for regulating the evil in the immediate neighbourhood of military settlements, which was a totally different thing to its regulation among the entire civil population of the country, because in the former case the law applied to the men and women also; and had this been threatened or attempted in respect to the country generally, he ventured to say that these Contagious Diseases Acts would never have been heard of (hear, hear). In 1866 a step further was taken by the extension of the Acts to garrison towns; and in 1869 other towns, including Southampton and Winchester, were added, while the radius of the districts was increased to 10 miles—it being clear from this that the intention was by a quiet process gradually to absorb the whole civil population and to bring the entire country under the influence and operation of the Act. The two parties involved, then—totally distinct and separate—were the army and navy on one side, and the civil population on the other. Supposing the argument good that it was absolutely necessary for the former, it behoved the authorities well to consider the advisability of applying it at the cost of a frightful moral and social sacrifice to the whole community (hear, hear). He would undertake to show that where these acts had been most stringently applied, as in the French, Belgian, and other armies, they had failed to produce the anticipated benefit (hear, hear). The result was the same in their application to the civil populations of Paris, Brussels, and other continental cities. The wickedness, in fact, took another form, and its consequences were of a more intense and fatal character than in the free districts, as the parties, instead of being registered, sought to evade the law, and consequently avoided legitimate modes of treatment. If, however, it could be shown that this law would be an unmixed benefit to the army, his contention was that it would be far better and cheaper, pecuniarily and in a moral and social point of view, to have an increased vote in the estimates for accommodation for married soldiers (hear, hear), than to sacrifice the health, or morality, or religious sentiment of a country (applause). Then, assuming it could be proved to be so beneficial to the army, he held that that was no argument for applying it to the civil population, the men not coming under examination as well as the women. This Act, moreover, was not in accordance with the principles of constitutional law, the spirit of which was to preserve the absolute right of man to his own actions so long as they did not interfere with the welfare of the community at large, whilst this law sought to protect man from evil contracted by his own will, and to punish the person from whom he contracted it, though it was his own voluntary act that had brought about the evil. If this were to be allowed by Christian England, the sacredness of the marriage institution would be materially interfered with, while the State would actually protect a man in his own wrong, not only against it but against society at large. And yet they were told

that it was dictated by humane and religious considerations, than which he had seldom heard a greater perversion of terms. Then there was a plea as to others suffering, and that the consequences to society at large were very dreadful. Undoubtedly, in the first instance, a crime had been committed against society by someone, which had resulted in punishment as a consequence of the violation of the natural laws; but the evil reverted in its most aggravated form to those whose fall was, in too many instances, attributable to men, and yet so far as society was concerned, upon whom did the infamy rest (hear, hear)? What with the pride of women and the jealousy of men, many of these poor creatures were deprived of the means of earning a livelihood, and driven to acts of desperation, whilst the men who had brought this degradation upon them were received in the very best society, and it not unfrequently happened that the most notoriously bad—the greatest lady killer among them—was regarded as the hero of the ball-room and the idol of the hour (applause). We were told that it was a good thing to protect wives and children from these infractions of natural and sometimes of social laws, but why not equally have a law to protect the wives and children of gamblers and drunkards, who, in their way were equally guilty of bringing misery to homes (hear)? Let us be consistent, and have complete protection if we are going to legislate upon such a principle. Then as to the argument founded upon the infectious nature of this disease, he denied that there was any analogy between it and the small-pox, scarlatina, fever, and the like, to which none would willingly expose themselves in order to be infected, whilst in this instance the sufferer voluntarily exposed himself to the risk. No, this design to stamp out vice by protecting the causes of it, by rendering its practice more safe, must end in failure, for whenever natural laws are violated certain consequences are sure to follow, and we might as well try to revoke the laws of God as to attempt to wriggle out of the punishment which He has imposed on their infraction (hear, hear). The present conditions of society were no doubt much to blame for what already existed. One of the fertile causes preventing marriage, and indirectly contributing to the evil now under consideration, was the extravagance of women; another the mistakes and pride of parents; but chiefly the difficulty women have of obtaining employment, until it comes to this—that they must either be domestic servants, or married, or adopt the fearful alternative. Men had much to answer for in this respect; and trades' unions, including his own medical profession, were also to blame for the prohibitive restrictions they had imposed upon the employment of women, and, in regard to medicine, of that branch of the profession which he held to be their natural department (hear). Let us look at home and see if we have done nothing ourselves to bring about the condition of things deplored. When, however, disease had for years been declining both in intensity and extent would it not be better to let the evil alone? Should the temptations to vice be increased by its being legalised and licensed and therefore presumably made safe? No, this could never be; for degradation and punishment inevitably followed a breach of the moral law. The sin would infect the soul as well as the body; and instead of holding up vice as attractive and

safe it was for us to teach the youth of the nation that it could never be practised with immunity from its appalling consequences. The lecturer then referred to the failure of the Acts in some of the districts where they had been applied, and quoted from a recent article in the *Westminster Review* in support of his contention, mentioning particularly the case of the Paris hospitals. He further objected that the Acts are unequally applied, because only one instead of both the offenders—as in the case of every other crime—was punished. Would it not be wiser to deal with some of the conditions which gave rise to the evil, and so to bring about such an altered state of society that the vice would die out because there would be no temptation to it? If virtue only had a fair chance, and was not interfered with, we might depend upon it that her face was far more comely and beautiful than that of vice. To doubt this would be to deny our very humanity and every chance of improvement in human nature (applause). But having regard to the adoption of such exceptional legislation as that under review, he contended that the limits of the mischief did not justify a deviation from the ordinary course. There was one city in Europe where these Acts were carried out to their fullest extent—Rome, and there was no city in the world so grossly immoral and socially degraded (hear, hear). Medical men were content to deal with the manifestations of the evil instead of rising to the higher consideration as to what were the causes of it, and how they were to be removed. You cannot sow evil seed without evil fruit springing up. Let us root out the evil seed; let us go to the causes of this deformity—this moral disease—and see if these cannot be eradicated. As Christian men we are bound to do this. The author and finisher of our faith has left us His example. Let us remember that it is our duty to deal with the worst as well as the best—that the duty which lies nearest our hand is the duty which God expects of us first; and let us take courage and believe that work done for Him down in the lowest depths of the dirt of society will always bring healing and happiness with it, just as it happened that the pool of Bethesda possessed its greatest curative influence when the angel descended into the water and stirred up the mud (loud applause).

The Chairman said he rose to ask if any one present wished to question the lecturer upon this all-important subject, as he was quite prepared to give such answers as lay in his power. Mr. Baxter Langley had delivered one of the most extraordinary lectures that he (Alderman Lamb) had ever listened to, and he hoped the seed sown would raise all their wrath against this iniquitous Act, and that they would never rest satisfied until it was erased from the statute book. Petitions against the Act were lying in the ante-room, and he hoped they would be signed by such a number as to astound their opponents (hear, hear.)

Mr. Burridge asked the lecturer if there was any provision in the Acts that if a man was known to be infected he could be required to go into the hospital?

Mr. Baxter Langley replied that he was not aware of any such provision, and did not know that it was ever contemplated.

Mr. Burridge: A civilian, then, is exempt; but is it not a fact that in the army and navy an infected man can be required to go into hospital, either on board ship or at the barracks?

Mr. Baxter Langley: The naval and military regulations in this respect are entirely separate and distinct from those of the Contagious Diseases Act as applied to the civil population. In the army and navy any man suffering from disease can be required to go into hospital under regulations which obtain in the services.

Mr. Burridge: Was it not a fact that a woman had been committed to prison for three months for refusing to be examined, and that it was found she had suffered five times previously?

Mr. Langley said he was acquainted with the facts of the case, which was that of Elizabeth Holt. The woman's father was a respectable man, working in the Woolwich Arsenal, having a family of twelve children. His daughter was married to a man shortly before Christmas, who deserted her after communicating disease. This, he apprehended, was not her fault, but she had been sent to prison, and nothing had been done to him (shame). She had previously been a virtuous and honourable girl. The chaplain of the prison in which she was confined said she appeared to be a well-conducted young woman, and her allegation was that, being deserted, and knowing not where to find employment, she was apprehended in the streets, but she denied that she was there for an immoral purpose. He believed a gross and cruel wrong had been done in this case; and his heart told him that the proper spirit to infuse into such women was that of resistance to what was unquestionably an immoral law (applause).

The Rev. J. Bullen proposed a vote of thanks to the lecturer, being in full sympathy with the object of the meeting, for he believed that if this law came into operation a most effective instrument against the spread of vice—viz., the fear of its consequences—would be taken away. He protested against what he considered a most infamous law, and he would call on all to pitch their politics to the winds while this question was "on the boards," and endeavour to prevent the Act coming into operation. He protested against it in the name of their wives and daughters; in the name of our free country—this hitherto happy England; in the name of those unhappy women whose return to the paths of virtue would be rendered almost impossible by its operation; and he protested against it in the name of religion, and in the name of our common humanity (loud applause).

Dr. Cheesman seconded the resolution, remarking that although he had come there wavering, he had been fully convinced by the able and argumentative lecture to which they had listened (hear, hear.)

The resolution was unanimously adopted, after which

Mr. W. C. Westlake made a few observations, and alluded to the circumstance, which he regarded as a gratifying augury of success, that Mr. Alderman Lamb and Major-General Tryon, the chairmen of the Conservative and Liberal associations, were cordially allied with them in opposition to the measure (hear, hear).

The proceedings ended with a vote of thanks to the chairman.

"Southampton Times" Steam Printing Works, 11, Above Bar.

ON THE

ADVANTAGES TO BE DERIVED

FROM

A NEW SYSTEM OF CAMPING.

BY

CAPTAIN E. T. ST. L. McGWIRE.

THE ROYAL REGIMENT.

REPRINTED, WITH REPORTS ON THE WORKING OF THE SYSTEM IN INDIA AND ABYSSINIA.

LONDON:

HATCHARD & CO., 187, PICCADILLY,

Booksellers to H.R.H. the Princess of Wales.

1869.

In reprinting this pamphlet several important statistics are added.

The Camping System having also been practically inspected and approved by His Royal Highness the Duke of Cambridge, a supply has been ordered for the Guards about to proceed under canvas.

The following Officers, in addition to those who have favourably reported on the subject, have also expressed themselves highly in favour of the System, *viz.*—

Major-General The Lord Frederick Paulet, C.B.
Major-General The Lord Henry Percy, V.C., M.P.
General Dunne, M.P.
Major-General Brook Taylor.
Colonel North, M.P.
Colonel W. S. R. Norcott, C.B.
Colonel J. J. Hort, Commanding 36th Regiment.
Colonel Michael Bruce, Commanding Grenadier Guards.
Sir James Brown Gibson, K.C.B., M.D.
T. G. Logan, Esq., M.D., C.B.

&c. &c.

A NEW SYSTEM OF CAMPING,

ETC. ETC.

The object of these pages is to call attention to the greatest cause of extravagance to which Armies are subject both in men and money, and to show that a method is extant whereby the same may be avoided, with great advantages, at an expenditure more hypothetical than real. In short, the greatest economy of an Army is to provide the soldiers with the means, always at hand, of obtaining rest and sleep without lying on the ground.

The several heads under which I shall detail the advantages are:—

1st. Economy of the Health and Lives of Soldiers.
2nd. Gain by Re-enforcement.
3rd. Economy of Transport.
4th. Economy of Money.
5th. Magnitude of the Results to be obtained.

1st. ECONOMY OF THE HEALTH AND LIVES OF SOLDIERS.

Making any distinction under the different headings above enumerated, might be deemed superfluous, as that under which I now write embodies all and is all-important, *coûte qui coûte*. Such a remark is true only when applied to an improving foresight, but not so when applied to those legions whose minds are preju-

diced and filled with antiquated ideas, and who, having no faith in advancement and progress, proclaim with the greatest apparent satisfaction that "such things were not required in former days; that we have done well hitherto without them, and therefore any innovation is needless."

The Parliamentary Report of the Commission of Inquiry into the sanitary state of the British Army in India, shows, that by death alone, 1000 men would be reduced in 20 years to 344, by death and invaliding to 216. That is to say, out of every 1000 men, 656 die, and 128 are invalided in the course of 20 years.*

In a review on the "United States Sanitary Commission, 1864," the following statistics appear:—

"In the Mexican war our Volunteer forces lost from disease alone at the rate of 152 (men) per 1000 per annum, and the regulars at the rate of 81 from the same source. In Wellington's entire campaign in the Peninsula his losses *from disease* were 113 per 1000 strength. In times of peace our regular army lost at the rate of 26 per 1000 strength, and the British Infantry, serving at home, annually lost about 18 per 1000 from disease, until Lord Herbert's great reforms were instituted.

"The annual loss of the whole British Army during the Peninsular war was 165 men out of every 1000. Of these 113 died by disease or accident.

"From 1803 to 1812 the annual average death rate of the whole British Army abroad was 80 per 1000—71 by disease or accident, and 9 by wounds in action.

"In July, August, and September, 1854, the British Army in the Crimea lost at the rate of 293 men out of every 100 per annum—96 per cent. of this loss was from disease. During the next three months, October, November, December, 1854, their loss was at the rate of 511 out of every thousand—seven-eighths of which loss was by disease.

* *Vide* "Parliamentary Reports."

"In January, 1855, it was at the rate of 1174 per 1000 per annum, 97 per cent. of this loss being due to disease. During the first three months of that year it was at the rate of 912 per 1000, and 98 per cent. of this loss was due to disease."

I now merely ask any impartial and reflective mind to consider for an instant what are the chief diseases that devastate a camp. It is unquestionably a fact that a camp life is a wholesome life under favourable circumstances, *i. e.* when exposure is not too severe. How then are these favourable circumstances to be secured in spite of the elements? How the exposure to be rendered less severe? The answer is clear and reasonable. The chief diseases that devastate a camp are camp fever, dysentery and diarrhœa, and pulmonary affections, most of these are actually generated by the continued exposure of sleeping on the ground, and all are undoubtedly greatly aggravated by that *hitherto* inevitable evil. For example, read Russell's letter to 'The Times,' dated:—

"Before Sebastopol, November 25th, 1854.

"In the tents the water is sometimes a foot deep—our men have not either warm or waterproof clothing—they are out for twelve hours at a time in the trenches. . . . . They are well fed indeed, but they have no shelter, *no rest*, and no defence against the weather," &c. &c.

An attempt was made to better the condition of the soldiers in this respect in the Crimea, as the following correspondence will show:—

Captain Gordon to Chief of the Staff.

"Balaclava, 3rd December, 1855.

"It is with due deference to the orders of the Secretary of State for War, that I have the honour to state, having duly

considered the subject of his Lordship's kind consideration to this army in ordering them to be supplied with a palliasse and bolster, I am afraid difficulties will present themselves that cannot be surmounted.

"I find that the palliasse will hold as much as 56 lbs. of chopped straw (no other being available). Say, however, half that quantity is placed in it, and that the bolster will take two pounds more (this is the lowest calculation), that would make 30 lbs. for each bed, giving 60,000 men 1,800,000 lbs. for one issue, and during the winter you must reckon on two more being made, in all 5,400,000 lbs., equal to 540,000 rations, and to 19,000 tons measurement at 320 cubic feet a ton weight."

[TELEGRAPHIC REPLY.]

"WAR DEPARTMENT TO CAPTAIN GORDON.

"3rd January, 1856.

"Lord Panmure has directed that the further issue of palliasses and the shipment of bolster-cases be at once stopped."

The Select Committee on the Condition of the Army before Sebastopol, in their 5th Report, page 4, in alluding to the melancholy and distressed condition of the Army, say:—

"They were exposed under single canvas to all the sufferings and inconveniences of cold, rain, mud, and snow, on high ground, and in the depth of winter."

Draft resolutions proposed by General Peel:—

"2nd. The men were overworked, occasionally not well fed, had not sufficient clothing, and were exposed, under single canvas, to wet, cold, and the mud and inconveniences arising from the nature of the soil."

Evidence of G. Dundas, Esq., M.P.

"They (army before Sebastopol) were under canvas in the front . . . . and the state of the ground under this canvas, which was several inches deep with mud, was most uncomfortable and prejudicial to the health of the men."

Colonel (now Major-General) the Hon. A. Gordon states in the course of his evidence before the Parliamentary Commissioners:—

"Every exertion was made to obtain straw, or any other material for filling the palliasses, but nothing suitable to the wants of the whole army could be found."

Remove the cause and the effect will cease, or better, *prevent the cause* by keeping the soldiers off the ground, and the effect of the new system will be—Economy of the health and lives of soldiers.

2ND. GAIN BY RE-ENFORCEMENT.

This seems too simple a deduction from the preceding paragraphs to need explanation, but it is an object of the greatest importance to all armies to keep up their strength, and an army not re-enforced would gradually and soon become annihilated. Look, then, to the numbers (preventable) of simple rheumatism* and lesser ailments, such as those alluded to in another letter of 'The Times'' correspondent, dated:—

"BEFORE SEBASTOPOL, 22nd December, 1854.

. . . . . "This day has been chosen to take down a convoy of sick to Balaclava and embark them for Scutari. The greatest part of the cases are brought on by exposure and overworking, and a few days' *rest* and proper care would be sufficient to restore many." . . . .

Or:—

"January 8th, 1855.

. . . . . "The 63rd Regiment had only seven men fit for duty yesterday.—The 46th had only thirty men fit for duty at the same date." . . . .

* In the late American war 40,000 cases of rheumatism were admitted into the hospitals of the Federal Army in one year!

Without waiting until they gradually assume the more serious form of fever, diarrhœa, dysentery, and pulmonary affections, &c., is it not clear that the prevention of even the most simple cases of sickness—the great majority of which are caused beyond doubt by lying on the ground—would, by the removal or prevention of this greatest of all causes of inefficiency, largely increase the effective list, and so cause an equivalent gain by re-enforcement?

3rd. ECONOMY OF TRANSPORT.

It is seldom, if ever, that any great result can be obtained without some slight drawback. In this instance, however, the apparent drawback is not real, for the result being a preponderating advantage, the apparent drawback is absorbed, and consequently nullified. It has been argued, that the difficulty of keeping the men off the ground would in a large army be insurmountable, and that it would entail a vast amount of expense and extra transport, and so impede its operations. Such would certainly be the case, were it not that means have lately been devised and actually put in practice with undoubted success,* by substituting for the soldier's ordinary field-blanket a blanket-hammock, of improved material, which, answering the double purpose of blanket and hammock, keeps the man off the ground, and provides him with a comfortable bed, and *dry*, being said by many soldiers, who have slept in them night after night for weeks, to be more comfortable than the ordinary barrack bed.

* Experiments at the Curragh Camp have proved beyond question the efficacy and practicability of the system alluded to.

This hammock being but 3 lbs.* heavier than the ordinary field-blanket, is easily carried by the soldier, and therefore adds nothing to the baggage of an army. Any objection to this extra weight is mere hair-splitting; for it cannot be contended that soldiers who, at the end of a day's march, have to roll about, restless, for a whole night on wet ground, are as fresh as soldiers who, carrying 3 lbs. extra, enjoy a good night's rest and sleep, in the *field-hammock*. Of the former, many are crippled, and all lose strength and energy. Of the latter, all are fortified. This is merely a matter of common sense, and repudiates all argument. The tents at present in use are slightly altered to suit the hammock, pack in precisely the same space as formerly, and being of about the same aggregate weight, add nothing to the baggage or *impedimenta* of an army. But where the economy of transport? If the fact of every soldier having the means of obtaining a perfect night's rest, and sleeping off the ground and out of that withering draught, which every campaigner has had to rue while lying on the ground in a tent, if this provision prevents the sickness or disability of even but one man in every thousand, then it is evident that there is economy of transport of sick.

"The great endemic diseases of India, those which injure the health or destroy the life of the British soldier, are, fevers, dysenteries, diseases of the liver, and endemic cholera, which has for many years engrafted itself on the endemics of the country.†

* Three pounds is just the difference between the weight of the old musket and that of the Enfield. The English soldier's kit is now from 7 lbs. to 12 lbs. lighter than it used to be. The Zouave's 18 lbs. more than that of the British soldier.

† "Parliamentary Reports."

"Next to fevers, in frequency, but more fatal, comes the dysentery of India.

"The great tendency of cholera is to attack populations living in low, damp, crowded, and ill-ventilated situations."

Hence, the wise precaution taken by the military authorities is to *camp out*, and great success has attended this expedient, which still remains a standing order.

"General Orders by Sir Hugh Rose.

"Simla, 7th April, 1862.

Pp. 4.—"As soon as any case of cholera is reported on the station, the troops will be moved into camp, and no unfavourable condition of the weather is to prevent this movement being carried out."

"Head Quarters, Simla, 23rd June, 1862.

. . . . . "In wet weather, cots are to be carried for all the men, to prevent their sleeping on damp ground." . . . . . .

This latter order is not always practicable, and when feasible, entails an enormous additional baggage-train, which has generally to be hired at great expense. It is evident that it applies merely to troops in cantonments. In the field the soldier would find the same boon in the new system without entailing extra baggage.

4th. ECONOMY OF MONEY.

The very fact of diminishing the number of patients in hospitals is in itself a great economy of expenditure; but a very great saving must result from a diminution of the transport of sick, such as a reference again to the letters of 'The Times'' correspondent will show:—

"Before Sebastopol, January 2nd, 1855.

. . . . . "I cannot conceive much greater hardships than those to which men in the trenches are subject when, at the end of twelve hours' watch, they return half cramped and frozen to their *damp* cheerless tents." . . . . . .

. . . . . "It is an actual truth that our force is deprived day by day of the services of *one hundred men* in every twenty-four hours."

Again:—

"January 19th, 1855.

"But I know of regimental hospitals in the front where the sick men, in wet marquees, have now only one blanket to lie upon (*on the ground*) at this very date." . . . . . .

By saving soldiers, and thereby also saving the expense of rapidly replacing invalids in such vast numbers as has hitherto been necessary in all our campaigns, the comparatively trifling expense which the renewal of the whole camp equipage of an army would entail must be more than recompensed.

But such wholesale renewal of camp equipage is not necessary. For the present tentage can (at an insignificant cost of about 5*s*. or 6*s*. per tent) be adapted to the new system, and the field-blankets now in store, being saleable at a higher price than they actually cost, need only to be replaced by the blanket-hammock or field-hammock, which, if a little more expensive, is more durable, and is not exposed to destruction by rotting on the ground. Thus, the expense of altering or converting the whole camp equipage of the army would be more nominal than real, and would be far more than compensated by the saving of the health and lives of men.

This is confirmed by the Report of the Committee

on the preparation of army medical statistics, &c., for the British Government, of which Lord Herbert was Chairman :—

"For a sick army is the worst extravagance in which a nation can indulge." . . . . . .

"If soldiers die in battle by hundreds, they die of disease in hospitals by thousands."

In India the cost of a British soldier is 104*l.* per annum, and the loss by death, from disease, is equal to nearly 5 battalions per annum.*

"The value of a man who, with all his arms, costs the country 100*l.* a-year, reckoned at only a few years' purchase, is considerable, and either the loss of his life, of his health, or of his efficiency, is not to be lightly regarded, *especially as it occurs most frequently and inopportunely in the field*, when his services are required."*

There is in India an annual expenditure of 388,000*l.*, occasioned by preventable sickness and disease.*

The prevention of sickness and disease is, therefore, an economy of money.

5th. MAGNITUDE OF THE RESULTS TO BE OBTAINED.

It would be hard to estimate the results obtainable under the change of system above proposed. Many, doubtless, will say: How can you prove that such great results can really be obtained so easily? Do you mean to say that the simple substitution of a field-hammock for the ordinary field-blanket will effect so glowing a result?†

* *Vide* Parliamentary "Report of Commission of Inquiry into the Sanitary Condition of the British Army in India."

† *Vide* Appendix.

To prove that such great results are to be obtained by the proposed new system of camping, I must have recourse to figures, and merely quote from statistical facts, reprinted in 'The Times,' 18th January, 1866, under the head of—

THE MEDICAL DEPARTMENT OF THE UNITED STATES.

. . . . "The mortality from disease alone (in the Federal Army) was 48·7 per 1000 of mean strength for the first year of the war, and 65·2 for the second. Total number of deaths from disease reported the first year—14,183, and 42,010 for the second. These figures do not include those who died while absent as prisoners of war, or after having been discharged the service for disability. The number constantly sick was about 10 per cent. of the strength." . . . . .

"The most fatal disease was Camp fever, of which there were 213,260 cases, and 19,495 deaths during the two years; next comes diarrhœa and dysentery, 725,675 cases, and 11,560 deaths; then inflammation of the respiratory organs, 304,284 cases, and 8090 deaths." . . . . .

"28,620 discharges for disability were reported during the first year, or about 9 per cent. of the strength of the army." . . .

"These mortality rates from disease are much smaller than is usual with armies in time of war, and are proportionately much less than those of the Allied Armies in the Crimea, or of our own army in the Mexican war."

Can it be doubted that—of the hundreds of thousands above enumerated as lost to the effective list—if each man had with him, *always at hand*, the means of obtaining rest and sleep without the exposure of lying on the damp or wet ground, the majority of cases of sickness never would have occurred, and thousands would have been saved from (what was to them) certain death.

The Commission of Inquiry into the supplies of the British Army in the Crimea, alluding to the circular tent, say :—

"It affords very insufficient protection against cold or rain or heat . . . . The pole being in two pieces, for the convenience of carriage, is weak at the joint, and in stormy weather is apt to give way. The side-wall is too low to admit of the use of any kind of cot, if there be more than two or three men in the tent."*

All this is obviated by the new system. Again :—

"The deaths, including those at Scutari and elsewhere, appear to amount to about 35 per cent. of the army present in the Crimea from the 1st of October, 1854, to the 30th of April, 1855 ; and it seems to be clearly established that this excessive mortality is not to be attributed to anything peculiarly unfavourable in the climate, but to over-work, exposure to wet and cold, improper food, insufficient clothing during part of the winter, and insufficient shelter from inclement weather."*

Eminent medical officers of great practical experience in India, the Crimea, and the Colonies, readily admit that this method of keeping the men off the ground, above the most fatal stratum, of *miasma*,† would have saved half the army in the Crimea, and they also readily admit that 50 *per cent. of deaths from disease* is a moderate estimate of the saving which such a system would *certainly* cause to an army under canvas.

At this minimum rate (and not including the saving from prevention of sickness), supposing an army of 25,000 men, each man valuing 100*l*., there would have

* "Report of Parliamentary Commissioners."

† *See*, in Appendix, Major-General Lord Henry Percy's Letter on this subject. This great practical advantage at once suggested itself to his Lordship, and has been confirmed by the opinions of men of high standing in the medical profession.

been in Wellington's campaign in the Peninsula an average saving of 1412½ men, or 141,250*l*. per annum.

In the Crimea, for July, August, and September, 1854, the rate of saving would have averaged 3525 men, or 352,500*l*. per annum. During the next three months 5590 men, or 559,000*l*. per annum, and during the first three months of 1855 there would have been an average saving of 11,175 men, or, 1,117,500*l*. per annum.* Add to this the saving consequent on prevention of sickness, and the result becomes incalculably great.

Here are appalling figures, which show too clearly what are the chief causes that devastate an army, and I point out a remedy, proving that such a system must bring great results, and that the magnitude of these beneficial results is undefinable.

* This is merely taking half the deaths, and is but a small proportion of the loss to the effective strength of the Army caused by sickness and invaliding as well.

APPENDIX.

From MAJOR-GENERAL THE LORD HENRY PERCY, V.C., M.P., &c.

NORTHUMBERLAND HOUSE, W.C.
May 5th, 1866.

DEAR CAPTAIN M^cGWIRE,

I am very much obliged to you for the two pamphlets you sent me. I have thought over your Camp Equipage, and consider it a most admirable invention. Pray do not forget to point out the advantage that will be derived from its adoption in keeping the ground free from the emanations from the human body, and the convenience of not being obliged to change or purify the ground so often in consequence.

Pray believe me, &c., &c.,

(Signed) HENRY PERCY,
Major-General.

From COLONEL HORT, *commanding 36th Regiment.*

ARMY AND NAVY CLUB,
May 7th, 1866.

DEAR CAPTAIN M^cGWIRE,

Allow me to congratulate you on the established success of your Field-Hammock, which you took me to see at the Magazine in Hyde Park last Friday.

As I have been upwards of five-and-twenty years in the service, and was all through the Eastern Expedition (besides having knocked about a great deal under canvas in India), I ought to have a certain amount of experience in camping, and I have no hesitation in saying that keeping the body free from contact with the ground is one of the most important considerations in preserving health during service in the field.

I hope to see every soldier ordered under canvas, provided with one of your blanket-hammocks (which he can perfectly

easily carry on his pack), feeling satisfied that it will save many a fine fellow from hospital, invaliding, and even the grave.

I believe lying on the damp ground has done more to fill our hospitals when on service than probably any other cause.

Believe me, &c., &c.,

(Signed) JOHN J. HORT,
Colonel 36th Regiment.

To CAPTAIN M^cGWIRE,
The Royal Regiment.

P.S.—Since writing the above, an illustration of the utility of your invention—had it then been available—has occurred to me.

In September, 1865, my regiment, the 36th, was attacked by cholera and had to go under canvas. So long as we were in standing camps not far from Lucknow (where we were stationed), there was no difficulty in taking the men's cots to and from the camps as occasion required; but it became desirable to march the regiment to the banks of the Gogra river (about 40 miles) and back, by easy stages, as a sanitary measure.

With my camp I had about 500 men, including, at starting, about 80 sick. We had to carry cots for the whole of them, which, of course, vastly increased the amount of carriage required, and the cots were indispensable, more particularly as the ground had not dried after the rains.

Now, if our men had had your hammocks they could have dispensed with their suttringees,* and the whole of the extra carriage for the cots would have been unnecessary.

The Indian tents are quite different to the W. D. pattern; but your invention is perfectly applicable to them as far as I can judge. Leaving out of the question the inconvenience of camping such an immense number of cots, the expense was a serious consideration, as the carriage had to be hired, and at first there was great difficulty in procuring it. We were upwards of three weeks on the march.

(Signed) J. J. H.
Colonel 36th Regiment.

* A small carpet that each soldier is supplied with to spread out on his cot.

From DR. TURNER, SCOTS FUSILIER GUARDS, *to* LIEUT-COLONEL THE HON. H. ANNESLEY, M.P.

GUARDS' CLUB,
May 5th, 1866.

MY DEAR ANNESLEY,

Many thanks for your introduction to Captain M^cGwire, who kindly showed me yesterday, in Hyde Park, his Camp Equipage, the adoption of which for the army would, I am sure, add greatly to the comfort of the soldiers on service, and also would be most beneficial to their health, not only by greatly diminishing the number of the sick, but also in our hospitals alleviating pain and diminishing the number of deaths. For I assure you that on seeing the equipage yesterday my thoughts were called back to the winter of 1854, when I saw the patients in our hospitals suffering and dying from fevers, dysentery, and diarrhœa (cases requiring warmth and dry blankets), lying on the wet, muddy soil, with nothing but their field-blankets, as wet as the ground around them.

Had this invention been discovered before the troops landed in the Crimea, what a boon it would have been, not only to the men, but also, I might say, to the surgeons, who might have then looked for some good results to remedies which for a patient lying on wet soil could have very little effect.

Yours, &c., &c.,

(Signed) H. TURNER.
Asst. Surgeon, Scots Fusilier Guards.

JUNIOR UNITED SERVICE CLUB,
LONDON, 4th June, 1866.

DEAR CAPTAIN M^cGWIRE,

Having seen the sealed pattern of your Field Hammock at the Tower, and having also seen it applied to the English Bell Tent, I have no hesitation in stating that it is much more applicable to the New Pattern Privates' Tent, now in use with the British troops in India; the latter being a very spacious tent in comparison to the Bell Tent.

Your Field Hammock will, undoubtedly, be the greatest boon the British soldier in India has yet had, especially when

camping out, to avoid cholera (which always occurs at the most trying season of the year), it being so comfortable, extremely light, easy of adjustment, and, in short, so practically useful in all respects.

As a matter of economy of transport, I need only instance the case of H.M. 36th Regiment at Lucknow, in September and October, 1864, when I was Executive Commissariat Officer of the division:—About 500 men of that regiment had to march to the Gogra river to recruit health, after suffering severely from cholera. They required cots to keep the men off the damp ground: this entailed double camp equipage, and double carriage for the same. For carriage of cots, 2000 Coolies would have been necessary. These I could not procure on short notice, and had to substitute carts, camels, and elephants. Carts at that season were most difficult to procure in Oude, and camels and elephants were obviously quite unsuitable transport for such an unwieldy thing as the Indian Barrack Cot. This entailed an enormous extra baggage train at a ruinous expense.

Had the regiment been then equipped with your Field Blanket-Hammock, two good country carts would have carried the whole, but it would have taken forty-two four-bullock carts to carry cots only.

Yours, &c.,

H. B. CHALMERS,
Captain H.M. Bengal Staff Corps;
Assistant Commissary General.

REPORTS ON EXPERIMENTS,

1864 and 1865.

CAMP, FORT SOUTHWICK,
July 5th, 1864.

SIR,

I HAVE the honour to forward for the favourable consideration of his Lordship the Major-General Commanding the district, and transmission to the Quartermaster-General, the accompanying application of Captain M^c^Gwire, of the detachment under my command, for a Board to report on the merits of a "FIELD HAMMOCK," invented by him;—and respectfully to add, that, having carefully inspected the hammock, and personally tried it, as well as from the report of a sergeant of the detachment who had slept in one for several nights, it is in my opinion a most simple and practically useful invention, and would, I believe, if adopted in the Service, be of much benefit and comfort to both men and officers in the field.

I have the honour to be,
Sir,
Your obedient servant,

(Signed) F. G. URQUHART,
Col. and Major 2nd 1st Royal Regt.
Commanding Detachment.

To THE ASSISTANT QUARTERMASTER-GENERAL,
Portsmouth.

PORTSMOUTH, July 8th, 1864.

I beg to enclose the annexed letter and sketch of a field-hammock, the invention of Captain M^c^Gwire, 2nd 1st Royal Regiment, now under canvas on Portsdown Hill; having inspected this hammock in a tent, with a man in it, I think it has great advantages, and it keeps the man off the ground and at the same time covers him; it is very light and portable, and in my opinion preferable to a "tente d'abri."

(Signed) W. PAULET,
M. General, Commanding S. W. District.

THE CURRAGH CAMP,
26th August, 1865.

SIR,

I have the honour to state with reference to Division Order, August 12, 1865, that two (2) tents and twenty (20) hammocks were handed over to the 1st 5th Fusiliers on the 15th instant, and were pitched and arranged under the directions of Captain M^c^Gwire; the men were chosen from those who had been on foreign service, and 10 were told off to each tent.

I beg to report that the weather has been very wet and stormy since the tents and hammocks have been under trial, that the men have slept in them regularly up to this date, and from questioning them individually, I find:—

1st. That they are all of opinion that the new hammocks have a great advantage over the field-blankets now in use.

2nd. That the hammocks appear durable, and com-

pletely answer the purpose of keeping the men off the ground.

3rd. That the hammock pegs do not give way with the weight of the men.

4th. That they prefer the hammocks to sleeping on the ground, and find them particularly comfortable.

5th. That the hammocks fold very easily on the knapsack, and that the extra weight would be well compensated for by the extra comfort on arrival in camp after a march.

I beg further to state that the opinion of the officers of the Regiment agrees with my own, *viz.* that the hammock is a most valuable invention, and likely to be of great advantage to the health and comfort of the soldier on active service.

I consider that each man should carry the hammock complete, with the second cord and four pegs, so that it could be used if necessary, without the tent, and in that way in wet weather would be preferred by the men to the usual field-blankets even with the addition of a share of a *tente d'abri*; for example, it would be invaluable on an out-lying picquet, and I have practised the men in putting up the hammocks without as well as with the tents.

I have found the comparative weights as follow, and it must be remembered that the blanket would be more liable to wet from being on the ground, and after wet weather would be probably heavier :—

	lb.	oz.
Captain M^{c}Gwire's Hammock	5	6
2 Poles*	0	12¼
2 Ropes	0	7½
4 Pegs	0	15½
	7	9¼
Field-blanket	3	11
Tente d'abri complete, about 8 lbs. 4 oz. Allowing to each 3 men ⅓	2	12
Total	6	7

I have the honour to be,
Sir,
Your most obedient humble Servant,
(Signed) W. C. MASTER,
Col. Commanding 1st Bn. 5th Fusiliers.

The Brigade Major, 1st Brigade,
Curragh Camp.

(*Copy.*)

P. M. O. Office, Curragh Camp,
September 15th, 1865.

Sir,

I am not aware whether the attention of the Director-General has been called to the subject, but under any circumstances, I am justified in recording my opinion (among others) on the following points :—Captain M^{c}Gwire, Royal Regiment, has lately introduced a field-hammock, which possesses so many advantages over the ordinary field-blanket, that it is worthy of the consideration of the medical department of the army, how far it is suited to supersede the latter on a campaign, or when troops are tented in

* Or small staves or cords.

standing camps, or for the use of the sick in hospital marquees.

A. The field-hammock consists of blanket material much strengthened by a non-elastic and durable substance, thus combining warmth and strength.

B. It may be used either as a blanket, or as a hammock and covering, two-thirds of the width forming the hammock, the remainder the covering.

C. It may be pitched either in a tent, or in the open without tents, so that the soldier has a bed at once ready for him, and carried by himself.

D. The hammock complete consists of the hammock proper, two staves (26 inches high), and four pegs and cords, the extra weight over the ordinary field-blanket being under 3 lbs., while the whole can be quite as neatly folded on and fastened to the knapsack.

E. The staves are made of the best red deal, and though so light as not to weigh more than 5 ounces each, they are so strong, when placed at the angle necessary to sling the hammock, that they are capable of bearing the weight of three men, each weighing 11 to 12 stone.

F. By increasing the radius of the ordinary bell tents 8 inches, ten men can readily be accommodated in each tent. The heads of the hammocks (which are outwards) are 40 inches apart.

G. They can be put up in a very short time:—Thus, a tent can be very readily pitched, the ten hammocks slung, and their occupants all in bed in $8\frac{1}{2}$ minutes.

From the above I submit that the advantages in a sanitary point of view are simple and clear.

1. A hammock is, under any circumstances, more comfortable than the ground, wet or dry.

2. The soldier carries his bed with him, and can pitch it anywhere under cover or not.

3. The bed can be pitched in a few minutes.

4. The occupant is always off the ground.

5. The equal distribution, in either case, economizes space, and gives each man a clear berth.

6. The heads of the men are considerably raised above the draught from under the curtain of the tent.

Three tents, each containing ten hammocks, have for some time been in use here by the R. H. Artillery, 10th Hussars, and 5th Fusiliers. Those of the last-mentioned Regt. have slept there in all weathers, and have never suffered from damp or cold; indeed they have to myself personally expressed their sense of the comfort and snugness of the hammock, as compared even with the barrack-room bed.

I am therefore of the opinion that Capt. M^{c}Gwire's plan, being practicable, simple, and likely to be most serviceable, ought to have a more extended trial by authority, under various circumstances and different conditions.

I have the honour to be,

Sir,

Your most obedient Servant,

(Signed) W. ORD MACKENZIE, M.D.

Staff Surgeon Major, P. M. O.

To The Inspector General, &c., &c., &c.,
Army Medical Office, Dublin Castle.

ARMY MEDICAL OFFICE, DUBLIN CASTLE,
22nd September, 1865.

SIR,

Referring to your letter of the 15th instant, on the subject of a field-hammock, lately introduced by Captain M^c^Gwire, 2nd 1st Foot.

I have the honour to acquaint you, that I submitted your letter, with my recommendation for the consideration of the Director-General, Army Medical Department, who suggests that you should bring the matter under the notice of the Local Military Authorities, who, on your recommendation, may be pleased to submit the field-hammock to such full test as may establish its practical value.

You will be good enough to report the result of your representations, and also any further trial of the field-hammock that may be made.

I have the honour to be, Sir,

Your most obedient servant,

(Signed) S. M. HADAWAY,
Inspector-General.

THE PRINCIPAL MEDICAL OFFICER,
Curragh Camp.

(*A true copy.*)

J. MACGREGOR,
Dep. Ins. General,
Principal Medical Officer.

PRINCIPAL MEDICAL OFFICER'S OFFICE,
18th November, 1865.

P. M. O. OFFICE, CURRAGH CAMP,
September 26, 1865.

SIR,

In forwarding the enclosed copy of a letter which I wrote to the Inspector-General of Hospitals, in Dublin, on the 15th inst.

I have the honour to state, he has recommended me, by instructions from the Director-General, Army Medical Department, to bring the subject of it under the notice of the military authorities here. I have no doubt that the Major-General Commanding the Division has already had his attention drawn to the field-hammock lately introduced by Captain M^c^Gwire, Royal Regiment, and has probably formed his own opinion on its merits; at the same time, I consider it my duty as P. M. O. at this station, to bring it more prominently before him, and to recommend that the field-hammock be put to such full test as may establish its practical value.

To the full description and other remarks which I have made in the enclosed letter, I need only add, that, in reply to certain queries from me, the Medical Officers in charge of R. H. Artillery, 10th Hussars, and 5th Fusiliers, in which regiments the hammocks have been tested, in camp, are all unanimous in favour of it.

I have the honour to be,

Sir,

Your most obedient servant,

(Signed) W. ORD MACKENZIE, M.D.
Staff Surgeon-Major, P. M. O.

THE A. A. GENERAL, &c., &c., Curragh.

(*A true Copy.*)

J. MACGREGOR,
Deputy Inspector-General, P. M. O.

P. M. O. OFFICE, CURRAGH CAMP,
November 10, 1865.

SIR, CAMP CURRAGH, 27th September, 1865.

With reference to Memorandum dated "Assistant Quartermaster-General's Office, 1st September, 1865," I have the honour to report that an experimental tent with ten hammocks complete was received from Captain M°Gwire on the 2nd instant, and ten old soldiers of the regiment were detailed to occupy it, and have done so up to the present period.

I beg to state that I consider the hammock a great improvement, being conducive to the health and comfort of the men; and the occupants of the tent, who are old soldiers accustomed to tent life in India and the Crimea, are unanimous in their approval of the hammocks.

I have, &c., &c.,

(Signed) V. BAKER, Colonel,
Commanding 10th R. Hussars.

To THE ASSISTANT QUARTERMASTER-GENERAL,
Curragh Camp.

SIR, CURRAGH CAMP, 1st October, 1865.

In returning the accompanying correspondence respecting the new field-hammock, the invention of Captain M°Gwire, 2nd 1st Regiment, I have the honour to report, that, in compliance with the instructions conveyed in your letter dated 13th July last, a trial of the invention has been given by different corps in this camp.

The reports of the officers commanding are enclosed, all of whom (with the exception of Colonel Holcombe,

2nd 1st Regiment) mention it in the highest terms of commendation.

I have also inspected the hammocks, and I consider the invention excellent as a preservative to health on field service.

The men who have used the hammocks are unanimous in their praises of the comfort they have experienced when sleeping in them, &c., &c., &c.

(Signed) G. W. KEY,
Major-General, Commanding Dublin Division.

To THE DEPUTY QUARTERMASTER-GENERAL,
Dublin Castle.

FURTHER REPORTS,

ALDERSHOT, 1866.

From LIEUT.-GENERAL THE HON. SIR JAMES YORKE SCARLETT, K.C.B., Commanding the Division at Aldershot.

TO THE QUARTERMASTER-GENERAL, HORSE GUARDS.

HEAD QUARTERS, ALDERSHOT,
11th September, 1866.

SIR,

In compliance with your minute on War Office letter, No. 84, M. 1052, dated 2nd July, 1866, I have the honour to attach true extracts from the Reports of Commanding and other Officers, who have had under trial the hammocks and tents of Captain M^{c}Gwire's pattern, for the information of His Royal Highness the Field-Marshal Commanding-in-Chief, from which it will be seen that both officers and men are unanimous in their approval of the invention.

I have myself inspected and tried these hammocks, and I fully concur in the opinions expressed in the accompanying Reports.

The difficulty appears to be the additional weight to be carried,* as the field-blanket weighs 3 lbs. 12 oz., while the hammock, staves, and pins weigh 6 lbs. 8 oz.

In standing camps, or when even transport were available, these hammocks could not fail to be beneficial

* 2½ lbs.

to the health of the troops, as the men would never be required to sleep on the ground, and the issue of straw would be done away with.

I have the honour to be, Sir,

Your obedient servant,

(Signed) J. YORKE SCARLETT,
Lieut.-General Commanding the Division.

CAPTAIN M^{c}GWIRE'S TENTS AND HAMMOCKS.

ROYAL ARTILLERY.

LIEUT.-COLONEL VESEY, Commanding 2nd Division Field Batteries.

This tent appears to be an old-pattern tent enlarged; it is very roomy and comfortable, and the door is fastened with straps and white-metal buckles, which method is much liked. A projecting eave, like that on Lord de Ros's tent, would be a great improvement.

The hammocks were much liked by all the men, and can be used either in the open air or in any circular tent with holes for the hammock guys, and with a tolerably high wall.

The pole must be stronger than the ordinary service pole, and care must be taken that the hammocks on the one side are not filled while those on the other side are empty, otherwise the strain will be too great for the pole.

They cannot be used in a tent of smaller diameter than Captain M^{c}Gwire's. They can be unshipped and thrown on one side in a moment, if required to turn out in a hurry.

The men say they sleep as comfortable in these hammocks as in their barrack beds, and that even if they had to lie on the ground they would prefer them to the Service blanket."

M^{c}GWIRE'S HAMMOCK TENT.

LIEUT. LAW, F. Battery, 9th Brigade, Royal Artillery.

All the men agree in preferring this tent to any other; it being so well adapted for pitching on damp ground. The hammocks are liked and considered superior to a field-blanket. It would improve this tent and keep the hammocks dry when rolled up during the day if it were fitted with Lord de Ros's eaves.

In all the tents the men agree in preferring a buckle and strap to any arrangements of hooks and eyes, or hooks and lace as in Lord de Ros's, or rope loop and eye as in Page's. The only provision being that the buckles should not be of iron, but of some non-corrosive material.

CAPTAIN PHELIPS, Commanding E. Battery, 9th Brigade.

This tent was liked *very much* by the men, and in my opinion is far superior to any at present subjected for trial. The hammocks are a grand invention, both as regards comfort as well as on sanitary grounds. A great number of the men pitched their hammocks (when on guard) outside the guard tent; thus securing for themselves fresh air to breathe, instead of the ordinary

atmosphere of a tent so occupied. The arrangement for closing the door of the tent is also good.

LIEUT. MOLESWORTH, G. Battery, 9th Brigade.

(Tents.) Captain M^{c}Gwire's has considerable advantages over the present patterns adopted in the service, and is much preferred by the men.

The hammocks with which it is provided are found to be very serviceable, and would be of great advantage in the event of a camp having to be pitched on wet ground, having about ten inches clear when slung. It is also very much larger, and the material with which it is made has proved itself to be capable of standing the heaviest rain.

CAPTAIN BYRNE, Commanding G. Battery, 9th Brigade.

The hammocks I consider a very good idea, as on service, where straw could not be procured, the men would be effectually protected against the damp ground.

I have questioned the men occupying the tents, and they have, one and all, praised the hammocks. They consider that the hammocks give them more room at night, and they also consider the hammock warmer than our service blanket.

I have packed the tents and hammocks on the waggons, and find that they occupy the same space as our present tents and service blankets. The sticks which support the hammocks are easily carried without being in the way of the detachment when mounted.

INFANTRY.

Brigadier-General Renny, Commanding 1st Infantry Brigade.

The hammock I consider a most simple and practically useful invention, and one which, no doubt, would be of great advantage to the health and comfort of the soldier on active service.

It has every advantage over the field-blanket, as, with but little extra weight it combines both bed and blanket; keeping the soldier off the damp ground, and also from the draught coming from under the sides of the tent; the sides of the blanket also giving him a warm covering. It is easily and at once pitched anywhere, and most portable,—in my opinion very preferable to the *tente d'abri*.

Lieut.-Colonel Garrett, Commanding 66th Regiment.

The field-hammock I consider a great improvement on the field-blanket. It is carried with its wooden supports and pegs quite as easily on the pack, and is only 3 lbs. heavier than the latter; which difference in weight would almost be made up in the field-blanket in wet weather from the quantity of moisture absorbed, whereas the hammock, being off the ground, would be much drier, and form at the same time a bed and covering for the soldier.

It would also prove very advantageous in a bivouac, where the troops were not supplied with tents.

The small guys of the hammock, passing through the canvas of the tents and fastening to pegs outside, also form an additional security to the tent itself.

Brigadier-General Campbell, C.B., Commanding 2nd Brigade.

Experimental tents and hammocks, invented by this Officer, were issued to the 52nd Light Infantry. I beg to annex a Report from Lieut.-Colonel Peel, commanding that Regiment, on the subject; and I would add, from my personal inspection of them, that I consider the hammock to be a most valuable improvement. It cannot fail to be conducive to the health and comfort of the men, and it has, moreover, the advantage of being light and portable.

Lieut.-Colonel Lennox Peel, Commanding 52nd Light Infantry.

The field-hammocks invented by Captain M^{c}Gwire were tried in the camp at Woolmer by the regiment under my command.

The men to whom they were served out were unanimous in their approval of them, and stated that they infinitely preferred them to the field-blankets now in use.

The hammock is put up without difficulty both in tents and in the open air. Can be easily carried on the knapsack, appears to be made of durable substance, and keeps the man off the ground.

For these reasons I am of opinion that the invention of Captain M^c^Gwire is a valuable one, and likely to prove beneficial to troops on active service.

HEAD QUARTERS, ALDERSHOT, 8-9-'66.

The above are true extracts from Reports of commanding and other officers, who have had M^c^Gwire's hammocks issued to them for trial.

(Signed) MAYNARD WOLFE,
Deputy-Assistant-Quartermaster-General.

THIS system of camping has been practically inspected and highly approved of by H.R.H. THE DUKE OF CAMBRIDGE.

It has also been fully approved of by the following officers of distinction, many of whom have officially reported in its favour, and recommended its adoption for the benefit of the service:—

General The Right Hon. Lord STRATHNAIRN, G.C.B., G.C.S.I.
Major-General The Lord WILLIAM PAULET, K.C.B., &c., &c.
Major-General The Lord FREDERICK PAULET, C.B., &c., &c.
Major-General The Lord HENRY PERCY, V.C., M.P., &c.
Major-General Sir JOHN GARVOCK, K.C.B.
Major-General C. C. HAY, &c., &c.
Major-General BROOK TAYLOR, &c., &c.
General DUNNE, M.P.
Major-General KEY.
Colonel NORTH, M.P.
Colonel W. S. R. NORCOTT, C.B.
Colonel K. D. MACKENZIE, C.B., &c., &c.
Colonel BAKER, 10th Hussars.
Colonel MICHAEL BRUCE, Grenadier Guards.
Colonel HORT, 36th Regiment.
Colonel URQUHART, C.B.
Colonel HOPE, C.B., 71st Highland Light Infantry.
Colonel MASTER, C.B., 1st Battalion 5th Fusiliers.
Sir JAMES BROWN GIBSON, M.D., K.C.B.
T. G. LOGAN, Esq., M.D., C.B., &c., &c.
&c. &c. &c.

REPORTS ON EXPERIMENTS IN INDIA.

FIELD-HAMMOCKS.

Letter from the SECRETARY OF STATE FOR INDIA, No. 35, dated 31st May, 1866.

MILITARY DEPARTMENT, BOMBAY CASTLE,
4th July, 1866.

SIR,

A field-hammock, invented by Captain E. T. St. L. M^c^Gwire, of "The Royal" Regiment, having been brought under my notice, I have directed that six of these hammocks be forwarded to your Presidency, and request that you will report to me as to their adaptability for service in India.

2. A copy of a letter from Captain M^c^Gwire, with accompanying printed pamphlet, is herewith transmitted for your information.

3. Bearing in mind the importance, in a sanitary point of view, of keeping the men off the ground and enabling them to sleep in a dry bed, Captain M^c^Gwire's hammocks may be found suitable for troops on the march in India, though some modification may be required to adapt them to the tents used in that country.

I have, &c.,
DE GREY & RIPON.

FIELD-HAMMOCKS.

Letter from CAPTAIN M^c^GWIRE, "The Royal" Regiment, dated 10th January, 1867.

MILITARY DEPARTMENT, BOMBAY CASTLE,
18th January, 1867.

Referring to Government Resolution No. 3940, dated

14th December, 1866, reports that he has superintended the completion of 20 field-hammocks and the adapting of tents thereto in the Grand Arsenal, and states that the single-poled European soldiers' tent accommodates 12 men easily in these hammocks, and the double tent 16. Also states that the cost of adapting tents to his field-hammock system averages about Rs. 2 each. Requests permission to be present in the event of further experiments being deemed necessary.

RESOLUTION.—Copy of this letter to be sent to the Quartermaster-General, in order to such inquiry as His Excellency the Commander-in-Chief may desire, and consequent report of His Excellency's opinion as to the usefulness of Captain M^{c}Gwire's hammocks for service in India.

(Signed) W. F. MARRIOT, Colonel,
Secretary to Government.

To
THE ADJUTANT GENERAL.
THE QUARTERMASTER-GENERAL.
CAPTAIN E. T. ST. L. M^{c}GWIRE.

Letter from CAPTAIN M^{c}GWIRE to the SECRETARY TO GOVERNMENT, MILITARY DEPARTMENT.

SIR, BOMBAY, 10th January, 1867.

I have the honour to report for the information of this Government that in compliance with their order bearing date "Bombay Castle, 14th December, 1867, Military Department, No. 3940," I have superintended the completion of twenty field-hammocks and the adapting of tents thereto.

I find that the tents (European soldiers') of either pattern require no alteration whatever in dimensions to suit them to the field-hammock system. The total cost of adapting them to this system averages about two rupees (Rs. 2) each tent.

The single-poled European soldiers' tent will accommodate 12* men easily in field-hammocks, and the double-poled its proper quota, *viz.* 16 men.

Having regard to the official reports approving the system which have been forwarded to this country by the Right Hon. the Secretary for India, I have the honour to request permission to be present in the event of any further experiments being deemed necessary.

I have, &c., &c.,
(Signed) E. T. ST. L. M^{c}GWIRE,
Capt. "The Royal" Regiment.

From the SECRETARY, Sanitary Commission, to the QUARTERMASTER-GENERAL OF THE ARMY.

SIR, KURRACHEE, 15th December, 1866.

With reference to your letter No. 3846 and memo: No. 3886 of 1866, I have the honour to request that you be so good as to inform His Excellency the Commander-in-Chief that the Sanitary Commission, having recently had an opportunity of seeing the field-hammock exhibited by its inventor Captain M^{c}Gwire, is of opinion that it would be highly advantageous were it brought into use in the field and on the line of march, as it would save the men from the injury to health that is apt to result from lying on damp ground,

* N.B. Ten is the number of men allotted to this tent by present regulations.

and would lessen in a very considerable degree the danger of malaria, which may be concluded to be most powerful in operation when persons sleep in contact with the ground.

2. There does not appear to be any room to doubt the hammock being found well adapted for use in cool weather, but as a hammock clings close to the person lying in it, it would prove oppressive and uncomfortable in hot weather.

3. To obviate this objection Captain M^{c}Gwire has had a canvas hammock made with two cross bars as stretchers, which convert it into a swinging cot, somewhat similar to that used on board ship, but lighter. This hammock was, however, considerably* heavier than the blanket-hammock, but it would be less perishable when kept in store.

4. It is advisable that trial be made of the hammock fitted with stretchers, but made so that it may be used without them when the weather admits of it.

I have, &c.,

(Signed) GORDON ASHER, M.D.,
Secretary, Sanitary Commission.

Resolution—Sanctioned.

(Signed) W. F. MARRIOT, Colonel,
Secretary to Government.

To

The Quartermaster-General.
The Adjutant-General.
The Inspector-General of Ordnance and Magazines.
Captain E. T. St. L. M^{c}Gwire, "The Royal" Regiment.

* N.B.—There appears to have been a misconception about the relative weights. Both patterns of the field-hammock were afterwards weighed in the Grand Arsenal at Bombay, and the *canvas field-hammock* above recommended was proved to be 18 oz. lighter than the *blanket-hammock*.

The *sullita* weighs 6 lbs. 11 oz. The *canvas field-hammock* is therefore lighter than the *sullita*, and would be equally serviceable in carrying the soldier's kit.

Opinion of His Excellency the Commander-in-Chief, Bombay Army.

Bombay, March 5th, 1867.

As far as I can judge from seeing the hammocks pitched, they promise to give very great advantage over any other arrangement that could be adopted in ordinary marching. I should require to have the experience of a march in wet weather to be assured that they would succeed under such a trial.

There is no doubt that the invention is very ingenious and valuable in a great many situations.

(Signed) R. N.

FIELD-HAMMOCKS.

Military Department, Bombay Castle, 19th March, 1867.

Letter from the Quartermaster-General, No. 20E, dated 28th February, 1867.

Submits that it would be unadvisable to order a large number of Captain M^{c}Gwire's field-hammock until it has been fairly used on the line of march, and proposes that for this purpose 500 canvas ones with stretchers be ordered from England in communication with Captain M^{c}Gwire.

Report by the Controller of Military Accounts, No. 261, dated 12th March, 1867.

Resolution.—To ensure the efficiency of the field-hammocks being thoroughly tested a larger number

than that proposed by the Controller is in the opinion of Government necessary.

Indents should be preferred for 500, and in preparing these documents the advice of Major M^c^Gwire should be taken.

(Signed) JOHN MACDONALD, Major,
Acting Secretary to Government.

To
THE QUARTERMASTER-GENERAL.
THE CONTROLLER OF MILITARY ACCOUNTS.
THE INSPECTOR-GENERAL OF ORDNANCE AND MAGAZINES.
THE ADJUTANT-GENERAL.
CAPTAIN E. T. ST. L. M^c^GWIRE.

FIELD-HAMMOCKS.

MILITARY DEPARTMENT, BOMBAY CASTLE,
29th March, 1867.

Letter from CAPTAIN M^c^GWIRE, dated 26th March, 1867.

With reference to Government Resolution No. 910, dated 19th March, 1867, states that he has selected a specimen field-hammock as a guide for supplies, and suggests that it may be forwarded to London by the earliest opportunity overland. Requests that he may be permitted to be present during the trial of the hammocks and to instruct in the use thereof those troops to whom they will be issued.

RESOLUTION.—The muster field-hammock may be dispatched overland to the address of the Secretary of State for India, to whom copies of the correspondence which has taken place regarding these hammocks should be forwarded, with the recommendation that the indent

called for under Government Resolution No. 910, of the 19th instant, may be complied with by an early date, so as to admit of the hammocks being sent out in one of the steam transports under orders for Bombay.

As regards Captain M^c^Gwire's request to be present when the hammocks now ordered are being tested by the troops, he should be instructed to address the Adjutant-General of the army, in view to the sanction of His Excellency the Commander-in-Chief being obtained to his proposal.

(Signed) JOHN MACDONALD, Major,
Deputy Secretary to Government.

To THE ADJUTANT-GENERAL.
CAPTAIN E. T. ST. L. M^c^GWIRE, "The Royal" Regiment.

Extract from the letter from Lieutenant-Colonel SIR W. H. R. GREEN, C.B., K.C.S.I., Commandant-in-Chief, Scinde Frontier, dated Jacobabad, April 29th, 1867, and addressed to the Military Secretary to His Excellency the COMMANDER-IN-CHIEF, Bombay.

"Some days ago I received Captain M^c^Gwire's hammocks, and have had one put up, and I certainly think it is without exception one of the most simple and best contrivances that I have met with, and I should say excellent for the purpose intended. I certainly shall use nothing else when marching; everyone here has had a roll in it, and all are of the same opinion."

(*True Extract.*)

(Signed) M. DILLON, Lieut.-Colonel,
Military Secretary.

REPORTS,

INDIA, ABYSSINIA—1867, '68, and '69.

In 1866, Major M^c^Gwire arrived at Bombay, and succeeded in adapting his Field-Hammock system to the European soldiers' tents used in that Presidency, to the complete satisfaction of H.E. the Governor, Sir Bartle Frere, K.C.S.I., and also of H.E. the Commander-in-Chief, Sir Robert Napier, now Lord Napier of Magdala.

Early in the year 1867 Major M^c^Gwire, having arrived in the Madras Presidency, volunteered his services to the Local Government, requesting permission to be allowed to superintend the carrying out of his Camping System with Field-hammocks.

The reply received by him was to the effect that his services were not required.

Experiments were, however, made without his knowledge.

Extract from Letter of Brigadier-General Fenwick, C.B., *commanding Southern Division, to* Major M^c^Gwire, *commanding 1st Bat. the Royal Regiment.*

Madras, 4th June, 1868.

I have been advocating your field-hammocks with all the big people here; and the result has been they have sent me the circular I enclose for your perusal. It appears to me the objections are so easily answered, that I am sure you will do so.

MILITARY DEPARTMENT.

Proceedings of the Madras Government.

Read the following papers:—

From the Quartermaster-General, Fort St. George, 19th December, 1867, No. 8158; to the Secretary to Government, Military Department.

Adverting to Proceedings of Government as per margin, I have the honour, by order of His Excellency the Commander-in-Chief, to forward, for the information of Government, extracts from the reports received from the officers commanding at Saint Thomas' Mount and Poonamallee, who have had under trial the six tent-hammocks of Captain M^c^Gwire's pattern.

No. 2502, 19*th July*, 1866.
„ 2753, 26*th* „ 1867.

2. The Commander-in-Chief considers that these hammocks are calculated to add greatly to the health, comfort, and consequent efficiency of troops in the field and on the line of march.

3. The dimensions of the tent, European (21 feet by 15 feet), which is at present in use in this Presidency, will not, however, admit of more than four hammocks (one in each corner of the tent) being slung from the tent-poles *when the walls are perpendicular:* and as it would be impracticable in wet weather, when the hammocks are most needed, to raise the walls, so as to allow the complement of hammocks to be slung in each tent, the invention is comparatively useless, until this drawback is remedied.*

* This is tantamount to saying that the greater does *not* contain the *less*. This very tent is more than twice as large as the English bell-tent, which comfortably holds ten Grenadier Guardsmen in hammocks. Had the hammocks been slung according to Major M^c^Gwire's system, this tent would have easily held its full complement of men in hammocks, with wide intervals to spare.

4. The Commander-in-Chief is inclined to propose that a few tents, 32 feet by 16 feet, the dimensions given by Captain M^c^Gwire, should be constructed for use as hospital tents, in which the hammocks could be tried on a line of march; but His Excellency notices by the dispatch from the Government of India, recorded in the order of Government, dated 20th July, 1867, No. 2651, that steps are apparently being taken in the Bengal Presidency for carrying out the experiment, and probably Government may not, under the circumstances, be disposed to incur any expense pending the result of the reference, which is stated to have been made by the Supreme Government to the Right Honourable the Secretary of State for India.

Extract from Letter from the Officer Commanding the Mount.

1. Six hammocks were supplied for trial, and a double-poled European tent. This tent was 21 feet by 15 feet, whereas Captain M^c^Gwire's plan supposes a tent 32 feet by 16 feet.

2. In the tent of the latter size, I have no doubt, from the experiments I made, that 16 hammocks could be most comfortably pitched, in accordance with the plan; but in the smaller tent which I used, the hammock pegs and cords, at the head of the hammocks, extended beyond the tent walls, and forced them to be left standing outwards and upwards, leaving a considerable space for the entrance of driving rain; the walls of the tent, in such a case, are apt to become damaged in windy weather, by being flapped against the pegs and against the head stretchers of the hammocks.*

* * * * * * *

7. The hammocks are very comfortable beds; the men slept in them for eight nights, and were much pleased with them.

8. One hammock was made of canvas. It seemed very strong and well adapted for this country, not being so hot as the others.

* All these objections vanish when the tent is adapted, by making eyelet-holes in the wall of the tent, as had been done at Aldershot, the Curragh, and Bombay, &c., &c.

which are made of field blanket stuff; but, in a cold country, it would require the addition of the field blanket, increasing the weight. Those hammocks composed of the field blanket stuff showed a tendency to tear, under rough work, about the holes for stretchers, but could easily be strengthened.

In conclusion, I would record my opinion that, if not found too cumbrous,‡ the use of these hammocks must tend greatly to the health of the "Soldiers in the Field."

Extract from Letter from the Officer Commanding Poonamallee.

I have caused a trial to be made of these hammocks by six men, who have had considerable experience in camp both in England and in India. These men slept in the hammocks for eight nights, and they are all *unanimous* in their praises of the comfort they experienced from the blanket hammock, but the plain canvas one they object to, as being too cold.

The men all agree that the hammocks are preferable to sleeping on the ground, or to the *tente d'abri* used in England, both in hot and cold weather. The only objections which appear to exist are—

1st. That the ropes of the hammocks prevent the walls of the tent from shutting properly, consequently, in wet weather, the rain beats in.*

2nd. That there is a great strain on the tent poles, one of which broke during the experiment.†

(*True Extracts.*)

(Signed) C. COOKE, *Colonel*,
Quartermaster-General.

* 1st. It will be seen by all former reports that no such objection was ever before raised. The tents could (like those of Bombay) easily have been adapted to the system at a cost of Rupees two (R's. 2), or 3*d*. per man outlay.

† 2nd. It has been ascertained that instead of using the hammock staves, the hammocks were lashed to the pole. This pole is nearly four times as strong as the English tent-pole, which never yielded, although the number of men was greater in proportion in the English tent. Had any instruction been given this never could have occurred.

‡ See report of 'Times' correspondent from Abyssinia, *viz.* that through their substitution for doolies, two men were enabled to do the work of six.

ORDER, No. 205, 16th January, 1868.
Communicated to the Home Government.
(*True Extract.*)
(Signed) C. S. ELLIOTT, Major,
Offg. Deputy Secretary to Government.

*** It is worthy of remark that one report advocates the blanket field-hammock on account of its warmth, the other the canvas one on account of its coolness. But in *every instance* yet known, the soldier himself has been loud in his praise of the system, as greatly conducive to his own health and comfort.

From MAJOR M^CGWIRE *to* QUARTERMASTER-GENERAL, Madras Presidency.

(COPY.)

SIR, CANANORE, 9th June, 1868.

I have the honour to request that you will forward through the proper channel, to the Quartermaster-General for submission to H. E. the Commander-in-Chief this letter relating to certain experiments, in this Presidency, on my system of Camping with Field-Hammocks, *copies of the reports on which only reached me on 7th instant.*

2. Adverting to these, I beg most respectfully to submit that the objection made in one of the Reports, *viz.* "that the walls of the tents have to be kept raised while the hammocks are in use," proves that the hammocks could not have been slung according to my system.

3. In a small English bell-tent, of only 14 *feet diameter*, *ten* men of the Grenadier Guards were comfortably put up in field-hammocks, the walls of the tent being perpendicular, and firmly pegged down or

raised and looped up at will, without disturbing the men. In the same manner men of the corps named in the margin were accommodated most comfortably in the severest weather, both at the Curragh and at Aldershot, &c., the reports of both men and officers commanding being highly commendatory of the system as a sure source of health and comfort to soldiers under canvas.

10th Hussars, R. H. Artillery, Royal Artillery, 1st Royals, 5th Fusiliers, 52nd Lt. Infantry, 66th Regiment, &c., &c.

4. The Bombay single-poled square tent easily accommodates *twelve men** in field-hammocks, while the walls of the tent are perpendicular, and well pegged down or looped up as may be required. The double-poled tent used in that Presidency accommodates *sixteen*† men in field-hammocks, while the walls of the tent are perpendicular, and well pegged down or looped up as may be required.

5. The total average cost of altering these tents was Rupees two (Rs. 2) only each tent, and the system met with the highest commendation from H. E. Sir Robert Napier.

6. The dimensions laid down in my original proposal (*viz.* 16 ft. × 32 ft.) were the nearest approximate I could find in London to the dimensions of an Indian tent, and therefore my plans forwarded to this country by Earl de Grey and Ripon in his letter, "No. 35 of "31st May, 1866," were grounded upon imperfect information obtained in England before I came to this country.

* N.B. The number of men allotted by regulation is only *ten*.
† The regulation number.

7. As the soldiers in this country are unanimous in testifying to the comfort of the system, and as it has met with commendation from H. E. the Commander-in-Chief, I venture to hope that H. E. will afford me an opportunity of personally adapting the tents now in use in this Presidency to my field-hammock system.

I have, &c., &c.,

(Signed) E. T. St. L. M^{c}GWIRE,
Major,
1st Battalion, "the Royal" Regiment.

To The Quartermaster-General, Madras,
through the Officer Commanding 1st
Battalion, Royal Regiment.

The reply to this application was a refusal of Major M^{c}Gwire's services.

An officer writing from Nurseerabad in October, 1867, said, "Our losses during the cholera were frightful, *a hundred souls in one month, viz.* fifty men, twelve "women, and thirty-eight children, * * * * *the men* "*behaved splendidly, no funk, no drunkenness.* * * * "Altogether we have lost ten per cent. of our men and "twenty per cent. of our women since we landed."

The corps above alluded to is the 2nd Batt., 1st the Royal Regiment. This fine regiment was more than decimated* in the first year of its Indian service. The men on going into camp to avoid the cholera were obliged in the first instance to lie on the damp ground,

* The deaths from cholera and other diseases from the landing of the Regiment on 18th November, 1866, to 1st January, 1868, were 2 officers, 83 non-commissioned officers and men, 19 women, 74 children, making a total of 178 souls.

sick as well as others; eventually, after much delay, large heavy barrack cots were taken out for the sick.

It was in this very battalion that the field-hammock was first introduced by the inventor, and so favourably reported upon by Gen. Lord William Paulet in 1864.

33, St. James's Place, S.W.,
18th February, 1869.

Dear Sir,

With sincerest thanks for your kindness in transmitting a pamphlet on your Camping System, I beg to return the accompanying reports.

I am glad to see that all military men agree in speaking very highly of the advantages of your system, which I saw in use last year in Abyssinia, and admired for its lightness, and the comfort it affords. The officers who had provided themselves with your camp hammock for that campaign, were envied by all the rest, who had frequently to suffer from wet and damp, although their beds were not of less weight or bulk.

I remain, dear Sir,
Yours very truly,
A. KIELMANSEGGE.
Naval Attaché to the Austrian Embassy.

To Major M^{c}Gwire, "The Royal" Regiment.

Extract from Report of 'Times' Correspondent, dated Senafe, Feb. 2, and published in 'Times' of 21st Feb., 1869, relating to the vigorous measures taken to reduce the baggage, &c., to the minimum.

"After a hard morning's work, the carriage was cut down to "the extent mentioned." * * * "By substituting M^{c}Gwire's "hammocks, which weigh only 8 lbs. each, for the heavy

" 'dhoolie' (hospital bed) ordinarily used, two 'dhoolie wallahs' " were given the work of six." This shows a saving of 300 per cent. in an item of land carriage in one of the most difficult countries ever traversed by British troops.

LONDON, January 12, 1869.

MY DEAR MAJOR,

I can give most favourable testimony with regard to the working of your field-hammocks in the Abyssinian campaign.

I had ample opportunities of noting their many advantages, and envied every officer who was the fortunate possessor of one.

Moreover your field-hammock forms a most excellent substitute for the dhoolie by attaching it to a bamboo. From its lightness and portability it makes an excellent sick carriage, and was almost **the only one in use for the sick and wounded on our return from Magdala, many of whom I heard speak in high terms of its ease and comfort!**

The only suggestion I can offer is that men ought to have some proper instruction as to the method of pitching it when it is used as a bed. The advantages of keeping men off the ground are so apparent that I need not mention them.

Believe me, &c., &c.,

T. H. FAWCETT, Capt. 1st Royals,
Late Deputy Asst. Quartermaster-Gen., Abyssinian Expedition.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, STAMFORD STREET AND CHARING CROSS.

Reply to SIR R. NAPIER'S application for Major M^cGwire's services:—

RESOLUTION.—Madras Government regrets that the services of Major M^cGwire cannot be spared from the Presidency.

Extract from a Letter from COLONEL DILLON, Military Secretary to HIS EXCELLENCY SIR ROBERT NAPIER, Commander-in-Chief.

BOMBAY, 17th December, 1867.

. . . . . I was distressed when I saw the Government Resolution, which was forwarded me by the Adjutant-General, and re-directed to you. I felt, and feel that your presence would be most valuable to the Expedition in instructing the men to pitch the hammocks.

You recollect that when I failed to pitch a hammock on one occasion, you set it up, and that three of us then sat in the hammock, and we were over thirty-three (33) stone! This convinced me how very desirable that the men should be instructed, and therefore my regret that your services cannot be made available.

Yours sincerely,

(Signed) M. DILLON.

(Copy.)

Letter from the DEPUTY QUARTERMASTER-GENERAL of the Army, No. 3548, dated 10th October, 1867.

MILITARY DEPARTMENT, BOMBAY CASTLE,
18th October, 1867.

SIR,

Referring to Government Resolution, No. 3270, of 17th September, 1867, I have the honour, by direction of His Excellency the Commander-in-Chief, to solicit that 1500 more of M^cGwire's hammocks may be ordered to be sent from England direct to Abyssinia.

His Excellency also requests the favour of being informed when the 500 already ordered may be expected.

I have, &c., &c.,

(Signed) J. S. GELL, Colonel,
Deputy Quartermaster-General.

Letter from ACTING QUARTERMASTER-GENERAL, No. 4854, dated 20th November, 1867.

MILITARY DEPARTMENT, BOMBAY CASTLE,
25th November, 1867.

SIR,

With reference to letter No. 4822, dated 19th instant, I am directed to state that His Excellency the Commander-in-Chief proposes that the dandy therein referred to shall consist of one of M^c^Gwire's hammocks attached to the dandy pole, which for this purpose will be taken from the dooly when it is found impossible to carry further that mode of conveyance, and that each dooly should carry with it one of M^c^Gwire's hammocks with this object.

2. As, however, the troops in passing through a country where this species of sick carriage only can be used should have a larger percentage than the doolies allowed by regulation alone will give, and as of the six men who carry each dooly four are sufficient for a dandy of the nature described, His Excellency proposes that an additional number of dooly poles and hammocks shall be carried with the force, which will *increase the available* amount of sick carriage by 50 per cent. As, however, some slight cover to the dandy is desirable, His Excellency suggests that a simple breadth of canvas, about 2 feet wide and 8 feet long, with a bamboo inserted at each end to keep the canvas distended, and a curtain 6 inches deep (as in the accompanying sketch, to be placed over the dooly pole, which will give a very efficient protection from sun and rain, by being inclined to one side or the other as required) should be added to the hammock, and which can also be carried in the dooly for use when required.

3. The sanction of Government is by His Excellency's desire solicited.

4. The additional number of dooly poles with 20 per cent. spare will be 250, and the number of covers 600.

5. The hammocks will be taken from those ordered from England.

6. On arriving at the encampment these hammocks will be pitched in the hospital tents for the accommodation of the sick.

I have, &c., &c.,

(Signed) J. S. GELL, Col.
Acting Quartermaster-General.

RESOLUTION:—Sanctioned.

(Signed) W. F. MARRIOTT, Col.,
Secretary to Government.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, STAMFORD STREET AND CHARING CROSS.

ON ELECTRIC BELLS.

THE system of communicating between one part of a house and another by means of electricity, in connection with bells, has been for many years past adopted in America, and for some time upon the Continent, and is now rapidly superseding the plan of cranks and pulls in all large establishments and private dwellings.

In 1859 this system was in use at the Chamber of Deputies at Berne, and although many modifications and improvements have since been made, it continues in use, and gives the highest satisfaction.

It happened, as it does sometimes, that people were sceptical as to the value of the invention, until Mons. BREGUET was employed to fit up the Grand Hotel du Louvre, at Paris, with electric bells, and this he did with so much success that public attention was awakened, and people at once began to think, there must be, after all, something good in a system which works so admirably.

Having achieved this success, Mons. BREGUET was, a few years afterwards, commissioned to fit up electric bells throughout the new Grand Hotel, on the Boulevard de Capucines, and it was here he perfected the system, and introduced his *Patent Indicator*, which he had in the meantime invented, one or more of which is placed in each room. This consists of a dial about 2½ in. in diameter, with a needle indicator upon it, and upon pressing down a small button at the top, the needle is deflected, and causes the bell to continue ringing until stopped in the bureau by an attendant; thus, the person ringing knows that the summons is being attended to, because the moment the bell is stopped by the attendant, the needle indicator on the dial resumes its vertical position.

In England, we have been slow to imitate our ingenious neighbours; whilst we have continued to fix our house-bells upon the old plan of pullies, cranks, and wires, (which are continually breaking, or getting set so fast that it requires a considerable effort to make the bell ring), the French have been quietly going a-head of us, until there is not a new building of any importance erected in Paris in which the electric-bell system is not adopted.

Many persons will ask, what advantage has this method over the old plan—which has always done pretty well, although not all we could wish?

We will, therefore, endeavour to point out the superiority of the electric bells, and their advantages over cranks and pulls.

In the first place, distance, or length of wire, is of no consequence: to ring a bell a hundred yards off, or more, requires no more effort than if it were close at hand; the slightest pressure upon the button causes the bell to ring at any distance.

But how stands the case with the crank and pull system? At each turning a crank is required; every crank used increases the difficulty of ringing the bell; and at each crank a certain percentage of power is lost, until the strain becomes so great as to cause the wires to be constantly breaking.

We all know the inconvenience of sending for the bell-hanger, who, from necessity, is compelled to take up the carpets and floor-boards, and sometimes to take down the skirting of the walls and cut away the plaster—and for what? Simply to find out where the wire is broken, and mend it; and, after all, he is unable to secure one against a similar accident happening even the next day, when the same amount of inconvenience must be gone over again.

Or, it may happen that the painter or the whitewasher is set to work; in either case the cranks and wires are daubed over with paint or whitewash, and set fast, and to extricate them, the bells are pulled with violence, the wires are broken, and the whole affair put out of order.

Now let us compare all this with the electric system: here

there are no cranks, no pulls, no strain upon the wires, no wear and tear; *a little ivory button about the size of a pea has just to be touched with the point of the finger, and the largest house-bell can be set ringing for any length of time, and at any distance;* for the wires without cranks are simply carried along the wall, or out of sight if preferred, and there they may remain unimpaired for almost any length of time, and are just as serviceable twenty years hence as on the day they were first put up.

Again, in large establishments it is customary to see long rows of bells of different sizes communicating with various rooms, and they can only be distinguished one from the other by their sound, which often causes great perplexity to servants, and many mistakes, the attendant frequently entering one's room with, "Please, Sir, did you ring?" just at the very moment one wished to have been left quietly alone.

Mistakes of this kind are not possible under the electric system, which requires one bell only for a series of rooms, or even for an entire house, and the way in which this is accomplished is very simple:—A mahogany box is fixed against the wall, containing as many "tell-tales," or indicators, as there are rooms to be communicated with, and having the names of the rooms engraved upon them; from whatever part of the house the bell may be rung, the indicator in connection with that particular room, working upon a hinged joint, falls out of the box, and remains so until put back by the attendant. The means by which this is accomplished we shall describe hereafter.

In the next place, let us consider *the cost of bells upon the electric system*, for if we cannot compete in price with the old method, it will be a long time before the new one comes into general use, but we can safely say, from experience, it *is not so costly as the old plan*, and the larger the establishment, and the greater the number of communicators, the less the expense proportionately for each room.

Having now given a general idea of the advantages to be gained by the adoption of this system, we proceed to state, in

as short and simple a manner as possible, the details and method of fixing and working the apparatus.

There are two plans now employed, the first to be described we will call the "*simple system*," and is adapted for private houses, or small establishments; the other is the "*indicatory system*," and this is patented for Great Britain and France, and is adapted especially for large hotels, Government offices, clubs, factories, &c.; it is somewhat more expensive than the former, but has great advantages over it.

The Simple System.

In describing the apparatus, we commence with the battery or motive power of the whole:—When we plunge two metal plates, one of copper the other of zinc, into water slightly acidulated with sulphuric acid, and connect them by a metallic wire, there is produced in this wire a particular phenomenon, which is called an electric current.

An apparatus composed of a vase of acidulated liquid and two metal plates is a battery; although weak yet, by multiplying these vases and plates, any strength may be obtained; many modifications of this plan of forming electric batteries have been made by changing the metals and also the liquids;

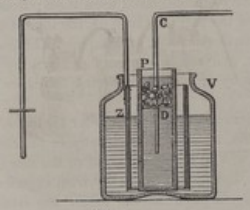

Fig. 1.

but for our present purpose we will confine ourselves to that which has been found most suitable for domestic bells, viz., the Daniell Battery:—Fig. 1 represents in section a Daniell

battery: V is a glass vase or jar, Z a cylinder of zinc, P a porous cell of earthenware, C a strip of copper-wire, to which is soldered a plate D, also of copper.

Water is then poured into the glass jar, and slightly acidulated with sulphuric acid—a few drops being sufficient, for sometimes plain water will answer the purpose; the porous jar in the centre is then filled with a solution of sulphate of copper, and crystals of sulphate placed upon the plate D to keep up the strength of the solution, the two liquids, sulphate of copper solution, and the acidulated water, are thus separated by the porous cell, and come in contact with each other in the pores of the cell. When the battery is in action, that is, when the circuit is completed, the sulphate of copper decomposes, sulphate of zinc is found in the exterior, and a deposit of copper of great purity and brightness is thrown upon the rod C and the plate D; it is also deposited upon the inner surface of the porous cell, and even in the pores themselves, and ends in their being obstructed. It is therefore necessary, in order to keep up the strength of the battery, that a surplus of crystals should be retained in the cell, and for this purpose the plate D is provided.

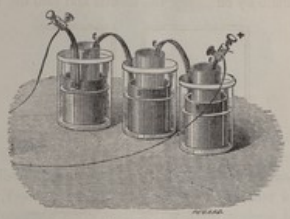

Fig. 2.

In order to form a battery of sufficient strength for any special purpose, a number of these cells are joined together

by their opposite poles, *i.e.*, the zinc or negative pole of each cell is soldered to a strip of copper, and this is connected at its other end to the copper rod C of the cell next in position (Fig. 2, page 7); and this is continued from one cell to another, the wire at X being the positive, and at Z the negative; and the battery thus prepared has only to be attached to the wires leading from the bells.

A great improvement has, however, been effected in the above arrangement, which dispenses with all care or attention. (Fig. 3.)

Fig. 3.

The glass globe B is filled with crystals of sulphate of copper and water, and in the neck is placed a cork, in which is inserted a glass tube, which dips some distance into the liquid in the porous vase; and as fast as the battery consumes the sulphate in the cell, it is replaced by that in the globe, and the solution is always maintained at full strength.

A battery of this kind will work perfectly for six or eight

months without attention, and then has merely to be taken apart, cleaned, and recharged with new liquids, and set to work again immediately.

"The Call Button."

In each room or apartment is placed one or two, or as many "call buttons" as may be required.

Fig. 4.

These are made either of any kind of wood, or porcelain, or ivory, and are used for the purpose of completing the electric current. Fig. 5 is a section of one of these call buttons, showing the interior construction.

Fig. 5.

When the button B is pressed with the finger, a spiral spring, R R, is forced down, and comes in contact with a metal plate, D, fixed upon the under portion of the call button.

The conducting wires are screwed to the two points, A and B, which also serve to fix the spring, R R, and the metal plate; this action at once connects the two conducting wires, and completes the electric current, and the bell continues to ring as long as the contact is maintained.

The bells, of which there are various patterns and sizes, are termed "sonnettes-trembleuses," or trembling bells, from their action being continuous as long as the current is maintained. Fig. 6 is a section of one, showing the mode of action; E E is an electro-magnet, A the armature, R is a steel spring connected with the screw Z, and D is a screw connected with the coil of wire round the magnet.

An electric current sent into this apparatus follows the copper conductor C to D, traverses the wire of the magnet E E, and is then conducted to the screw F, follows the armature A, the spring R, and the conductor J to Z, returning to the battery. (Fig. 6.)

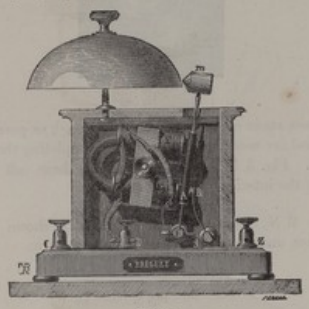

Fig. 6.

As soon as the circuit is completed, which is done by pressing down one of the call buttons, the armature is attracted by the electro-magnet, and its contact with the spring R ceases. From this, it results that the magnet ceases to attract the armature, which falls again upon the spring R, and again completes the circuit; the current then passing the armature is again attracted, and these effects being reproduced with great rapidity, the armature receives an oscillating movement

or trembling so long as the circuit is complete outside the apparatus.

At each attraction of the armature, the hammer M which is attached, strikes the bell, and produces a loud sound.

But in order to make this one bell available for a great number of rooms, an apparatus is employed, which is called an "indicating box." (Fig. 7.) It shows the interior construction of one of the indicators. When the current is sent into the magnet E, the armature A is attracted, and releases

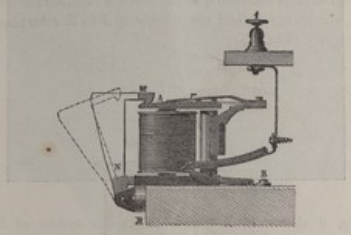

Fig. 7.

the piece M N, which falls into the position shown by the dotted lines, and consequently falls out of the box.

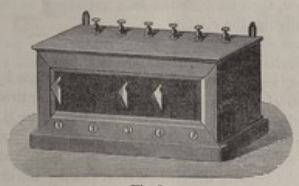

Fig. 8.

Fig. 8 shows one of the indicating boxes complete in the

position drawn: it announces that the rooms 1, 3, and 4 have called.

In order, then, that the apparatus should be ready to receive another summons from the same rooms, it is merely necessary to lift up the pieces M N, which are replaced by a slight touch of the finger.

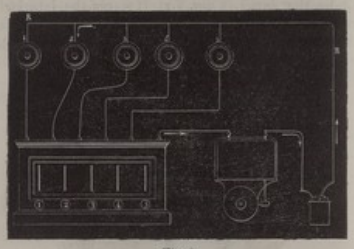

Fig. 9.

Fig. 9 shows at a glance the whole system of fixing the electric bells and apparatus. Let us suppose the button No. 2 is pressed, the current which travels in the line indicated by the arrow leaves the battery by the wire R, travels through the button to the indicator, which falls out of its place, then through the bell, returning to the battery and completing the circuit.

We thus see, whatever may be the number of rooms to be communicated with, we have only to increase the number of indicators, we have only one bell and one battery, and to cause two electric magnets to work well, a Daniell Battery of six cells will be found ample, thus numbers may be augmented if the distances are great, on account of a slight loss of power from the wires being perhaps not perfectly insulated.

The Indicating or Repeating System.

This improved apparatus (Fig. 10), of which upwards of 500 are in use in the Grand Hotel, at Paris, is represented by the annexed woodcut: its object is to indicate

Fig. 10.—The Indicating Call Button. By Her Majesty's Royal Letters Patent in Great Britain and Ireland: in France, Breveté, S.G.D.G.

to the person ringing that the electric current is effectively doing its work, and that the bell is in action, and further, when the servant replaces the indicator in Fig. 8, it again shows it upon the dial.

By this arrangement, the magnet E is animated by the current, and attracts the indicating needle A, which is deflected, and its upper end points to the word "ring" engraved upon the dial-plate, which hides the mechanism, but is supposed to have been removed in the woodcut for the purpose of showing the interior mechanism. As soon as the finger ceases to press the button B, the contact ceases between

the two springs, A B and C D, but the circuit continues complete in the interior of the apparatus in the following manner :—

The needle carries upon its axis a small pin, G, and when the needle is inclined to the left, touches the spring R R in such a manner that the electric current takes the following course:—From the wire C it passes to the spring R R, then by the pin G into the needle and the dial, which supports the needle; from the dial it passes to the little pin P and the support Q, to which the dial is attached, into the wire N M, by which it is conducted to the coil round the magnet E, and from thence to the wire L of the line, so that until the current is interrupted at the other end, the needle is maintained inclined, and when it is seen reverting to the vertical position, we know at once that our message has been received, and will have immediate attention.

The simplicity with which the whole apparatus may be fixed and set to work, in houses or buildings of any size, has peculiar advantages, in this manner: Gentlemen residing in the country, or at a great distance from London, by ordering the necessary material from us, can employ any local carpenter or bell-hanger, by merely giving the general directions; but wherever wished, we should always be happy to send our own workmen or superintendent, and give instructions—or to fix the work if required.

List of Prices of Electrical Apparatus for Bells for Domestic Use, &c.

			£	s.	d.
Trembling Bell, in mahogany or oak case, complete	No. 1.	each	0	15	0
Do. do.	No. 2.	„	0	18	0
Do. do.	No. 3.	„	1	2	0
Do. do.	No. 4.	„	1	7	0
Do. do.	No. 5.	„	2	0	0
Do. do.	do., with two bells	„	2	10	0
Indicator boxes of polished mahogany and ebony fronts, containing six Indicators or less	at per indicator		0	15	0
Do. if containing above six	„		0	12	0
Indicator-boxes, on the repeating system, in addition to the price as above	„		0	6	0
Call Buttons for fixing in the different apartments made of woods of all descriptions...	each	... ...	0	3	0
Do. do. in porcelaine	„	0 3 0 to	0	4	0
Do. do. with gold lines ...	„	... ...	0	5	0
Do. do. ivory	„	0 6 0 to	0	10	0
Do. do. lever pulls to use with a cord...	each		0	6	0
Do. do. pear shaped in various woods for attaching to a flexible electric wire, may be placed upon a table or otherwise	„		0	3	6
Do. do. ivory...	„		0	11	0
Silk-covered cord, with two electric wires for the above	... per yard		0	3	0
Communicator, containing five buttons, to ring to as many rooms (portable), and may be placed upon a table, or suspended from ceiling. Patented in France and Great Britain	each		2	0	0
For each button above five, extra	„		0	4	0
Silk cord for the above, per yard, for each wire contained ...			0	1	6
Patent Electric Indicating Button, with Indicating Needle, showing that the bell is ringing and maintaining the current until arrested at the bell, made in all kinds of wood cases. Patented in France and Great Britain... ...	„		0	12	0
Do. do. in ivory	„		1	10	0
Do. do. double current system, for the Repeating Indicator Boxes, extra...	„		0	1	0
Out-door Circular Bell-pull, for entrance, halls, park-gates, &c., from 2½in. to 5½in. in diameter ... ... extra	0	7 0 to	0	11	0
Do. do., square, mounted on marble plinth, small...	„		2	0	0
Do. do., large...	„		2	15	0
Electric apparatus for opening entrance doors from any distance	„		2	15	0
Locks for do.	each	0 7 6 to	1	0	0
Springs for doors...	„	... ...	0	6	0

BATTERIES.

	£.	s.	d.
Improved Daniell Battery, with reservoir for maintaining a continuous current for a long period without requiring attention ... ... per cell	0	3	0
Do. do., charged with sulphate of copper „	0	4	0
Ordinary Daniell Battery ... ... „	0	1	6
Marie Davy Battery, not charged ... ... „	0	2	0
Sulphate of mercury for do. ... ... per lb.			
Sulphate of copper ... ... „			

WIRES.

Copper-wire covered with an insulating material and two coats of cotton, any colour ... ... per yard	0	0	1
Cable composed of any number of wires as above, each wire „	0	0	1
Copper-wire covered with silk, any colour ... ... „	0	0	2
Isolators, in bone, for fixing the wires, different colours ... per dozen	0	1	6
Copper-wire coated with Gutta-Percha, for out-door work, damp places, &c. ... ... per yard	0	0	1½ to 0 0 3

We have much pleasure in stating that we have made arrangements with Messrs. BREGUET, of Paris, to become sole Agents in this country for the sale and fixing of their patented apparatus, the great reputation which this house possesses, both for Electrical Engineering and for Horology, is a sufficient guarantee of the quality of the goods supplied by them. Samples of the different patterns may be seen in use at our Showrooms in the Haymarket, where every further information may be obtained, either by personal interview or by letter.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, STAMFORD STREET AND CHARING CROSS.

England, in relation with other Countries.

REVOLUTIONS AND THEIR WARS.

An old Philosopher on troublesome times, says,

> "Then," true and faithful, "sure to lose,
> Which ever way the contest goes,
> Is always nick'd, or else hedged in,
> Whether the parties lose or win;
> Whilst power *usurped*, like *stolen* delight,
> Is more bewitching than the right;
> And when the times begin to alter,
> None rise so high as from the Halter."

What confirmations of these assertions have been presented to the world, again and again, in the many successive changes and *boulversments* since 1790. Many of the worst have been raised into power. Into *power*, not used to improve, but to torment, to punish, to ruin Europe, with the infliction of monstrous evils upon themselves, and the very countries of their birth and exaltation!

Persons of wealth and influence can easily obtain respect, confidence, and attachment; will more easily reign in the hearts of their subjects than those who extort subjection by violence, intemperance, and passion.

Men will do more from affection, than from hatred and execration.

The disasters in Italy, Austria, Russia, Spain, and all the other countries, speedily evacuated after horrible warfare, in 1811-12-13-14, should be remembered, to guide mankind in future proceedings towards happiness and gratitude.

our Dockyards and our Navy were open to them, Russian Midshipmen were admitted on board our ships of war; English science and arts were invited and encouraged. Drs. Chrichton and Wylie were among the last Court Physicians, they all had the rank and appointments of Russian generals. Dr. Wylie accompanied the Emperor to France in 1814-15, and was Medical Director General of the Russian Army; was made a Baronet by George IV, at the request of the Emperor of Russia, in London. Samuel Bentham, a brother of Jeremy Bentham, was sent from England, with others, as chief Naval Architect and Engineer. The Russians were then working on the plans of the Empress Catherine, at Odessa, and in the Crimea. Samuel Bentham received the rank and appointment of Admiral; he had to superintend the fortifications at Odessa, and in the Crimea. Some Turkish ships of war, with threatening appearance, were hovering about, as if to interrupt him in his works; he, in his character of Admiral, put himself in command of the Russian ships, sallied forth, had a sharp brush with the Turks, chased them away, finished his work, and was honoured and rewarded. He became *Sir* Samuel in Russia.

To arrive shortly at the very zenith of suicidal derangement, the Emperor PAUL seized the ships, cargoes, crews, depôts of the English, and of English merchandize.

The resident English were arrested as Detenues, and sent into the interior. All his ports were shut—all his ships, great and small, armed to the teeth, were ordered out against his best customers, the *English*, who carried away almost all the valuable produce of his country, tallow, tar, timber, hemp, bread-stuffs, naval stores, &c., all were banished.

All his neighbours, Danes, Swedes, and Norwegians, were compelled to close and arm against England; they did so to *their cost*.

"*Quiquid delirant reges, plectuntus archivi.*" What a complete confirmation of Horace was here afforded to

the world by the Emperor PAUL. The first and greatest sufferers who remonstrated were the ancient hereditary nobility at Moscow. They were followed by the Merchant Princes of St. Petersburgh, whose occupation was gone. The cities, the provinces, the serfs were ruined. Remonstrances were pouring in from several ports in the Baltic—all in vain—all were unheeded—insultingly rejected, until a sort of *levee* amongst the higher classes insisted upon a change. The Emperor PAUL was found dead in his apartment. His successor immediately released all English ships, cargoes, crews, and individuals. Sent immediately to England to propose reparation for damages done by the embargoes, and to solicit the revival of friendly intercourse, social and commercial, such as had long before existed. However, it was not until after the wonderful achievements of Parker and Nelson, first in *forcing entrance* to the Baltic, and afterwards at Copenhagen, the *great northern coalition* was completely destroyed and scattered to the winds; and that the ancient commerce, the work of ages, could be restored; that commerce, so long in growing, never should have been disturbed. Nothing but insanity could think of such destruction, so difficult to replace.

COMMERCE is not to be taken by assault like a city, not by a *coup de main*, or *coup d'etat*; it grows out of wisdom, expands and flourishes gradually under *stability, probity, perseverance, simplicity*, with great precision and punctuality.

England is the seat of the *soul* of the commercial world. All countries know it, *intelligent* France knows it well. Her Ministers have repeatedly been answered by her Chambers of Commerce; eminent financiers, when asked what they (ministers) could do to improve commerce? *Bien des remerciments. Laissez nous faire!* Do not interfere with us, no encroachments, was the *constant request* of the Commercial Chambers at Paris, in the days of Louis XIV, and previously; so under Louis XVI to Necker and De Calonne. In the reign of Louis Phillipe, and since, France has

On April 2nd, Nelson was sent on to the attack with 12 ships-of-the-line, the bomb vessels, and smaller craft, while Admiral Parker, with the remaining ships in reserve, kept closely watching to afford assistance where required, or finally to decide the contest under any uncertainty of victory.

The battle commenced at 10 a.m. Three of Nelson's ships grounded in proceeding to their station, but nine remained for him to work with. Before 2 p.m. the whole front line of six Danish ships with 11 large floating batteries were all taken, burned, or destroyed. The Danes fought desperately; the loss on both sides was awful. In the space within 1½ miles 1000 cannon were working destruction. The Danes, more exposed, more numerous than the British, suffered most; besides, 6000 prisoners were reckoned, after the affray, in the ships.

Nelson ever mentioned the operations at Copenhagen as the most awful and the most important of all his chief achievements.

The sublimity of Nelson shone, not only in his actions, but powerfully in his prayers and gratitude to the Almighty. After Copenhagen, he sprang up with thanks to the Supreme, for having made him the humble instrument of a great victory in the glorious cause of religion, order, and justice, honourable to his country and beneficial to the world at large.

His chaplain and private secretary, the Rev. Dr. Scott, represented the sentiments and expressions of Nelson, and his fervour on these occasions as sublime and heart-stirring. So at the Nile and Trafalgar, &c.

Rapidity in naval war was indispensible for success, at Copenhagen. Nelson began and completed his work before many of his opponents knew of it. He arrived, saw, and conquered. He could truly assert with the ancient errant knight, in happy verse:—

> "*Cæsar* himself could never say
> He gained *two* victories in *one* day,
> As I have done: who can say, *twice*, I,
> In *one* day *veni, vidi, vici!*"

Oh! Louis Napoleon, and ye rulers of France, what *easy, glorious* opportunities are now open to you, absolutely inviting you, by shortest ways, to certain happiness, wealth, and prosperity, for yourselves and for the charming country and climate in which you reign. You have only to follow those courses quietly and strictly, and *bonâ fide*, for blessings inestimable, not attainable in *any other way*, for yourselves, for Italy, Spain, &c., with yourselves—the finest portion of Europe.

Countries should not fight for an *idea*, or empty name. Should it gratify pride to call an important sea a *lake*, be it so; but let their new-named sea be the highway for the commerce and prosperity of all—open not closed, in opposition to nature and all reason. There is a *St. George's* channel, an *Irish* channel, and others, but all open as the air to France, and to the rest, even for home coasting water carriage.

Should there not, in justice, be a reciprocity of politeness, even with Albion, *perfide Albion*, most erroneously, wantonly so termed, as a cover to conceal, and in a manner to justify selfish evil propensities; all countries have their long shore sharks, their contractors and purveyors, a restless, turbulent race, hostile to social improvements. The mischiefs in France, of their own creation, have been attributed to *Albion perfide*, to throw odium, and to keep up a hostile spirit against England. This can be proved on high authority, no less than the *great* NAPOLEON himself!

In these remarks nothing is stated on individual opinion; all advanced has been based on acknowledged authority and on experience. TALLEYRAND, as *extraordinary* in his career as NAPOLEON I, in warfare, together with B— C—, another great and good adviser, were both permitted and *solicited* to give *their* own opinions and *their counsel* freely on great occasions; they both dissuaded, implored Napoleon not to think of entering either *Spain* or *Russia*—they predicted what happened, and his downfall, if he did. In 1811, Napoleon was tottering; his best days were over. The

horrible affairs in Russia, the battles of the *Boradino*, before, and at Moscow, and in the *retreat* therefrom, upset him. To all the active Russian generals, with their divisions, anticipating him, were joined those destructives *Blucher, Platoff*, with their *Cossacks of the Don*. Their terrible operations, ever continued, till after Waterloo, and in both invasions of France, in which they materially assisted. England had sent all her troops to Portugal and Spain in 1811-12-13. It was only at Waterloo, and on the second invasion, England had a few, *very* few English troops. Her army at Waterloo consisted of a German Legion, Hanoverians, Dutch, and lastly, the *brave* Belges, to oppose the highly organised and best disciplined continental troops of military France. England's chief army was then in the south, at Toulouse, Orthez, and Bayonne. What were the remarks and exclamations of the French all along the retreat from Moscow, before the Niemen and after it. The exclamation was not *against perfide Albion*; but, violent against Blucher and his Cossacks, *le sacrè ivrogne toujours sur nos epcuiles* was the cry; such in the subsequent battles—during the first invasion, the *sacrè ivrogne* with his cossacks had pushed on to *Fontainbleau*, the Prussians were sending regiment after regiment, *thrice* the numbers expected, with their avowed intention of destroying Paris. They were stopped in their project by the firmness of the Emperor of Russia, and the decided conduct of the British Ambassador. They were the *Saviours* of Paris, and the *protectors* from mischief on the first, and more especially on the second invasion. It was not against *perfide Albion* that Napoleon himself kept raving, but against his old disturber, Blucher—the *sacrè ivrogne*, and the *perfidious* Cossacks always upon his shoulders.

At Waterloo, the number of English was very small, so small that the accusations of all the mischief to Albion became ridiculous, as was the supposition that the battle, so hardly contested, was gained by a comparatively small platoon; though small, a celebrated gene-

ral asserted, of *great solidarité*. What happened, when the last efforts were progressing at Waterloo? Napoleon discovered that his own general, Grouchy, had been anticipated, out-matched by Blucher and the cossacks; when he saw the old *sacrè ivrogne* just above him, preparing again to spring upon his shoulders, he immediately turned and issued his final order, *sauve qui peut*; the contest in front suddenly ceased. Rush, and tumultuous fight for the road and for escape among the French, blocked up the roads. The British cavalry were charging in pursuit—the Prussian Cossacks were pouring grape and canister in upon the tumultuous *melee* in the obstructed road below.

The *sacrè ivrogne* did spring furiously upon the shoulders, took fast hold; not hing could induce him to let go his gripe. Officers were sent to remind him, that Grouchy, with 36,000 French troops, was in his rear; to stop from entering France until the allies joined him. All in vain! Blucher's reply was,—he had the game in his hands—he was fixed—and on the shoulders he would stick, until the *end* of the chapter. That the Prussians, troops and land wehr, were actually marching *upon* Paris in great numbers, and he hoped their other allies would speedily follow. Napoleon, after the last order, *sauve qui peut*, retired quietly, by private way, towards Paris. A special messenger was sent to find and stop him, to inform him that his empress, &c., had *quitted* Paris, that all was lost there, that Paris was *capitulating*—to dissuade him from going there—but to proceed as privately as possible to Fontainbleau. Napoleon followed the good counsel.

Who gained the credit of the closing victory at Waterloo? Was it *perfide Albion*, or the Cossack?

An old philosopher says,

> "When the fight becomes a chase,
> He wins the day, who wins the race."

What said Napoleon? why, *sauve qui peut*, old Blucher is behind me!

The two *northern* invasions of France, were carried

almost entirely by the *northern powers* themselves; they, after enormous losses of men and means, exasperated, though weakened, did the work in earnest, against the best disciplined organized armies of military France. What lessons these events should afford to Europe and to France herself.

The French, quick, lively, imaginative, sensitive, and warm in their likings and dislikings, will seldom take the trouble of *thinking* for themselves, are easily impressed and led astray by their superiors.

During the Peninsular wars, Napoleon I, having subdued and punished all the powers and all the great cities of continental Europe, had the *Americans* also against England. All the world against England, without any serious disadvantage to her, but injuriously to her enemies.

Notwithstanding such experience, and the subsequent enjoyments, the progressive advantages of a *forty* years' peace, a few years ago improvements were made in the instruments of destruction—in ships, batteries, and fortifications. France and her allies were induced to believe, that, if England could be crushed and extinguished, *France* would immediately, at once step into all the extended commerce, and, also at once, into all naval superiority of England. These erroneous suppositions, delusions, have been industriously circulated on the continent; have been considered impossibilities in the *north*. Former artful measures and intrigues have been revived, to rouse Europe again to war, with a repetition of all former inflictions on a more aggravated scale than ever. The old war-hoop of *perfide Albion*, has resounded—the hungry colonels again clamour to *ravage her dens with fire and sword*. What has followed the rash announcement of such intended ravings? why, great gloom all over industrious intelligent France; her visitors were leaving her; her commerce was dwindling to former insignificance, even temporary success would be fatal to the invaders themselves. Much wanton wickedness and needless carnage might be

acomplished—but what happened to the invaders in Spain, Italy, Germany, and in Russia after Moscow, and elsewhere, would certainly befall them, with tenfold disaster, should England only to herself prove true. Recollecting the magnanimity, bravery, generosity, and experience formerly displayed by the Emperor of Russia, no rational person can for a moment suppose that he will ever lend himself to a repetition of the insanities of his predecessor, PAUL, to measures so injurious to Russia and to her neighbours in the Baltic.

Why should France go out of an easy course open to her prosperity and to general happiness, to inflict further evils upon herself and other countries? Has she not *military* glory enough already?

France has immense advantages over other countries! Nature has been extensively bountiful to her. Fine climate—beautiful country—the necessaries and luxuries of life all in abundance, and excellent in quality, and almost unrivalled attractions. France needs only a *quiet* course to attain speedily prosperity. Her own axioms should be her constant text, *laissez faire l'empire cest la paix*. To the natural attractions, France has other artificial inducements in the arts and sciences, pleasing manners and hospitalities of her lively, ingenious people, her easy education and amusements, &c. By the cultivation of all these advantages, multitudes would be drawn into France from other countries for health, recreation, enjoyment, social and intellectual, and last but not least, for commercial affairs. Larger numbers and larger prosperity than ever would flow into France. While her attractions would be thrown away and lost under continual abuse, and invasions of *perfide Albion*.

Persons in high station and power lose sight of one great consideration. While conducting anxious governments, they have toilsome days, sleepless nights, corroding cares, from censures, jealousies, party contests, &c. The constant labour of the understanding is the severest labour! hostile to health and life, very destructive to

the vain, to the ambitious, and to the morbidly irritable.

PITT, the great minister, very irritable, was prematurely destroyed soon after *forty*. NAPOLEON I: under what constantly destructive anxieties the life of that great man was shortened, and he died prematurely. NELSON—had he not fallen at Trafalgar, shattered in body and health, he could not long have survived. His retirement had been granted him several months *before* the events at Trafalgar. He anticipated great events, and his high spirit kept him from retirement. Other instances of shortened life are omitted for brevity. When made general, in 1796, Napoleon I commanded republicans, was himself an advocate for free institutions, *i. e.*, for rational liberty. Disgusted with rabid Republicanism, and with red Jacobinism, before 1800, Napoleon I changed entirely, became *monarchical*, ARCHI-*monarchical*, and lastly *imperial*. He wanted to give good government and stability to France; law, justice, finance, and commerce had all been destroyed.

Napoleon I, impatient for order and stability, at the peace of Amiens, wished at once to recall the Bourbons, and to restore to the nobility such of their confiscated estates as remained unsold. His old advisers, Talleyrand and B— C—, rushed in to check his ardour; the work might be done gradually, but only by degrees. Though the Jacobinical Directory had been rescued—though serious riots had been quelled—astonishing victories gained by Bonaparte—the Directory and Jacobins powerful in Paris, and though northern France were jealous of Bonaparte, and dreaded his great popularity, as well as his influence over the army—Bonaparte *detested* the Jacobins; they would have been glad of an opportunity for upsetting him. The mere mention of Bourbon restoration at the time would have ruined him. He yielded to advice, and was made Consul; he then set to work most earnestly and successfully for *safety* and for *stability*. He planned his great work, the "*Code Napoleon*," to give assurance.

He assembled many most eminent legislators, under third consul, Cumbaceres, to undertake it. That work, universally admired and adopted, raised and established him in public estimation.

The French, like the Romans with their conquerors, looked up to Napoleon, not only as a warrior, but as a *parent*, and a restorer of good institutions. He gained another step towards stability, was made first consul for *life*, with succession to his son. Warm in their likings and in their dislikings, the French gave him latitude and extended powers. Had he been satisfied with his firm position, strongly pressed by his advisers to stop and be contented, he might have remained firmly fixed, and in a position to do good.

At first, and for a short period, the peace of Amiens was expected to be *lasting*; an empire of peace was then expected, with rejoicings in France and through Europe. Commercial connections and operations were based on such belief, soon proved ruinous to the projectors.

To what good purposes were the large powers employed? Unfortunately for himself, for France, for Europe, *vanity*, *inordinate ambition*, those destroyers of all good, were in full possession of a great mind; intoxicated with vast means for universal dominion. He created himself *Emperor*, to act with more effect. The peace of Amiens was curtailed. Wars were renewed with inveteracy. France was twice invaded by the northern sovereigns, and by England, Spain, and Portugal on the south. Two abdications completed the ruin of Napoleon, who might have lived long, with enjoyment, had he followed an opposite course; he could have showered down happiness upon others, with blessings to himself. Very strange delusions, unfounded, and irrational, led to the destruction. The downfall of greatness, even in a bad cause, can never be pleasing to generous minds.

May good grow out of evil, may his successors, profiting by experience, restore tranquillity to a disturbed

world, and lasting enjoyments to themselves. They have good ground to go upon, with comparatively easy work before them.

An old philosopher mentions *vanity* as *omnivorous*, the extinguisher of all virtues. Horace says much the same of *ambition*; he rejoices in being quite free, and far removed from ambition. "*Prava ambitione procul.*

"Hœc est
Vita solutorum misera ambitione graviqua,
His me consolor, victurum suavius, de si.
Questor avus, pater atque meus putraus que fuissent!
Privatus que magis vivam te rege beatus."

Horace, in privacy, had a life more blessed than that of a *king*.

FINIS.

LETTER

ON CORPULENCE,

Addressed to the Public

By WILLIAM BANTING.

THIRD EDITION.

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Bookseller to the Queen and H.R.H. the Prince of Wales.
1864.

PREFACE TO THE THIRD EDITION.

THE second edition of this pamphlet (consisting of 1,500 copies) being exhausted, and the result being very gratifying to my mind, in the large amount of satisfaction and benefit which I am able to report from evidence of others (*beyond my most sanguine expectations*), considering the hitherto limited circulation, I have felt impelled to publish, advertise, and sell this third edition, at cost price, which I am informed must be sixpence a copy. If this small charge, however, should yield any profit, I shall devote it to the Printers' Pension Society, or some other benevolent institution; but I have no such expectation, or would very gladly reduce the charge at starting.

The first and second editions were no very serious expense to me, scarcely three pence a copy, but the circulation of them, and the

correspondence involved, have cost me far more; yet, I saw no way of securing my motives from misconception except by gratuitously presenting the pamphlet to the public.

The truthful tale has, however, made its way into a large circle of sufferers with marvellous effect; and I can now believe the public will rather prefer to purchase the third edition at a reasonable charge than be under obligation to me for a gratuitous supply. I therefore humbly trust, and fully believe, that by this means the useful knowledge will be distributed twenty-fold to the benefit of suffering humanity, which, indeed, is my sole object.

Kensington,
December, 1863.

This letter is respectfully dedicated to the Public simply and entirely from an earnest desire to confer a benefit on my fellow creatures.

W. B.

CORPULENCE.

Of all the parasites that affect humanity I do not know of, nor can I imagine, any more distressing than that of Obesity, and, having just emerged from a very long probation in this affliction, I am desirous of circulating my humble knowledge and experience for the benefit of my fellow man, with an earnest hope it may lead to the same comfort and happiness I now feel under the extraordinary change,—which might almost be termed miraculous had it not been accomplished by the most simple common-sense means.

Obesity seems to me very little understood or properly appreciated by the faculty and the public generally, or the former would long ere

this have hit upon the cause for so lamentable a disease, and applied effective remedies, whilst the latter would have spared their injudicious indulgence in remarks and sneers, frequently painful in society, and which, even on the strongest mind, have an unhappy tendency; but I sincerely trust this humble effort at exposition may lead to a more perfect ventilation of the subject and a better feeling for the afflicted.

It would afford me infinite pleasure and satisfaction to name the author of my redemption from the calamity, as he is the only one that I have been able to find (and my search has not been sparing) who seems thoroughly up in the question; but such publicity might be construed improperly, and I have, therefore, only to offer my personal experience as the stepping-stone to public investigation, and to proceed with my narrative of facts, earnestly hoping the reader will patiently peruse and thoughtfully consider it, with forbearance for any fault of style or diction, and for any seeming presumption in publishing it.

I have felt some difficulty in deciding on

the proper and best course of action. At one time I thought the Editor of the *Lancet* would kindly publish a letter from me on the subject, but further reflection led me to doubt whether an insignificant individual would be noticed without some special introduction. In the April number of the *Cornhill Magazine* I read with much interest an article on the subject—defining tolerably well the effects, but offering no tangible remedy, or even positive solution of the problem—"What is the Cause of Obesity?" I was pleased with the article as a whole, but objected to some portions, and had prepared a letter to the Editor of that Magazine offering my experience on the subject, but again it struck me that an unknown individual like myself would have but little prospect of notice; so I finally resolved to publish and circulate this Pamphlet, with no other reason, motive, or expectation than an earnest desire to help those who happen to be afflicted as I was, for that corpulence is remediable I am well convinced, and shall be delighted if I can induce others to think so. The object I have in view impels me to enter into minute particulars

as well as general observations, and to revert to bygone years, in order to show that I have spared no pains nor expense to accomplish the great end of stopping and curing obesity.

I am now nearly 66 years of age, about 5 feet 5 inches in stature, and, in August last (1862), weighed 202 lbs., which I think it right to name, because the article in the *Cornhill Magazine* presumes that a certain stature and age should bear ordinarily a certain weight, and I am quite of that opinion. I now weigh 167 lbs., showing a diminution of something like 1 lb. per week since August, and having now very nearly attained the happy medium, I have perfect confidence that a few more weeks will fully accomplish the object for which I have laboured for the last thirty years, in vain, until it pleased Almighty Providence to direct me into the right and proper channel—the "tramway," so to speak—of happy, comfortable existence.

Few men have led a more active life—bodily or mentally—from a constitutional anxiety for regularity, precision, and order, during fifty years' business career, from which I

have now retired, so that my corpulence and subsequent obesity was not through neglect of necessary bodily activity, nor from excessive eating, drinking, or self-indulgence of any kind, except that I partook of the simple aliments of bread, milk, butter, beer, sugar, and potatoes more freely than my aged nature required, and hence, as I believe, the generation of the parasite, detrimental to comfort if not really to health.

I will not presume to descant on the bodily structural tissues, so fully canvassed in the *Cornhill Magazine*, nor how they are supported and renovated, having no mind or power to enter into those questions, which properly belong to the wise heads of the faculty. None of my family on the side of either parent had any tendency to corpulence, and from my earliest years I had an inexpressible dread of such a calamity, so, when I was between thirty and forty years of age, finding a tendency to it creeping upon me, I consulted an eminent surgeon, now long deceased,—a kind personal friend,—who recommended increased bodily exertion before my ordinary daily labours began,

and thought rowing an excellent plan. I had the command of a good, heavy, safe boat, lived near the river, and adopted it for a couple of hours in the early morning. It is true I gained muscular vigour, but with it a prodigious appetite, which I was compelled to indulge, and consequently increased in weight, until my kind old friend advised me to forsake the exercise.

He soon afterwards died, and, as the tendency to corpulence remained, I consulted other high orthodox authorities (*never any inferior adviser*), but all in vain. I have tried sea air and bathing in various localities, with much walking exercise; taken gallons of physic and liquor potassæ, advisedly and abundantly; riding on horseback; the waters and climate of Leamington many times, as well as those of Cheltenham and Harrogate frequently; have lived upon sixpence a-day, so to speak, and earned it, if bodily labour may be so construed; and have spared no trouble nor expense in consultations with the best authorities in the land, giving each and all a fair time for experiment, without any permanent remedy, as the evil still gradually increased.

I am under obligations to most of those advisers for the pains and interest they took in my case; but only to one for an effectual remedy.

When a corpulent man eats, drinks, and sleeps well, has no pain to complain of, and no particular organic disease, the judgment of able men seems paralyzed,—for I have been generally informed that corpulence is one of the natural results of increasing years; indeed, one of the ablest authorities as a physician in the land told me he had gained 1 lb. in weight every year since he attained manhood, and was not surprised at my condition, but advised more bodily exercise—vapour-baths and shampooing, in addition to the medicine given. Yet the evil still increased, and, like the parasite of barnacles on a ship, if it did not destroy the structure, it obstructed its fair, comfortable progress in the path of life.

I have been in dock, perhaps twenty times in as many years, for the reduction of this disease, and with little good effect—none lasting. Any one so afflicted is often subject to public remark, and though in conscience he may care

little about it, I am confident no man labouring under obesity can be quite insensible to the sneers and remarks of the cruel and injudicious in public assemblies, public vehicles, or the ordinary street traffic; nor to the annoyance of finding no adequate space in a public assembly if he should seek amusement or need refreshment, and therefore he naturally keeps away as much as possible from places where he is likely to be made the object of the taunts and remarks of others. I am as regardless of public remark as most men, but I have felt these difficulties and therefore avoided such circumscribed accommodation and notice, and by that means have been deprived of many advantages to health and comfort.

Although no very great size or weight, still I could not stoop to tie my shoe, so to speak, nor attend to the little offices humanity requires without considerable pain and difficulty, which only the corpulent can understand; I have been compelled to go down stairs slowly backwards, to save the jarr of increased weight upon the ancle and knee joints, and been obliged to puff and blow with every slight exertion, par-

ticularly that of going up stairs. I have spared no pains to remedy this by low living (*moderation and light food* was generally prescribed, but I had no direct bill of fare to know what was really intended), and that, consequently, brought the system into a low impoverished state, without decreasing corpulence, caused many obnoxious boils to appear, and two rather formidable carbuncles, for which I was ably operated upon *and fed into increased obesity.*

At this juncture (about three years back) Turkish baths became the fashion, and I was advised to adopt them as a remedy. With the first few I found immense benefit in power and elasticity for walking exercise; so, believing I had found the "philosopher's stone," pursued them three times a-week till I had taken fifty, then less frequently (as I began to fancy, with some reason, that so many weakened my constitution) till I had taken ninety, but never succeeded in losing more than 6 lbs. weight during the whole course, and I gave up the plan as worthless; though I have full belief in their cleansing properties, and their value in colds, rheumatism, and many other ailments.

I then fancied increasing obesity materially affected a slight umbilical rupture, if it did not cause it, and that another bodily ailment to which I had been subject was also augmented. This led me to other medical advisers, to whom I am also indebted for much kind consideration, though, unfortunately, they failed in relieving me. At last finding my sight failing and my hearing greatly impaired, I consulted in August last an eminent aural surgeon, who made light of the case, looked into my ears, sponged them internally, and blistered the outside, without the slightest benefit, neither inquiring into any of my bodily ailments, which he probably thought unnecessary, nor affording me even time to name them.

I was not at all satisfied, but on the contrary was in a worse plight than when I went to him; however he soon after left town for his annual holiday, which proved the greatest possible blessing to me, because it compelled me to seek other assistance, and, happily, I found the right man, who unhesitatingly said he believed my ailments were caused principally by corpulence, and prescribed a certain diet,—no medicine, beyond a

morning cordial as a corrective,—with immense effect and advantage both to my hearing and the decrease of my corpulency.

For the sake of argument and illustration I will presume that certain articles of ordinary diet, however beneficial in youth, are prejudicial in advanced life, like beans to a horse, whose common ordinary food is hay and corn. It may be useful food occasionally, under peculiar circumstances, but detrimental as a constancy. I will, therefore, adopt the analogy, and call such food human beans. The items from which I was advised to abstain as much as possible were:—Bread, butter, milk, sugar, beer, and potatoes, which had been the main (and, I thought, innocent) elements of my existence, or at all events they had for many years been adopted freely.

These, said my excellent adviser, contain starch and saccharine matter, tending to create fat, and should be avoided altogether. At the first blush it seemed to me that I had little left to live upon, but my kind friend soon showed me there was ample, and I was only too happy to give the plan a fair trial, and, within a very

few days, found immense benefit from it. It may better elucidate the dietary plan if I describe generally what I have sanction to take, and that man must be an extraordinary person who would desire a better table :—

For breakfast, I take four or five ounces of beef, mutton, kidneys, broiled fish, bacon, or cold meat of any kind except pork; a large cup of tea (without milk or sugar), a little biscuit, or one ounce of dry toast.

For dinner, Five or six ounces of any fish except salmon, any meat except pork, any vegetable except potato, one ounce of dry toast, fruit out of a pudding, any kind of poultry or game, and two or three glasses of good claret, sherry, or Madeira — Champagne, Port and Beer forbidden.

For tea, Two or three ounces of fruit, a rusk or two, and a cup of tea without milk or sugar.

For supper, Three or four ounces of meat or fish, similar to dinner, with a glass or two of claret.

For nightcap, if required, A tumbler of grog —(gin, whisky, or brandy, without sugar) —or a glass or two of claret or sherry.

This plan leads to an excellent night's rest, with from six to eight hours' sound sleep. The dry toast or rusk may have a table spoonful of spirit to soften it, which will prove acceptable. Perhaps I did not wholly escape starchy or saccharine matter, but scrupulously avoided those beans, such as milk, sugar, beer, butter, &c., which were known to contain them.

On rising in the morning I take a table spoonful of a special corrective cordial, which may be called the Balm of life, in a wine-glass of water, a most grateful draught, as it seems to carry away all the dregs left in the stomach after digestion, but is not aperient; then I take about 5 or 6 ounces solid and 8 of liquid for breakfast; 8 ounces of solid and 8 of liquid for dinner; 3 ounces of solid and 8 of liquid for tea; 4 ounces of solid and 6 of liquid for supper, and the grog afterwards, if I please. I am not, however, strictly limited to any quantity at either meal, so that the nature of the food is rigidly adhered to.

Experience has taught me to believe that

these human beans are the most insidious enemies man, with a tendency to corpulence in advanced life, can possess, though eminently friendly to youth. He may very prudently mount guard against such an enemy if he is not a fool to himself, and I fervently hope this truthful unvarnished tale may lead him to make a trial of my plan, which I sincerely recommend to public notice,—not with any ambitious motive, but in sincere good faith to help my fellow-creatures to obtain the marvellous blessings I have found within the short period of a few months.

I do not recommend every corpulent man to rush headlong into such a change of diet, (*certainly not*), but to act advisedly and after full consultation with a physician.

My former dietary table was bread and milk for breakfast, or a pint of tea with plenty of milk and sugar, and buttered toast; meat, beer, much bread (of which I was always very fond) and pastry for dinner, the meal of tea similar to that of breakfast, and generally a fruit tart or bread and milk for supper. I had little comfort and far less sound sleep.

It certainly appears to me that my present

dietary table is far superior to the former—more luxurious and liberal, independent of its blessed effect—but when it is proved to be more healthful, comparisons are simply ridiculous, and I can hardly imagine any man, even in sound health, would choose the former, even if it were not an enemy; but, when it is shown to be, as in my case, inimical both to health and comfort, I can hardly conceive there is any man who would not willingly avoid it. I can conscientiously assert I never lived so well as under the new plan of dietary, which I should have formerly thought a dangerous extravagant trespass upon health; I am very much better, bodily and mentally, and pleased to believe that I hold the reins of health and comfort in my own hands, and, though at sixty-five years of age, I cannot expect to remain free from some coming natural infirmity that all flesh is heir to, I cannot at the present time complain of one. It is simply miraculous, and I am thankful to Almighty Providence for directing me, through an extraordinary chance, to the care of a man who could work such a change in so short a time.

Oh! that the faculty would look deeper into and make themselves better acquainted with the crying evil of obesity—that dreadful tormenting parasite on health and comfort. Their fellow men might not descend into early premature graves, as I believe many do, from what is termed apoplexy, and certainly would not, during their sojourn on earth, endure so much bodily and consequently mental infirmity.

Corpulence, though giving no actual pain, as it appears to me, must naturally press with undue violence upon the bodily viscera, driving one part upon another, and stopping the free action of all. I am sure it did in my particular case, and the result of my experience is briefly as follows:—

I have not felt so well as now for the last twenty years.

Have suffered no inconvenience whatever in the probational remedy.

Am reduced many inches in bulk, and 35lbs. in weight in thirty-eight weeks.

Come down stairs forward naturally, with perfect ease.

Go up stairs and take ordinary exercise freely, without the slightest inconvenience.

Can perform every necessary office for myself.

The umbilical rupture is greatly ameliorated, and gives me no anxiety.

My sight is restored—my hearing improved.

My other bodily ailments are ameliorated; indeed, almost past into matter of history.

I have placed a thank-offering of £50 in the hands of my kind medical adviser for distribution amongst his favourite hospitals, after gladly paying his usual fees, and still remain under overwhelming obligations for his care and attention, which I can never hope to repay. Most thankful to Almighty Providence for mercies received, and determined to press the case into public notice as a token of gratitude.

I have the pleasure to afford, in conclusion, a satisfactory confirmation of my report, in stating that a corpulent friend of mine, who, like myself, is possessed of a generally sound constitution, was labouring under frequent

palpitations of the heart and sensations of fainting, was, at my instigation, induced to place himself in the hands of my medical adviser, with the same gradual beneficial results. He is at present under the same ordeal, and in eight weeks has profited even more largely than I did in that short period; he has lost the palpitations, and is becoming, so to speak, a new made man—thankful to me for advising, and grateful to the eminent counsellor to whom I referred him—and he looks forward with good hope to a perfect cure.

I am fully persuaded that hundreds, if not thousands, of our fellow men might profit equally by a similar course; but, constitutions not being all alike, a different course of treatment may be advisable for the removal of so tormenting an affliction.

My kind and valued medical adviser is not a doctor for obesity, but stands on the pinnacle of fame in the treatment of another malady, which, as he well knows, is frequently induced by the disease of which I am speaking, and I most sincerely trust most of my corpulent friends (and there are thousands of corpulent people

whom I dare not so rank) may be led into my tramroad. To any such I am prepared to offer the further key of knowledge by naming the man. It might seem invidious to do so now, but I shall only be too happy, if applied to by letter in good faith, or if any doubt should exist as to the correctness of this statement.

WILLIAM BANTING, Sen.,
Late of No. 27, St. James's Street, Piccadilly,
Now of No. 4. The Terrace, Kensington.

May, 1863.

ADDENDA.

HAVING exhausted the first Edition (1,000 copies) of the foregoing Pamphlet; and a period of one year having elapsed since commencing the admirable course of diet which has led to such inestimably beneficial results, and, "as I expected, and desired," having quite succeeded in attaining the happy medium of weight and bulk I had so long ineffectually sought, *which appears necessary to health at my age and stature*—I feel impelled by a sense of public duty, to offer the result of my experience in a second Edition. It has been suggested that I should have sold the Pamphlet, devoting any profit to Charity as more agreeable and useful; and I had intended to adopt such a course, but on reflection feared my motives might be mistaken; I, therefore, respectfully present this (like the first Edition) to the Public gratuitously, earnestly hoping the subject may be taken up by medical men and thoroughly ventilated.

It may (and I hope will) be, as satisfactory to the public to hear, as it is for me to state, that the first Edition has been attended with very comforting results to other sufferers from Corpulence, as the remedial system therein described was to me under that terrible disease, which was my main object in publishing my convictions on the subject. It has moreover attained a success, produced flattering compliments, and an amount of attention I could hardly have imagined possible. The pleasure and satisfaction this has afforded me, is ample compensation for the trouble and expense I have incurred, and I most sincerely trust, "as I verily believe," this second Edition will be accompanied by similar satisfactory results from a more extensive circulation. If so, it will inspirit me to circulate further Editions, whilst a corpulent person exists, requiring, as I think, this system of diet, or so long as my motives cannot be mistaken, and are thankfully appreciated.

My weight is reduced 46 lbs., and as the *very gradual reductions* which I am able to show may be interesting to many, I have great pleasure in stating them, believing they serve to demonstrate further the merit of the system pursued.

My weight on 26th August, 1862, was 202 lbs.

		lbs.		lbs.
On 7th September, it was		200,	having lost	2
27th	„	197	„	3 more.
19th October	„	193	„	4 „
9th November	„	190	„	3 „
3rd December	„	187	„	3 „
24th	„	184	„	3 „
14th Jan., 1863	„	182	„	2 „
4th February	„	180	„	2 „
25th	„	178	„	2 „
18th March	„	176	„	2 „
8th April	„	173	„	3 „
29th	„	170	„	3 „
20th May	„	167	„	3 „
10th June	„	164	„	3 „
1st July	„	161	„	3 „
22nd	„	159	„	2 „
12th August	„	157	„	2 „
26th	„	156	„	1 „
12th September	„	156	„	0 „
Total loss of weight.. ..				46 lbs.

My girth is reduced round the waist, in tailor phraseology, 12½ inches, which extent was hardly conceivable even by my own friends, or my respected medical adviser, until I put on my former clothing, over what I now wear, which

was a thoroughly convincing proof of the remarkable change. These important desiderata have been attained by the most easy and comfortable means, with but little medicine, and almost entirely by a system of diet, that formerly I should have thought dangerously generous. I am told by all who know me that my personal appearance is greatly improved, and that I seem to bear the stamp of good health; this may be a matter of opinion or friendly remark, but I can honestly assert that I feel restored in health, "bodily and mentally," appear to have more muscular power and vigour, eat and drink with a good appetite, and sleep well. All symptoms of acidity, indigestion, and heartburn (with which I was frequently tormented) have vanished. I have left off using boot hooks, and other such aids which were indispensable, but being now able to stoop with ease and freedom, are unnecessary. I have lost the feeling of *occasional faintness*, and what I think a remarkable blessing and comfort is that I have been able safely to leave off knee bandages, which I had worn *necessarily* for 20 past years, and given up a truss almost entirely; indeed I believe I might wholly discard it with safety, but am

advised to wear it at least occasionally for the present.

Since publishing my Pamphlet, I have felt constrained to send a copy of it to my former medical advisers, and to ascertain their opinions on the subject. They did not dispute or question the propriety of the system, but either dared not venture its practice upon a man of my age, or thought it too great a sacrifice of personal comfort to be generally advised or adopted, and I fancy none of them appeared to feel the fact of the misery of corpulence. One eminent physician, as I before stated, assured me that increasing weight was a necessary result of advancing years; another equally eminent to whom I had been directed by a very friendly third, who had most kindly but ineffectually failed in a remedy, added to my weight in a few weeks instead of abating the evil. These facts lead me to believe the question is not sufficiently observed or even regarded.

The great charm and comfort of the system is, that its effects are palpable within a week of trial, which creates a natural stimulus to persevere for a few weeks more, when the fact becomes established beyond question.

I only intreat all persons suffering from corpulence to make a fair trial for just one clear month, as I am well convinced, they will afterwards pursue a course which yields such extraordinary benefit, till entirely and effectually relieved, and be it remembered, by the sacrifice merely of simple, for the advantage of more generous and comforting food. The simple dietary evidently adds fuel to fire, whereas the superior and liberal seems to extinguish it.

I am delighted to be able to assert that I have proved the great merit and advantage of the system by its result in several other cases, similar to my own, and have full confidence that within the next twelve months I shall know of many more cases restored from the disease of corpulence, for I have received the kindest possible letters from many afflicted strangers and friends, as well as similar personal observations from others whom I have conversed with, and assurances from most of them that they will kindly inform me the result for my own private satisfaction. Many are practising the diet after consultation with their own medical advisers; some few have gone to mine, and others are practising upon their own convictions of the

advantages detailed in the Pamphlet, though I recommend all to act advisedly, in case their constitutions should differ. I am, however, so perfectly satisfied of the great unerring benefits of this system of diet, that I shall spare no trouble to circulate my humble experience. The amount and character of my correspondence on the subject has been strange and singular, but most satisfactory to my mind and feelings.

I am now in that happy comfortable state that I should not hesitate to indulge in any fancy in regard to diet, but if I did so should watch the consequences, and not continue any course which might add to weight or bulk and consequent discomfort.

Is not the system suggestive to artists and men of sedentary employment who cannot spare time for exercise, consequently become corpulent, and clog the little muscular action with a superabundance of fat, thus easily avoided?

Pure genuine bread may be the staff of life as it is termed. It is so, particularly in youth, but I feel certain it is more wholesome in advanced life if thoroughly toasted, as I take it. My impression is, that any starchy or saccharine matter tends to the disease of corpulence in

advanced life, and whether it be swallowed in that form or generated in the stomach, that all things tending to these elements should be avoided, of course always under sound medical authority.

WILLIAM BANTING.

CONCLUDING ADDENDA.

It is very satisfactory to me to be able to state, that I remained at the same standard of bulk and weight for several weeks after the 26th August, when I attained the happy natural medium, since which time I have varied in weight from two to three pounds, more or less. I have seldom taken the morning draught since that time, and have frequently indulged my fancy, *experimentally*, in using milk, sugar, butter, and potatoes—indeed, I may say all the forbidden articles *except beer*, in moderation, with impunity, but always as an exception, not as a rule. This deviation, however, convinces me that I hold the power of maintaining the happy medium in my own hands.

A kind friend has lately furnished me with a tabular statement in regard to weight as proportioned to stature, which, under present cir-

cumstances and the new movement, may be interesting and useful to corpulent readers :—

STATURE.			WEIGHT.				
5 feet	1	should be	8 stone	8	or	120	lbs.
5 „	2	„	9 „	0	„	126	„
5 „	3	„	9 „	7	„	133	„
5 „	4	„	9 „	10	„	136	„
5 „	5	„	10 „	2	„	142	„
5 „	6	„	10 „	5	„	145	„
5 „	7	„	10 „	8	„	148	„
5 „	8	„	11 „	1	„	155	„
5 „	9	„	11 „	8	„	162	„
5 „	10	„	12 „	1	„	169	„
5 „	11	„	12 „	6	„	174	„
6 „	0	„	12 „	10	„	178	„

This tabular statement, taken from a mean average of 2,648 healthy men, was formed and arranged for an Insurance Company by the late Dr. John Hutchinson. It answered as a pretty good standard, and insurances were regulated upon it. His calculations were made upon the volume of air passing in and out of the lungs, and this was his guide as to how far the various organs of the body were in health, and the lungs in particular. It may be viewed as some

sort of probable rule, yet only as an average,—some in health weighing more by many pounds than others. It must not be looked upon as infallible, but only as a sort of general reasonable guide to Nature's great and mighty work.

On a general view of the question I think it may be conceded that a frame of low stature was hardly intended to bear very heavy weight. Judging from this tabular statement I ought to be considerably lighter than I am at present: I shall not, however, covet or aim at such a result, nor, on the other hand, feel alarmed if I decrease a little more in weight and bulk.

I am certainly more sensitive to cold since I have lost the superabundant fat, but this is remediable by another garment, far more agreeable and satisfactory. Many of my friends have said, "Oh! you have done well so far, but take care you don't go too far." I fancy such a circumstance, with such a dietary, very unlikely, if not impossible; but feeling that I have now nearly attained the right standard of bulk and weight proportional to my stature and age (between 10 and 11 stone), I should not hesitate to partake of a fattening dietary occasionally, to preserve that happy standard, if

necessary; indeed, I am allowed to do so by my medical adviser but I shall always observe a careful watch upon myself to discover the effect, and act accordingly, so that, if I choose to spend a day or two with Dives, so to speak, I must not forget to devote the next to Lazarus.

The remedy may be as old as the hills, as I have since been told, but its application is of very recent date; and it astonishes me that such a light should have remained so long unnoticed and hidden, as not to afford a glimmer to my anxious mind in a search for it during the last twenty years, even in directions where it might have been expected to be known. I would rather presume it is a new light, than that it was purposely hidden merely because the disease of obesity was not immediately dangerous to existence, nor thought to be worthy of serious consideration. Little do the faculty imagine the misery and bitterness to life through the parasite of corpulence or obesity.

I can now confidently say that *quantity* of diet may be safely left to the natural appetite; and that it is the *quality* only, which is essential

to abate and cure corpulence. I stated the quantities of my own dietary, because it was part of a truthful report, but some correspondents have doubted whether it should be more or less in their own cases, a doubt which would be better solved by their own appetite, or medical adviser. I have heard a graphic remark by a corpulent man, which may not be inappropriately stated here, *that big houses were not formed with scanty materials.* This, however, is a poor excuse for self indulgence in improper food, or for not consulting medical authority.

The approach of corpulence is so gradual that, until it is far advanced, persons rarely become objects of attention. Many may have even congratulated themselves on their comely appearance, and have not sought advice or a remedy for what they did not consider an evil, for an evil I can say most truly it is, when in much excess, to which point it must, in my opinion arrive, unless obviated by proper means.

Many have wished to know (as future readers may) the nature of the morning draught, or where it could be obtained, but believing it would have been highly imprudent on my part to have presumed that what was proper for my

constitution was applicable to all indiscriminately, I could only refer them to a medical adviser for any aid beyond the dietary; assuring them, however, it was not a dram but of an alkaline character.

Some, I believe, would willingly submit to even a violent remedy, so that an immediate benefit could be produced; this is not the object of the treatment, as it cannot but be dangerous, in my humble opinion, to reduce a disease of this nature suddenly; they are probably then too prone to despair of success, and consider it as unalterably connected with their constitution. Many under this feeling doubtless return to their former habits, encouraged so to act by the ill-judged advice of friends who, I am persuaded (from the correspondence I have had on this most interesting subject) become unthinking accomplices in the destruction of those whom they regard and esteem.

The question of four meals a-day, and the night cap, has been abundantly and amusingly criticized. I ought perhaps to have stated as an excuse for such liberality of diet, that I breakfast between eight and nine o'clock, dine between one and two, take my slight tea meal

between five and six, sup at nine, and only take the night cap when inclination directs. My object in naming it at all was, that, as a part of a whole system, it should be known, and to show it is not forbidden to those who are advised that they need such a luxury; nor was it injurious in my case. Some have inquired whether smoking was prohibited. It was not.

It has also been remarked that such a dietary as mine was too good and expensive for a poor man, and that I had wholly lost sight of that class; but a very poor corpulent man is not so frequently met with, inasmuch as the poor cannot afford the simple inexpensive means for creating fat; but when the tendency does exist in that class, I have no doubt it can be remedied by abstinence from the forbidden articles, and a moderate indulgence in such cheap stimulants as may be recommended by a medical adviser, whom they have ample chances of consulting gratuitously.

I have a very strong feeling that gout (another terrible parasite upon humanity) might be greatly relieved, if not cured entirely, by this proper natural dietary, and sincerely hope some

person so afflicted may be induced to practice the harmless plan for three months (as I certainly would if the case were my own) to prove it; but not without advice.

My impression from the experiments I have tried on myself of late is, that saccharine matter is the great moving cause of fatty corpulence. I know that it produces in my individual case increased weight and a large amount of flatulence, and believe, that not only sugar, but all elements tending to create saccharine matter in the process of digestion, should be avoided. I apprehend it will be found in bread, butter, milk, beer, Port wine, and Champagne; I have not found starchy matter so troublesome as the saccharine, which, I think, largely increases acidity as well as fat, but, with ordinary care and observation, people will soon find what food rests easiest in the stomach, and avoid that which does not, during the probationary trial of the proposed dietary. Vegetables and ripe or stewed fruit I have found ample aperients. Failing this, medical advice should be sought.

The word "*parasite*" has been much commented upon, as inappropriate to any but a living creeping thing (of course I use the word in a

figurative sense, as a burden to the flesh), but if fat is not an insidious creeping enemy, I do not know what is. I should have equally applied the word to gout, rheumatism, dropsy, and many other diseases.

Whereas hitherto the appeals to me to know the name of my medical adviser have been very numerous, I may say hundreds, which I have gladly answered, though forming no small item of the expense incurred, and whereas the very extensive circulation expected of the third edition is likely to lead to some thousands of similar applications, I feel bound, in self-defence, to state that the medical gentleman to whom I am so deeply indebted is Mr. Harvey, Soho Square, London, whom I consulted for deafness. In the first and second editions, I thought that to give his name would appear like a puff, which I know he abhors; indeed, I should prefer not to do so now, but cannot, in justice to myself, incur further probable expense (which I fancy inevitable) besides the personal trouble, for which I cannot afford time, and, therefore, feel no hesitation to refer to him as my guarantee for the truth of the pamphlet.

One material point I should be glad to

impress on my corpulent readers—it is, to get accurately weighed at starting upon the fresh system, and continue to do so weekly or monthly, for the change will be so truly palpable by this course of examination, that it will arm them with perfect confidence in the merit and ultimate success of the plan. I deeply regret not having secured a photographic portrait of my original figure in 1862, to place in juxta position with one of my present form. It might have amused some, but certainly would have been very convincing to others, and astonishing to all that such an effect should have been so readily and speedily produced by the simple natural cause of exchanging a meagre for a generous dietary under proper advice.

I shall ever esteem it a great favour if persons relieved and cured, as I have been, will kindly let me know of it; the information will be truly gratifying to my mind. That the system is a great success, I have not a shadow of doubt from the numerous reports sent with thanks by strangers as well as friends from all parts of the kingdom; and I am truly thankful to have been the humble instrument of disseminating the blessing and experience I have attained through

able counsel and natural causes by proper perseverance.

I have now finished my task, and trust my humble efforts may prove to be good seed well sown, that will fructify and produce a large harvest of benefit to my fellow creatures. I also hope the faculty generally may be led more extensively to ventilate this question of corpulence or obesity, so that, instead of one, two, or three able practitioners, there may be as many hundreds distributed in the various parts of the United Kingdom. In such case, I am persuaded, that those diseases, like Reverence and Golden Pippins, will be very rare.

APPENDIX.

SINCE publishing the third edition of my Pamphlet, I have earnestly pressed my medical adviser to explain the reasons for so remarkable a result as I and others have experienced from the dietary system he prescribed, and I hope he may find time to do so shortly, as I believe it would be highly interesting to the Faculty and the public generally. He has promised this at his leisure.

Numerous applications having been made to me on points to which I had not alluded, in which my correspondents felt some doubt and interest, I take this opportunity of making some few corrections in my published dietary :—

I ought, "it seems," to have excepted veal, owing to its indigestible quality, as well as pork for its fattening character; also herrings and eels (owing to their oily nature), being as injurious as salmon. In respect to vegetables, not only should potatoes be prohibited, but parsnips,

beetroot, turnips, and carrots. The truth is, I seldom or ever partook of these objectionable articles myself, and did not reflect that others might do so, or that they were forbidden. Green vegetables are considered very beneficial, and I believe should be adopted at all times. I am indebted to the "Cornhill Magazine" and other journals for drawing my attention to these dietetic points. I can now also state that eggs, if not hard boiled, are unexceptionable, that cheese, if sparingly used, and plain boiled rice seem harmless.

Some doubts have been expressed in regard to the vanishing point of such a descending scale, but it is a remarkable fact that the great and most palpable diminution in weight and bulk occurs within the first forty-eight hours, the descent is then more gradual. My own experience, and that of others, assures me (if medical authority be first consulted as to the complaint) that with such slight extraneous aid as medicine can afford, nature will do her duty, and only her duty: firstly, by relieving herself of immediate pressure she will be enabled to move more freely in her own beautiful way,

and secondly, by pursuing the same course to work speedy amelioration and final cure. The vanishing point is only when the disease is stopped and the parasite annihilated.

It may interest my readers to know that I have now apparently attained the standard natural at my age (10 stone 10, or 150 lbs.), as my weight now varies only to the extent of 1lb., more or less, in the course of a month. According to Dr. Hutchinson's tables I ought to lose still more, but cannot do so without resorting to medicine; and, feeling in sound vigorous health, I am perfectly content to wait upon nature for any further change.

In my humble judgment the dietary is the principal point in the treatment of Corpulence, and it appears to me, moreover, that if properly regulated it becomes in a certain sense a medicine. The system seems to me to attack only the superfluous deposit of fat, and, as my medical friend informs me, purges the blood, rendering it more pure and healthy, strengthens the muscles and bodily viscera, and I feel quite convinced sweetens life, if it does not prolong it.

It is truly gratifying to me to be able now to add that many other of the most exalted members of the Faculty have honoured my movement in the question with their approbation.

I consider it a public duty further to state, that Mr. Harvey, whom I have named in the 43rd page as my kind medical adviser in the cure of Corpulence, is not Dr. John Harvey, who has published a Pamphlet on Corpulence assimilating with some of the features and the general aspect of mine, and which has been considered (as I learn from correspondents who have obtained it) the work of my medical friend. It is not.

I am glad, therefore, to repeat that my medical adviser was, and is still, Mr. WILLIAM HARVEY, F.R.C.S., No. 2, Soho Square, London, W.

WILLIAM BANTING.

April, 1864.

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ESTIMATION

OF

ORGANIC MATTER IN WATER,

WITH REFERENCE

ESPECIALLY TO SANITARY PURPOSES.

BY

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ESTIMATION
OF
ORGANIC MATTER IN WATER,
WITH REFERENCE
ESPECIALLY TO SANITARY PURPOSES.

Water manifestly containing organized matter is to be avoided, but it may frequently be purified by some mechanical mode of separation, such as simple straining.

If the water contains organic matter in solution, or a condition approaching in all appearance to solution, it may be wholesome or unwholesome. The mere existence of organic matter is no proof of impurity. We must know if it brings animalcules or vegetable life or products of putrefaction. We must know the *quality* as well as the quantity. If the matter is peaty, consisting of the ordinary humous class of acids and salts, the colour may be very dark and the water very unpleasant to look at without being in any way, so far as I have ever heard, injurious to health, although such water cannot be quite so wholesome as pure water, since the oxygen of solution is diminished. The taste and other sensible qualities will be the chief guides.

If the matter is wholly or nearly colourless it may still be wholesome or unwholesome. It may, for example, contain the juices of plants of a wholesome character. If these juices are fresh they may do no injury, but they will not remain long fresh; they will putrefy. Water containing organic matter ready

to putrefy ought to be avoided, as we cannot tell when the moment of danger begins, whilst the quality at best is never known to us exactly.

To ascertain the nature of the organic matter, the water is allowed to stand for a day or two, in which case it may be found that organized bodies show themselves. Sometimes plants seem completely to fill the vessel, having come out of a moderately clear solution. When standing, in this case, the water must be prevented from evaporating, and it must be in glass, so as to be exposed to light; a temperature suiting vegetation is also to be given. Animalcules may appear in great numbers; they are an indication of nitrogenous matter, and one proof of the presence of substances capable of putrefaction. It may be that some form of putrefaction will be the only result, but whether this occurs alone, or along with organized forms, an excess of organic matter is proved.

Water that will not bear the test of standing will in most cases be rejected at once. If no other can be obtained, it ought to be used before the putrefactive process has begun, but this is very dangerous. The next best method is to wait till after putrefaction has terminated and the products are separated as much as possible. This is popularly known to be the case when the water has for some time become clear and colourless and free from smell and taste.

Water with green organic matter in suspension or semi-solution is generally full of germs of living things and nauseous to the taste.

A microscope is very useful in detecting the smaller forms of life. Good water is clear and colourless, or only slightly browned by peat. Clear bright water shows no microscopic objects. It is quite a mistake to suppose that all water contains animalcules. Those who have sent abroad this saying could not have known what pure water is.

If the signs of organic matter are clear, it may not be needful to go farther, but to reject the water at once. After standing for two or three days, varying with temperature, and showing nothing to the eye except a little film of green on the bottom of the vessel, we may conclude that not much organizable matter is there. We may then proceed to the chemical examination.

Weighing the Organic Matter.

If nothing apparently organic is seen, or if there be no time to allow it to germinate, we may try the following method. About half a gallon is boiled down in a platinum vessel, or it may be boiled in porcelain and transferred with care, when only a few ounces are left, to a platinum, or even to a small porcelain capsule. The residue is dried and weighed. It is then burnt so as to oxidize the carbon, and weighed again; the difference gives the organic and volatile matter of the residue. 212° F., or 100° cent., is not sufficient to remove all water, but as it is a temperature so easily obtained it is convenient to consider it enough, especially as we cannot obtain the organic matter by weighing with absolute exactness. We may obtain an excess of water by the use of 212°, on one side, but again organic matter begins to be given off from some residues even at that temperature. Professor Miller and others advise about 300° F.; it is at any rate well to state the temperature in the account of the analysis.

The burning must not be effected at a very high heat or several salts will be decomposed or evaporated; but at best some will suffer, and the use of a little carbonic acid and water, or carbonate of ammonia, to restore the lost amount is advisable. A little distilled water and a few expirations into it through a glass tube will be sufficient for most

cases; of course after this the ash must be heated again.

Professor Miller advises the addition of 0·3 grammes of carbonate of soda to a litre of water, or 20 to 25 grains to a gallon, making allowances in the weighing.

Use of Permanganate of Potash, or Chameleon.

It must be remembered that the amount of organic matter obtained in the above way may be equal to several grains in a gallon, and yet be quite innocent; for example, it may be a little peaty matter. One method of trying the quality is given above; another of a very convenient kind is by the use of permanganate of potash, or mineral chameleon. It will here be called chameleon, as the former term is very long. It is very highly coloured, and its decomposition is known by the disappearance of the colour.

Chameleon is decomposed by putrid organic matter, and by several unwholesome gases, rapidly or instantaneously. It is decomposed by fresh organic matter, and especially organized matter, less rapidly. The putrid portion may be estimated readily; the latter is more uncertain.

In using this test, it is well to take not less than 5,000 grains of the water, or still better 1000 grammes, *i.e.* one litre, but if a small specimen only can be obtained, then 1000 grains may be used, and it is well always to give the figures for 1000 for uniformity, or by multiplying by 70 to change them into the amount per gallon. Grains or grammes may be used indifferently, the solution being made to contain simply so much in 1000.

A convenient plan is to use 2 grains of the pure crystallized chameleon to 1000 of water. This of course is the same as 2 grammes to a litre of water.

The chameleon is poured conveniently from a Mohr's burette, or better still, when the water is

very pure, from a dropping tube in which 1 c. c. (cubic centimetre) is 6 to 8 inches long. Add a drop of the chameleon, and wait till the colour disappears; add another, and so on till the colour remains permanent. We learn by experience. The organic matter which decomposes the chameleon in a minute or two must be noted carefully, but generally there is a greater quantity which decomposes very slowly; the result obtained from the latter is, I believe, of less value. By decomposing in a minute or two, it is meant that when a few drops are added producing a slight colour, this undergoes a change in a minute or two. But generally considerable permanency is obtained in 10 or 15 minutes; then the slow decomposition begins, of quite another quality of organic matter requiring hours or even days. This matter must be estimated either by the weighing process described, or by the farther action of the chameleon to be described. The amount decomposed instantly is a true measure of the putridity, it is believed. If there is very much organic matter, it is often very difficult to know when to stop, as the brown masks the red colour. But this must not bring discouragement, as experience will teach exactness, and if it does not, it then will be no great loss in such cases, in a sanitary point of view, as in them there is decidedly too much organic matter, and the water may be condemned. From the same point of view, it is of less consequence whether the amount be a minute quantity more or less. It is well to make broad lines of distinction, and to condemn freely when there is rational hope of obtaining a purer water.

The amount of available oxygen in 1 of the solutions of chameleon described is 0·0005, which may be either grammes or grains, or almost exactly 1 of oxygen in 2000 of the solution. If we wish to know the amount of oxygen used, we simply divide the amount of chameleon by 2000. It is probable that

the use of the oxygen column is the only exact method of recording the results, and it is probable that the amount of oxygen required is the only exact measure of the impurity of the substances. We obtain in this number the amount of oxygen which is required for purification.

Whilst looking over this plan in manuscript, I received Dr. Miller's paper, proposing also to use oxygen; he prefers a solution of chameleon, containing 3·95 grains, equal to 1 grain of available oxygen to 10,000 of water, or 1 cub. cent. = 0·001 gramme, or say 1 milligramme of oxygen. This is a very convenient method, but it has been thought proper to keep the tables as given for various reasons, chiefly arising from this, that it has not been found so convenient to keep or to titre a very weak solution. In some cases a very strong solution is required; we can easily dilute it, but we cannot concentrate it readily. After estimating its strength, we dilute it (if we require a weak solution) to any amount we think proper, and as the strength changes, the amount of water to be added will also change. If the amount of oxygen is given as the result of the analysis instead of the amount of chameleon solution, the strength of the latter does not require to be kept uniform. The analyst requires only to know its strength at the time of using it. For very bad water, the strong solution may be used, and when greater delicacy is wanted it may be diluted. The weak solution here used is made by adding 9 of water to 1 of the strong solution.

To make the chameleon solution very pure water must be employed, and very pure crystals as well as very pure vessels; it is better kept in considerable quantities such as a quart or two. It must be tried occasionally, say every month in a cool climate: calculation must be made as allowance for any change which it may undergo. For example, if it has lost

1 per cent., we must calculate how much the number would have been had there been no loss of strength. If calculation is not agreeable, a less quantity of solution may be made at a time, and that which is over may be thrown away, a fresh amount being made to the normal strength whenever the original weakens, or a certain amount of the crystals may be weighed and added to the solution; but this has been found less convenient.

The estimation of the value of the chameleon is sometimes made with a solution of chloride of iron, sometimes oxalic acid. For ready reference, a table is made showing the amount of a solution of iron which corresponds to a certain amount of chameleon. The sulphate of ammonia and iron has proved to be very valuable, keeping for several years in crystals, and acting instantaneously. The writer has not found oxalic acid equally sharp and quick, but eminent chemists use it—Mohr and Miller for example.

VALUES OF THE STRONG SOLUTION.

Permanganate of pot. or chameleon 2 grammes in 1,000 c.c.	Oxygen.	Ferrum.	$FeO,SO_3 + NH_4O,SO_3 + 6$ Aq.	KO,Mn_2O_7.
c.c.	gr.	gr.	gr.	gr.
1	0·000500	0·0035	0·0247	0·002
2	0·001000	0·0070	0·0494	0·004
3	0·001500	0·0106	0·0742	0·006
4	0·002000	0·0141	0·0989	0·008
5	0·002500	0·0176	0·1237	0·010
6	0·003000	0·0212	0·1484	0·012
7	0·003500	0·0247	0·1732	0·014
8	0·004000	0·0282	0·1979	0·016
9	0·004500	0·0318	0·2227	0·018
10	0·005000	0·03535	0·2474	0·020
100	0·050600	0·3535	2·4747	0·200
1,000	0·506300	3·5353	24·747	2·000

The numbers in the above table run in the following proportions nearly:—

Chameleon solution.	Oxygen.	Iron.	Sulphate of iron and ammonia.	KO,Mn_2O_7 Crystals.
2,000	1	7	49	4

It is convenient to use six figures of decimals, as they may also be read as whole numbers, meaning so much in a million.

VALUES OF THE WEAK SOLUTION.

Permanganate of potash or chameleon solution. 0·2 grammes in 1,000 c.c.	Oxygen.	Iron *Fe.*	$FeO,SO_3 + NH_4O,SO_3 + 6$ Aq.	KO,Mn_2O_7.
c.c.	grm.	grm.	grm.	grm.
1	0·000050	0·00035	0·00247	0·0002
2	0·000100	0·00070	0·00494	0·0004
3	0·000150	0·00106	0·00742	0·0006
4	0·000200	0·00141	0·00989	0·0008
5	0·000250	0·00176	0·01237	0·0010
6	0·000300	0·00212	0·01484	0·0012
7	0·000350	0·00247	0·01732	0·0014
8	0·000400	0·00282	0·01979	0·0016
9	0·000450	0·00318	0·02227	0·0018
10	0·000500	0·003535	0·02474	0·0020
100	0·005060	0·03535	0·24747	0·0200
1,000	0·050630	0·35353	2·47470	0·2000

In the oxygen column 6 and 3 may be left out. The first and under might be called the first quality of water; from 0·1 to 0·2, the second; 1 would be the 10th.

It is considered better to acidify the water before adding the permanganate; this is done by adding three drops or water-grain measures of sulphuric acid to 1,000 grains; some water will demand more; the object is to attain acidity equal to about 3 drops of sulphuric acid in 1,000 grains of distilled water. I find Dr. Miller says 50 grains of sulphuric acid of 1 of acid to 3 of water, added to 8 ounces of water. Acid enables the oxygen to act on more matter and more rapidly, and the calculations are made on the supposition that acid is used; the proportions from different waters are not much changed by acid. Alkalies prevent the action although they may prepare some of the matter to be more readily oxidized; when the colour has been difficult to see, the chameleon has been used with alkali instead of acid, in which case a green colour is obtained, which is more easily recognized in many cases and serves as a corroboration.

As an example of waters, No. 1 was ditch water, not clear; No. 2 was greenish; No. 3 was very green—horse-pond water. Treated with chameleon strong solution the results were,—

	Alone.	With SO_3.	With KO.	With KO first, then acidified.
1st.	0·4	1·0	0·2	1·0 c.c.
2nd.	2·1	4·4	1·0	4·4 „
3rd.	4·0	11·0	2·4	10·4 „

Manchester water decolorized 0·2 c.c. per litre to 0·05 at most, when 1,000 grains were used. The above numbers are cubic centimetres. If grains were used they would appear 15·4 times greater; referring to the table the amount of oxygen will be,—

For Manchester water with acid 0·000025 oxygen.
For 1st of the above - - 0·000500 „
„ 2nd „ - - 0·002200 „
„ 3rd „ - - 0·005500 „

Let us call the Manchester water 1, we have then—

1st water - - -	20
2nd „ - - -	88
3rd „ - - -	220

which are abundant differences, although greater than will generally occur, as the waters were unquestionably bad.

If the weak solution were used, we should have in the above,—

	Cub. Cent.		Grains used	
Water.	Alone.	With SO_3.	Alone.	With SO_3.
1st.	4·0	10·	61·7	154·3
2nd.	21·	44·	324·	679·
3rd.	40·	110·	617·	1697·

The numbers expressed in grains seem inconveniently high. This solution is too weak for very bad water. The amount of chameleon used ought to bear a very small proportion to the total water tested.

The oxygen column would of course be the same with both solutions. For the Manchester water it is 25 one-millionths of a grain if we use grains, of a gramme if we use grammes. It is calculated for an experiment with 1,000 grains of water or 1,000 grammes indifferently.

The Manchester water is an instance of very good water. It is believed that it is not necessary to seek a lower number than that here given, but each can use the solutions as he pleases. Care must be taken that protosalts of iron are not present. They decompose chameleon, and must be estimated; the amount which they decompose must be subtracted from the chameleon solution in estimating the organic matter.

Dr. Letheby informs me that he allows the water to stand with the permanganate for 24 hours, and that by multiplying the amount of oxygen consumed in this method by 8, he obtains very closely the amount of organic matter which is given by weighing. This may be found very convenient. It does not apply to the numbers here given for chameleon, as they are found rapidly. Let us take an example:—Water No. 3; multiplication of oxygen by 70 brings into grains per gallon, by 8 into grains of organic matter per gallon, $0{\cdot}0055 \times 70 \times 8 = 3{\cdot}08$ grains in a gallon; but had this water been allowed to stand with chameleon for 24 hours, the amount decomposed would have been greater, and the multiplication by 70×8 would have given a higher number than 3·08, which is decidedly too low for such bad water. (The exact quantity was not found.) It is well to estimate the slowly decomposing matter, and if not done by weighing, it may be done as Dr. Letheby does it, or thus; when the rapid destruction of the chameleon ceases, add a measured excess, let it stand 24 hours, and estimate next day by the iron solution the amount decomposed. The reasons are already given for believing that this slowly decomposing matter may be entirely innocent, and I have therefore looked on its estimation as only auxiliary. It is, however, valuable as indicating the amount of matter capable of becoming putrid, and the amount of time during which the water is capable of doing evil, supposing a certain amount of the impurity to be removed in a putrid state daily.

The water ought to be tried in the condition in which it is to be used; thus if it is to be kept before using, it should be kept before testing. If done both before and after keeping, the progress of putrefaction or of purification, as the case may be, will be observed.

As an example I may give the numbers obtained by examining an impure water lately sent to me. It contains—

	Chameleon Solution Strong. Pts. to 1000.		Amount of Oxygen.
Putrid matter, decomposing chameleon *instantly* without acid - -	5·5		·002750
Matter readily putrefying, or decomposing chameleon rapidly with acid, 10·5; of this 5·5 are decomposed without acid, leaving - -	5·0	10·5	·002500
			·005250
Matter capable of putrefying, shewn by additional amount after 24 hours - - -	40·62		·020310

For immediate purposes, the most important number is 10·5, obtained in less than half an hour. For prospective purposes, the important number is 40·62, obtained in 24 hours. This is a very putrid water. The difference between 25 of oxygen in a million, as in Manchester water, and 20,000 in a million as here, is great. The figures are written as fractions to show their relation to the chameleon, but are better read as whole numbers.*

To test the Solutions.

3·535 grains of pure iron dissolved in pure muriatic acid will decolorise 1,000 grains of the permanganate. As this salt, the protochloride of iron, does not keep well, it is better to have crystals of the sulphate of

* 0·001 per litre is converted into grains per gallon by multiplying by 70; ex. gr. 0·001 × 70 = 0·07 grains per gallon.

ammonia and iron, and to dissolve a weighed amount when required. The table shows how much permanganate is equal to a given amount of iron and of this salt.

THE ORIGIN OF THE ORGANIC MATTER.

It is remarkable what a clear insight is given into the quality of water by simply boiling down a few thousand grains and burning the residue. We can by the eye and the smell detect humous or peaty acids, nitrogenous organic substances and nitrates, and estimate their amount to a very useful point of accuracy. There may be times when this is the only experiment that can be made. After doing this and trying other methods many hundred times, I still return to it as delicate and little liable to fail. The want of numerical results is a serious objection, rendering the plan unfit for use when public reports are to be made of the analyses, but it is an excellent guide for the chemist in his laboratory. We may even decide by it the animal or vegetable origin of the matter.

Does the organic matter come from animals or vegetables?

This is a question of interest and importance. The elements in both animals and vegetables are the same, and even the proximate principles are not to be distinguished at least in a state of partial decomposition as found in water. It is proposed to use the presence of the chlorides, and especially of common salt, as a guide which will be found nearly certain in some cases, and with proper precautions in others, quite certain.

We consume not less than 100 grains a day, or about 6 grammes of common salt; some give the amount much higher. This salt is daily given out.

From all animals there is a large outflow of salt. Their blood contains it largely; it is a necessity of their existence. Salt is the constant and indestructible accompaniment of the animal, living or decomposing after death. If much salt is found in water containing organic matter, nitric acid will generally be found also, and if not nitric acid, animal matter unoxidized, or both. In the case of dead animals organic matter is destroyed or retained in the soil, phosphates and other inorganic substances are also retained, the salt is gradually removed by water.

Pure spring or river water gives only a slight precipitate with nitrate of silver, which appears of a blueish tinge, not being dense enough to become white. (There must be a slight excess of pure nitric acid when testing for the chlorine.) When there is more than this slight precipitate, nitric acid is generally found, especially if the water has passed through porous materials.

These tests must be used and the inferences drawn with great discretion. We know that near the sea there may be found a certain amount of chlorides in the springs, rising according to circumstances, until the water becomes brine. The same thing occurs near great deposits of salt, such as in Cheshire and elsewhere. There are also saline wells scattered over most countries, the origin of whose chlorides is quite unknown to us. There is in the rain driven violently from the sea an amount of common salt sufficient on crystallizing to dim the windows of houses many miles inland. In manufacturing towns where coal is burnt, the rain contains more chlorides than rain in the country. Many large districts of tropical countries contain nitrates and common salt in the soil; but these salts in all probability result from oxidized animal matter. Chlorides are found in some districts

in this country rather in excess of the average from superficial causes. But notwithstanding all these exceptions, which appear for the moment numerous, I must still consider that the test is one which may be generally used.

In England it is almost universally the case that the presence of much chlorine in drainage water indicates drainage from animal matter, and no water containing chlorides to a great extent ought to be used without careful examination as to the source. One grain per gallon is too much, and is, in many places, to be suspected of being caused by impure drainage. Of course we must in this case, as in all inquiries, be careful that no disturbing causes intervene. In this country chlorides may be given out from manufactories in which are constantly made chemical experiments sufficiently large to interfere with our accuracy if we are not very careful.

Sewage contains chlorides, and the amount is the most certain mode of ascertaining the quantity of real sewage which is or has been present. In small sewer rivers the amount of sewage may be ascertained in this way when there are no manufactures giving out chlorides.

It may be supposed here that I am adding many qualifications, but the same may be done in the case of nearly all experiments. No experiment is of value unless it is viewed on all sides to prevent the admission of errors, and I do not know that more care is required in this case than in general. In the case of chlorides we learn readily the average amount in a district, either in the rain or the drainage, and we detect the smallest increase. Any amount of common salt above the average of the district obtained in a well in a city or camp or near habitations of men or animals, is an almost certain proof of impure drainage; when the clue has been followed up, I have found

the origin in a sewer or some such spot, times without number and for many years. The presence of the sea or of manufactories or of disturbed strata with mineral waters, will seldom, after all, cause any error with a careful person.

Nitrates are very common in small quantities. They are found in water from manured land, in gardens, wells near houses, and, as a consequence, in nearly all town wells; in great abundance near church-yards, if the drainage is direct. They are not necessarily found in sewage which has not flowed through strata. The amount from atmospheric sources is so minute that it will not interfere with any inquiry regarding the wholesomeness of water at present.

Although caution must be exercised in drawing conclusions from the presence of the chlorides, their absence may be held as conclusive against the presence of decomposed animal matter and excretions of animals in large quantities.

If chlorides and nitrates are found together in water we may take it for granted that animal matter has existed there or does exist in the water. Of course a very rigid scientific inquiry says at once that vegetable matter may be present, especially from grain or seeds, but practically this need not affect the question, especially in a sanitary point of view, because if this accumulation of vegetable matter occurred capable of giving as much nitrogen as animal matter, it would be sufficiently and, perhaps, equally hurtful when putrid.

If chlorides and nitrates are found in water still capable of decomposing chameleon, the presence of animal matter, or injurious gases or nitrites, may be assumed, a part only being oxidized.

If the chlorides and nitrates are present, but the power of decomposing chameleon absent, then the

animal matter has disappeared; but whether minutes or ages before is not shown by chemistry.

If the permanganate or chameleon is decomposed, whilst the chlorides exist in their normal quantity and nitrites and nitrates are absent, we may assume that vegetable matter is present and not animal matter.

If the chameleon is decomposed instantly, the matter is in a decomposed state and proportionately dangerous at the time.

If the chameleon decomposes slowly, the matter is nearly or entirely fresh, and may not be dangerous at the moment, but may soon become so. To find this the trial by standing may be made.

The decomposition of the chameleon may be caused by the organic matter present or by nitrites. The presence of nitrites or nitrous acid will show if the organic matter is only recently oxidized.

Generally there may be found organic matter and nitrites together, shewing that some is oxidized and some ready to become so.

Schönbein has found traces of nitrous acid in the efflorescence of walls. In judging of the time we must make allowance for this, and not judge from small traces such as he alludes to.

When nitrites and organic matter are found together, they may be estimated separately. The chameleon will be decomposed by both. 158 of chameleon solid is equivalent to 95 of nitrous acid, or 1,000 = 601. It will be necessary to find one of the substances separately, and to subtract it from the whole, in order to find the amount of the second.

The amount of nitrous salts may be found by using ozone paper, that is, paper with iodide of potassium and starch. The water to be tried is made acid with a little dilute sulphuric acid not more than three drops to 1000, and a drop put upon the paper. If nitrous acid is present it becomes blue. This

blue is obtained immediately, by putting a drop of the solution on ozone paper when there is 1 of NO_3 in 30,000 of water, and by waiting patiently, and giving time, it may be seen with much less.

In order to find how much nitrite is in water, the solution may be diluted until the reaction ceases to be distinct even after waiting. The amount in the water will then be 1 in 100,000. If, in another case, when we find the reaction distinct in water, we take 100 grains and add 900 to it, and find it beginning to be indistinct, the undiluted quantity must have been 10 times stronger than the diluted. The amount in the 1,000 grains is 1 in 100,000; the amount in the 100 grains is 10 times greater, or 1 in 10,000, and thus we may arrive sufficiently near to the total amount. The amount of water added in order to bring the reaction to the adopted minimum is the measure of the strength of the solution.

A test like this depends partly on the eye and partly on the delicacy of the test paper. The same result will be attained if the same eye and tests are regularly used.

The method of testing with paper is not so refined as the use of a larger amount of water, say 1000 grains; with this amount, the presence of 1 of NO_3 in 3¼ million of water may be detected on adding starch and iodide of potassium: 3 drops of sulphuric acid are also added to the 1000 grains, *i. e.* 3 grains by measure. If no nitrous acid is present, no blue colour will be seen with this amount. If nitrous acid is present, the colour will begin in a few seconds. Some may prefer one way and some the other.

The methods given of estimating the amount of nitrous acid are minimetric, proceeding by dilution instead of concentration. The value with gases is better known than in liquids, but it is believed that

it will be sufficiently exact with the latter in cases where pure scientific accuracy is not attainable and not necessary, and where it is important to save time, labour, expense and patience.

Suppose we find that a specimen of water contains 0·001 gramme of nitrous acid in 1000 grm., or in the quantity used, we find by calculation that this is equal to 0·000421 of oxygen, or as the table shows, to 0·842 of the solution of chameleon used.

Now suppose 1000 of the water decolorise 5 of chameleon, we must subtract from 5 the amount which would be due to the NO_3, 5·0—0·842=4·158, which then is the amount in c.c. of chameleon solution decomposed by the organic matter. 1 of NO^3 requires 0·421 of O to become NO_5.

0·001 of nitrous acid = 0·000421 of oxygen,
or 0·001684 solid chameleon,
or 0·842 of the solution of chameleon of ·2 in 1,000.

It will be seen that if we find the amount of O to which NO_3 is equal, we require only to multiply by 2000 to obtain the amount of solution of chameleon. But we may do it still more easily by simply multiplying the amount of NO_3 obtained by 842 as a whole number. This gives the amount of chameleon solution to which it is equal.

The estimation of both is interesting, but it is much more important to obtain the total chameleon used, as the presence of NO_3 must be considered a great objection to water, partly on its own account, and partly because of its origin.

It is to be observed that water containing much animal matter becomes extremely acid. It is a common thing to find water extremely clear with no apparent organic matter, even on standing, also extremely acid and retaining nitrates. I have found

it so filled that it appeared to flow less readily than pure water, and had a most nauseous taste. It was close to a churchyard, and was considered excellent water. This perversion of taste is difficult to understand, but it must be combatted; it is not natural and causes illness and death. This acid water is an excellent solvent of metals, and if lead is present the solution becomes rapidly so strong as to taste of the metal. This acidity in conjunction with nitrates does not, so far as I know, exist when the organic matter is very old, probably because the organic acid is oxidized. Some of it, probably all, is caused by the formation of organic acids. Similar organic, and entirely colourless solutions, acid, but free from nitric acid, may be found by allowing peaty water to stand without evaporation, but in contact with air, for some years.

In the nitrous waters no organic matter will be apparent on burning unless there is more than the acid can oxidize. A very white ash is, therefore, a suspicious circumstance, and unless the matter is extremely free of organic matter this white ash is a certain indication of nitric acid. If there is a great deal the ash melts readily. By white is meant white as soon as it is incinerated.

These acid nitrous waters contain phosphates generally. Phosphate of lime, or even alumina and iron, may be precipitated from them by ammonia, if they are direct from animal matter, and have not passed through porous matter sufficient to deprive them of some of the less soluble substances.

There are many interesting questions to be asked regarding nitrates. I am inclined to think that their presence shows that the most dangerous state of the organic matter is past. When they appear in any solution the chief escape of putrid gas seems to have ceased; the water may, however, be still dangerous

to use, and of course is revolting to the imagination. It will be well to examine how far these suspicions are correct. When complete nitrification has occurred, all that class of evils arising from organic matter direct are prevented.

This paper was written for a special purpose, and does not pretend to say all that may be said regarding organic matter in water. As to the purification there are many points to be observed. It has been generally held that nitric acid is the ultimate form which nitrogenous substances of organic origin assumed, but we must remember that plants have the power of decomposing nitrates, and of using the nitrogen for their own purposes. There are conditions, therefore, in which the organic matter may be entirely removed from water, and when we remember how readily soils absorb phosphates and potash we easily see why common salt should chiefly be left. The oxygen of the nitrates may even be used for the purification of water, whilst the earthy salts and phosphoric acid are precipitated. This operation of decomposing the nitrates seems to be the final one which is at hand for purifying water, and probably explains the marvellous results we frequently see. This decomposition is performed by living plants apparently, but some observations seem to indicate that the effect may be produced by the organic dead matter in water. The nitrites found in plants by Schönbein may possibly have been formed from the nitrates by deoxidation.

The exact length of these processes in nature is not yet found, but it may be remarked that in any case it is well not to depend on such purification being manageable in our hands. Nature purifies best very slowly and in darkness, and although the chlorides are not removed they are rendered palatable when the water is highly charged with car-

bonic acid, which acid takes the place perhaps of previous carbonaceous impurities. Allowing however for all the power which the filtration into deep soil may produce, it still remains true that the most agreeable of all water is that which has fallen from the clouds on a not very impure surface, and been afterwards elaborated by oxidation in porous strata. If we follow this out we shall find that water poured on the ground very impure may be taken out of wells at some distance, absolutely pure from all trace of its origin, the chlorides and some alkaline sulphate but chiefly common salt excepted. The amount of sewage which a district will bear without allowing the wells to be tinged is a matter easily ascertained. I do not generally look for ammoniacal salts as an indication of organic matter; they may occasionally be examined with profit. If I gave my reasons for paying them less attention, I fear I should arrive at other points and find it difficult to cease. Professor Way has shown the absorptive power of the soil for ammonia, potash, and other substances accompanying organic matter.

The whole resolves itself, therefore, into the following:—

Allow the water to stand a little, to see if vegetation or putrefaction is developed, so as to be able to describe the quality of the organic matter.

Boil down some of the water, and burn the ash, to obtain a general idea of the nature of the organic matter, smell of burning, and appearance of ash.

Weigh (in some cases) before and after burning to obtain the amount of combustible and volatile matter.

Test with chameleon of the strength of 2 to 1000, using a large quantity of water if convenient, but giving the amount for 1000 or for a gallon.

Give the amount of chameleon decomposed without acid, and the amount decomposed with a few

drops of acid added to the water, noting rapid and slow action and the oxygen used.

Look for chlorides and nitrates. The chlorides, with proper regard to circumstances, indicating animal matter. Nitrates do not seem to be found without chlorides.

Estimate the amount of nitrous acid. If there is much, it indicates recent organic matter or oxidation going on. If the organic matter is recent some may be found unoxidized, or the source of it may be sought. Seek acidity and phosphates.

By this means we obtain, in some cases with certainty, in some with probability,

1st. The *organic matter decomposed or putrid*, or at least certain gases which it has left behind capable of decomposing permanganate.

2nd. *Organic matter readily decomposed* and probably ready to become putrid.

3rd. *Organic matter slow to decompose*, but still, in many cases, capable of becoming putrid.

4th. From the nitrites, *recent organic matter.*

5th. From the nitrates, *old organic matter.*

6th. *Vegetable organic matter.*

7th. *Animal organic matter.*

In most, if not in all cases, the nitrites and nitrates may receive the above characters. The amount of organic matter cannot be estimated from the nitrates, but we may from them estimate the minimum easily.

These short notes of views are given as the experience gained in this country. A larger field of observation may show them to fail.

Seeing nothing better at present, we may believe that water of which 1000 take 50 one-millionths (0·000050) of oxygen from chameleon, is sufficiently free from organic decomposing matter. We cannot tell what is the least amount which renders water unfit for use, but 0·005 of oxygen, which may be

read 5000 times a millionth part or 5000 millionths, prove water to be extremely bad. The water which took this latter amount was impure to the eye. Between 50 and 5,000 we have 100 stages. We may call all below 50 No. 1, or first-class water, from 50 to 100 second-class, and so on with every 50. It is probable that the first twenty will be the only numbers actually required, as the sight may determine the others.

Experience will show if it is necessary to divide the first class into two parts, such as 1A and 1B; it will not be necessary with the others.

The nitrites may be considered as hurtful as organic matter until their effect is better known. Their presence is suspicious and their company bad.

It would be safe to treat the nitrates in the same manner, until more information concerning their effects is obtained.

I cannot doubt at present that the organic matter when thoroughly nitrated is deprived of most of its evil qualities; for example, it can no longer affect the atmosphere, and it cannot act like putrid matter when used with food. The actual objection in a physiological point of view must be considered by medical men. My own objections are, that a very little nitrate renders the water vapid, and that the imagination revolts from it because of its origin. I believe there are other actual objections, but leave it to others to prove them. Some information concerning their presence in the waters of India would be valuable.

APPENDIX.

Abridged Form of Report with French Measures.

When there is plenty of water take 1000 grammes or a litre, and use the strong chameleon first. If too strong use the weak.

	Chameleon c. c.	Oxygen.	
Putrid matter - -	1·1	0·000550	or 550 in a million.
Decaying readily 2·5—1·1 =	1·4	0·000700	700 „ „
Total after 24 hours -	6·0	0·003000	3000 „ „

If nitrous acid is present the first line may be divided into two parts. Suppose this acid took 0·5 of chameleon:—

Nitrous acid - - - -	0·5
Putrid matter - - - -	0·6
Putrid and instantly decomposed.	1·1

Amount of chlorides and nitrates considerable, and not found in surrounding water. Animal matter probable in certain water: after standing smells putrid: or otherwise.

Amount of vegetable or animalcular life developed.

Abridged Method of Procedure with Grain Measures.

Take 10,000 or more grains, if the water is not very bad:—

	Chameleon in grains.	Per 1000.	Oxygen.
Putrid matter - -	11	1·1	0·000550
Decaying readily 25—11 =	14	1·4	0·000700
After 24 hours - -	60	6·	0·003000

For the total quantity add, say, 10 cub. c. to the litre, and let it stand 24 hours. 10 c. c. of chameleon would be decolorized by 247 parts of a solution of sulphate of ammonia and iron of 1 to 1000. If after standing 24 hours with the water the 10 c.c. are decolorized by 150 parts, then we say 247 : 10 :: 97 : 3·93; then 3·93 is the amount, and this is equal to oxygen 3 = 0·001500

·9 = 0·000450

·03 = 0·000015

0·001965

The same if grains are used.

Apparatus.

The apparatus ought to be wholly in grains or wholly in French measures, when persons are not very familiar with both. A convenient set will be:—

A litre measure.

A bottle containing more than a litre, in which the experiment is performed, and the water shaken when required.

A Mohr's burette of narrow bore and fine graduation.

A dropping tube with tenths of a cubic centimetre at least half an inch long clearly marked.

Pure crystallized permanganate of potash.

Pure sulphate of iron and ammonia.

REQUISITIONS

OF THE

NAVAL MEDICAL OFFICERS,

BASED ON THE PRINCIPLE OF EQUALITY WITH THE ARMY.

BY

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"It often falls in course of common life,
That right longtime is overborne of wrong."—*Spenser.*

SECOND EDITION.

Third Thousand.

LONDON:

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1865.

CONTENTS.

OPINIONS OF THE PRESS.

"This pamphlet is a very valuable one, and has evidently been written with great care." "The subject is of great importance."

"United, the so-called civil branch of the service is a power; divided, its strength is frittered away."

"We think it greatly to be regretted that the different classes of the so-called civil branch weakens their cause by not contending on the broad principles in which the classes unite."—*United Service Gazette*, June 10th, 1865.

"The evil is a crying one, and must be dealt with, unless their Lordships are content to commit once more the charge of the health of our seamen and marines to people of the type which was supposed to have disappeared from the navy even before the conclusion of our great war with France."

"We must look further for the causes which have been at work to bring about so unhealthy a state of matters, and we despair of seeing any wholesome change until either the First Lord or Parliament consent to deal with the evil."—*Army and Navy Gazette*, June 17th, 1865.

"The time has certainly arrived when, if the Admiralty are unconcerned at the dearth of medical officers, some superior authority in the State may justly, for the good of the public service, enter on the inquiry into the causes of this paralysing discontent."—*Lancet*, June 10th, 1865.

"We feel that our naval brethren may safely rest their claims for redress on the statement thus advanced."—*Medical Times and Gazette*, June 24th, 1865.

"We sincerely recommend Dr. Brown's admirable and forcible exposition to the consideration of the profession."—*British Medical Journal*, June 24th, 1865.

PREFACE

TO THE SECOND EDITION.

In submitting a second edition to the public, I think it well to state that the pamphlet has met with the cordial approbation of the medical profession.

The authorities of the Universities and Colleges are in accord with the humblest member of the profession on the question that I strenuously advocate; and the naval surgeons, supported by their army brethren, feel grateful for the sympathy evinced towards them.

The opinions of the press now quoted show that the public are not unconcerned spectators of the struggle of right against wrong, by which longtime it has been "overborne."

Encouraged to persevere in the course that I have entered upon, I proceed to notice certain statements that have been made in Parliament touching the subject-matter of this pamphlet.

The Secretary to the Admiralty asserts that scarcity of assistant-surgeons is the normal condition of the Royal Navy, and that surgeons of junior standing are purposely employed in the place of assistant-surgeons that they (the surgeons) may be prevented from leaving the service.*

* See the 'Times' for the 24th June, reporting the speech of the Secretary in the House of Commons on the 23rd.

Navy Surgeons.—Sir J. Pakington (for Colonel Dunne) asked the

Doubtless the Honourable Secretary is in some degree correct in this statement; but since there are several mis-statements in his speech, I purpose to examine the same *seriatim*, responding to the statements collaterally.

The Secretary's Statements.	*Replies.*
"The Admiralty certainly is not in great want of assistant-surgeons."	I believe that I can show facts contrariwise.
"There is always more or less difficulty in keeping the places of assistant-surgeons filled, there being so much employment for them elsewhere."	This is a statement showing that the naval service is not popular among the juniors of the medical profession seeking employment.
"The Admiralty did not think it necessary to take any steps for giving additional facilities for assistant-surgeons entering the service."	Since it is rumoured that assistant-surgeons have been admitted recently, without being tested by the ordinary Naval Board of three examiners, apprehension is felt that the Admiralty *do contemplate* reducing the stringency of the present pass-examination, mild as it now is compared with the competitive examination of the army. It is scarcely possible that the Admiralty can return to that ancient order of matters when students without diplomas were admitted into the service. I blush to own that so late as May, 1859, the diploma of one of the Royal Colleges of Surgeons was a superfluous rather than a necessary document. It is true that candidates were examined specially for the position of assistant-surgeon, both at one of the

Secretary to the Admiralty the reason why surgeons in the Royal Navy had been recently appointed to do assistant-surgeons' duty, and if it be owing to a scarcity of the latter officers, or that there are no candidates on the list for admission into the medical service of the navy; and if the Admiralty had taken any steps to remove so great an evil.

Lord C. Paget said several young surgeons had been lately appointed on promotion, particularly on foreign stations, in order to retain their services on board ship, and with the view of keeping young surgeons well employed, as there was always more or less difficulty in keeping the places of assistant-surgeons filled, there being so much employment for them elsewhere. The Admiralty were certainly not in a great want of assistant-surgeons, but the young surgeons were employed to do surgeons' duty with the view of keeping them from going into private practice. The Admiralty did not think it necessary to take any steps for giving additional facilities for assistant-surgeons entering the service.

The Secretary's Statements.	*Replies.*
	Colleges of Surgeons and at the Navy Board, still the fact is just that stated by me, *they had no diplomas of fitness to practice.* Unless closely watched, the Admiralty might rather *lower the qualifications of candidates than raise the inducements* for young surgeons to enter the public service.
"Several young surgeons had been lately appointed on promotion, particularly on foreign stations, in order to retain their services on board ship, and with the view of keeping young surgeons well employed."	This is class feeling operating against the best interests of the seamen of Her Majesty's Fleet. This statement is inaccurate. The young surgeons (as they are termed by the Secretary, although they are gentlemen of middle age and promoted by seniority after many years of service) have been appointed in lieu of assistant-surgeons; and whilst thirteen have been in such manner appointed at Home Ports and on the Home Station, only two have been retained on foreign stations,* where they were serving previously to promotion. These appointments please no one. The "young surgeons" like not to take service under other surgeons, and the assistant-surgeons find themselves kept out of Home appointments to which they naturally look as a relief to foreign service. Nothing will cause more dissatisfaction amongst the assistant-surgeons than this measure, fraught, as it is, with mischief.
"The young surgeons were employed to do surgeons' duty with the view of keeping them from going into private practice."	This statement is inaccurate. Surgeons are employed to perform assistant-surgeons' duty under surgeons senior to themselves, and *not to do surgeons' duty.* This measure will speedily disgust surgeons of talent and ambition that trust that they have become full-fledged on promotion but find themselves again employed in a subaltern professional position. No act of the Admiralty is more likely to drive "young surgeons" out of the service into private practice than this. Let it be remembered that the

* See 'Army and Navy Gazette,' July 8th, 1865.

The Secretary's Statements. *Replies.*

shifts resorted to by the Admiralty to prevent surgeons from leaving the sea service of Her Majesty are practised during a state of profound peace.

What degradation of the naval medical service might we not expect to see during war, should such a course be persisted in?

In bringing my remarks on this subject to a conclusion, I would ask the question, Does public opinion concede to Government officials the right to employ special pleading in their writings and speeches in the service of the State? I am aware that the law of man (not the law of God) permits lawyers to use special pleading, but in all other instances I have always considered yea to be truly yea, and nay, nay.

"It is not in the power
Of painting or of sculpture to express
Aught so divine as the fair form of truth!"

However, the noble Secretary is master of the art of finesse, and (as is always the case) has become entangled in the net that he has spread for others.

I advise him to betake himself to plain dealing in word and deed, and to earn the gratitude of the naval surgeons by the remedying, so far as may lie in his power, those grievances that are patent to everyone. Such a course of conduct would number him with Nelson, Melville, and Pakington, as benefactors of the service. It would also put him in accord with certain living admirals that know, *in propriâ personâ*, the worth of capable surgeons, and that sympathise with them in their struggle for equitable treatment.

There is another subject that I desire to bring before the public, namely, the institution of one Examining Board for the army, navy, and East India

service, as recommended by the Royal Commission of 1858.

The disdainful neglect of whole classes of officers by the Admiralty is evidenced by recent measures such as the Greenwich Hospital Act, in which naval instructors, engineers, and medical officers, are omitted from beneficial interest. Similarly, in a recent Circular, giving officers that qualify themselves for the office of interpreter, additional pay of eighteen-pence per diem—*there is the omission of medical officers.* It is time for the ancillary professions to demand equality with the military profession in every particular *save command.*

With the exception of emoluments—a question equally affecting the army and navy—there is nothing in this pamphlet that diverges from the principle of *equality with the army* upon which it is based.

FREDERICK JAMES BROWN.

Rochester; *July* 20th, 1865.

PREFACE

TO THE FIRST EDITION.

THE public will require at my hands an explanation of the circumstances that have induced me to put forth a pamphlet on the ever-recurring subject of Naval Medical claims.

It might be considered that the changes that have occurred in the Royal Navy since 1849 (the year of my leaving the service), would be too great to admit of my possessing a practical knowledge of the requirements of the medical officers. This would be the case were it not for the affection that I bear the naval service—the Royal Navy in its entirety—and the zeal with which I follow the changes that take place. I hold myself to be fully informed on every point affecting the medical officers, and I crave from the public a patient hearing of the statements that I now put forth on behalf of these gentlemen.

The circumstances that have induced me to bring forward the requisitions of the medical officers of the Royal Navy are the following:

The Admiralty Instructions, dated August 6th, 1861, chap. xii, article 11, state that—

"All combinations of persons belonging to the Fleet, for the purpose of bringing about alterations in the existing Rules and Regulations of the Royal Navy,

whether affecting their interests individually or collectively, are prohibited," &c.

Article 12 states that—

"Every person belonging to the Fleet is forbidden to write for any newspaper on subjects connected with the Naval Service; or to publish, or cause to be published, directly or indirectly, in a newspaper or other periodical, any matter or thing relating to the service."

These prohibitory clauses of the instructions being in force, there is occasion for some surgeon in civil life, independent of control by the Admiralty, but nevertheless practically acquainted with the naval service (which is my case), to advocate the claims of the medical officers to just treatment; and I take up the subject with a renewal of the fervour with which I prosecuted the struggle of the assistant-surgeons for ward-room position a few years since.

I trust that the Admiralty of the present day are wiser in their generation than the Admiralty of that period, and that they will concede to the doctors the rank and social privileges enjoyed by the medical officers of the army.

I am aware that the great obstacle to the concession of the claims of the medical officers lies in the tenacity with which the privileges of the executive officers are held, arising from an ill-founded fear that the discipline of the navy is dependent on the restriction of such privileges to executive officers exclusively.

For my part, I think that etiquette is very important, but Progress has the ascendancy in England, and is effecting changes in society that are irresistible. The people resist for a time, then yield perforce to Progress in matters of State policy as well as in

domestic usages, and fears of change that were judged to be well founded are proved by the course of daily experience to be groundless.

It is difficult for a Board of Admiralty, constituted as it is of one professional class, to view with equal justice the claims of many professions.

The First Lord, being a civilian, is exempt from professional feeling, and, when acting spontaneously, and unfettered by his professional colleagues, the occupant of this office has on two memorable occasions won for himself lasting fame, by enacting measures worthy of great statesmen. Such were the equalisation of the Medical Department of the Army and Navy in 1805 by Viscount Melville, and in 1859 by Sir John Pakington.

I am certain that naval executive officers feel pride in the professional reputation of naval surgeons, and would scorn to have them esteemed beneath the medical officers of the army in any one point.

Let them hear from me, then, that the only way to retain the services of surgeons of talent and reputation in the Royal Navy is to place them on an *equality with their brethren in the army*.

In conclusion, I desire to state that whilst I served in Her Majesty's Navy I invariably received courteous treatment from the executive officers, amongst whom I number many friends.

Further, the Lords of the Admiralty showed me personal kindness, though opposed to my views of medical reform.

It affords me pleasure to bear this testimony.

FREDERICK JAMES BROWN.

Rochester; *May 1st*, 1865.

REQUISITIONS

OF THE

NAVAL MEDICAL OFFICERS.

SECTION I.

RANK AND POSITION.

THE naval medical officers complain of *mala fides* practised towards them from the days of Nelson, the friend of the surgeons, to the present time. England's great admiral courteously preferred their request to be placed on an equality with their *confrères* in the army; and Viscount Melville, with "the justice and liberal way of thinking" ascribed to him by Lord Nelson, obtained from King George the Third, in Council, an order that has ever been looked upon as the charter of the naval surgeons.

There is no ambiguity in that order; the medical officers are "to have a similar rank with the officers of the same class in His Majesty's land service."

Whilst equality between the medical officers of the two services was thus ordered by the King in Council, provision was made for discipline, and rank and command were treated *as separate entities*. Thus the order goes on to say that the medical officers are "to be subordinate, however, to lieutenants of His Majesty's ships and vessels wherein they may be employed, during the period of their service, although their appointments may be of prior date." This

disciplinary provision applied to shipmates, and did not imply subjection of one class to the other in the service generally. The assumption of superiority by the executive class had its origin early in the history of the sea service. From the time that the seamen and officers of the navy came to fight as well as navigate their own ships (which was not fully the case until the reign of William and Mary), there arose in their breasts a feeling of superiority over landsmen serving on board ship. It is only when united with arrogance of behaviour that such feeling is deserving of reprobation.

In early English History a Royal Fleet, according to our modern notions, did not exist.

On every emergency merchant ships were hired for the occasion, together with their officers and crews. Soldiers and military officers were placed on board by the king to engage the enemy, whilst the navigation and ship-manœuvring were executed by the merchant officers and mariners.

The admirals and captains of that day were generals and colonels of the land forces.

All authority was vested then in the military or fighting officers; all the honour of the victory was bestowed upon them; all the glory (so-called) of war belonged to them.

But there came a day when true sea-water admirals arose, when Narborough, Shovel, and Benbow distinguished themselves by their nautical knowledge and daring, and by their address in the command of fleets in battle.

Then it was that relative naval rank was instituted, for land officers were slow to recognise the position of nautical men, chiefly because amongst the early "pure admirals" there were many of humble origin;—men

that reached the quarter-deck by entering at the hawse-holes (as sailors say).

The Naval Reserve, now in course of organisation, testifies to the fact that Britain still reposes her trust (humanly speaking) in the nautical skill and patriotism of the mercantile marine under emergencies, as in the days of Elizabeth.

At the present period there is a growing desire not only to resume the titles of officers of the land service in lieu of those of naval origin (excepting only the titles of admiral and commodore), but there is the disposition to treat the members of the ancillary professions as the merchant officers were treated in days long past.*

Viscount Melville, First Lord of the Admiralty in 1805, impressed by the opinions of Lord Nelson, as to the claims of Naval Medical Officers, and the injustice to the service in not encouraging the best surgeons to enter the navy, obtained the Royal authority to rectify that state of things (based on the causes referred to), which debarred from the service medical practitioners of due education.

Viscount Melville was succeeded in office by Lord Barham, in June, 1805, and *mala fides* was soon shown towards the surgeons, for the new regulations of the Admiralty, issued in January, 1806, contained no allusion to the rank of the medical officers. It is true that the rank was substantive, for surgeons, when made prisoners of war, received the treatment of officers from this period;† but whilst army surgeons were

* Lest there should be any misunderstanding, the writer begs to state that he does not object to the use of land titles for nautical officers, but he does object to the disposition to ignore the claims of the ancillary professions of navigation, engineering, finance, theology, tuition, and medicine, to equality of status, of pay, of allowances, and of privileges with the military branch. The military and the ancillary professions should differ solely in the matter of *command*.

† I have since been told that surgeons were always treated as gentlemen, when prisoners of war, by virtue of their profession.

appointed by commission, their brethren in the navy held only a warrant. It was only in the year 1840, after the report of the commissioners for inquiring into naval and military promotion and retirement, that commissions were granted to naval medical officers, together with the institution of the inspector grades, in imitation of the existing state of things in the army. But there was still a lack of equality between the services, for each grade of inspector in the navy was one degree below that of the same class in the army; and the "with but after" distinction between executive and civilian officers was established in the naval service, unlike that of the army. The Army Warrant of October 1st, 1858, was followed by the Navy Warrant of May 13th, 1859. By these two warrants equality was very nearly effected between the medical officers of the two services. The difference consisted in a portion only of the assistant-surgeon's time (viz., ten years) being allowed to count for the twenty years of active service necessary for the rank of staff-surgeon (equivalent to that of surgeon-major), whilst in the army the whole of the assistant-surgeon's time counted, and in the circumstance of the staff-surgeon not being in a list distinct from that of the surgeon.

This second equalisation of the services was effected by Sir John Pakington, as was the first by Viscount Melville. But just as the retirement of the noble First Lord in June, 1805, was followed by disastrous consequences to the naval surgeons, so the fall of the ministry of which Sir John Pakington was a member, in June, 1859, occasioned retrograde changes in the position of the surgeons.

An Order in Council of April 16th, 1861, and an Admiralty Circular (No. 472) of May 7th, 1861, lowered the rank of surgeons; and the new instructions of the Admiralty of August 6th, 1861, lowered the rank of deputy inspectors-general of less than five years' standing, placing them on a level with surgeons-major in the army; and lowered the rank of staff-surgeons, by making them doubly junior to lieutenant-colonels, whilst surgeons-major were simply junior.

Evil influences had been at work in the army during this period, and the regulation of juniority of one class to another had been introduced into that service, together with restrictions and deprivations of privilege, that occasioned an outcry resulting in the restitution of rank by seniority of commission, and of some of the privileges that had been taken away.

Restitution of the rank of naval medical officers quickly followed. An Admiralty circular (No. 55 C) of August 3rd, 1863, conferred equality of rank upon the different grades of medical officers in the two services, with the exception of the staff-surgeon in the navy, who continued to be junior to the commander (who is junior to lieutenant-colonels). Therefore the staff-surgeon retained his double juniority, and he was only permitted to count ten years of assistant-surgeon's time. So much for rank, but there is inequality in other particulars which will be more fully considered further on.

It is a matter of extreme importance that the sources of the discontent of the naval medical officers should be brought into clear light, to the end that they may be eradicated. Discontent has smouldered ever since the neglect of the Order in Council of 1805, occasionally breaking forth like volcanic eruptions, but more mischievous when smouldering, inasmuch as apathy, damaging to the interests of the service, has been engendered, and men of mark are glad to quit the navy,

or are deterred from joining it. Medical students and young surgeons compare the army and navy, and choose the former service, because a more gentlemanly spirit prevails in it. Educated similarly, candidates for medical appointments feel that similar position should be accorded them, whichever service they may choose; and, looking at the charter of equality of 1805, they feel that not even the word of a king can secure them from humiliation at the hands of sea lords at any time, and on any occasion. This element of uncertainty is intolerable, as says Mallet—

> "Uncertainty!
> Fell demon of our fears! the human soul,
> That can support despair, supports not thee."

There are two other sources of discontent, viz., the "with but after" distinction (a grammatical absurdity) replaced by the juniority regulation (applicable to officers sentenced by court-martial to remain at the bottom of the list); and restrictive regulations and usages regarding the advantages of the rank nominally held by the medical officers.

The offensive and ungentlemanly term of "superior officer," flung in the face of civilians (so called) by executive officers, arises from the "with but after" idea.

In an enumeration of the sources of discontent, inequality and insecurity of position hold the primary place; whilst juniority, with its subjection to the "superior officer" class, and restriction of the emoluments and the privileges of rank, follow. *Eradicate these sources, and discontent will cease.*

There will always be grumbling amongst officers, especially naval officers; for, cooped up on board ship, they find relief in dwelling upon grievances, imaginary

as well as real. Also there will always occur acts of arrogance and tyranny on the part of men holding authority, for as Butler says, "authority intoxicates;" but it is easy to submit to the *commanding officer*, whilst it is intolerable to have half-a-dozen "*superior officers.*" It is, indeed, derogatory to the captain of a ship for one officer to arrogate to himself superiority over another, excepting always the officer commanding under the captain. Assumption of command by medical officers is a chimera that haunts the imagination of the executive officers, but command is straitly forbidden by the Admiralty, and is wholly visionary. Rank and command are separate entities. *Either this fact is not understood, or it is wilfully ignored.*

Nothing in these pages is intended to be understood as favouring the subversion of order and discipline, nor is there any desire to depict the executive officers as insolent tyrants. As a body of men, they are devoted to their profession, gentlemanly in their conduct, and friendly in their intercourse with their brother officers of every class. This pamphlet is placed before the public with the idea of promoting the welfare of the Royal Navy generally, although the interests of one class are prominently set forth; for concord can never subsist whilst the ashes of discontent continue to smoulder. Messmates should assume equality—the equality of gentlemen—whatever their rank, for Milton says—

> "Among unequals what society
> Can sort? What harmony or true delight?"

It is a trite saying that "a happy ship is like *a family*, whilst an unhappy ship is a hell afloat." It is the earnest wish of the writer that men and officers of every rank and degree may serve harmoniously to-

gether, each class excelling in its own profession, whether this be Navigation, Gunnery, Engineering, or Theology, Medicine, Tuition, Finance; and that one and all may strive to maintain the ancient fame of the Royal Navy.

SECTION II.

ONE BOARD OF EXAMINERS.

It has been suggested to the writer that the most certain mode of equalising the services would be the institution of One Portal for the admission of medical gentlemen to the war-service of the country.

Since this proposition has been seven years before the public, it cannot be regarded as novel; and since it emanates from a Royal Commission, it can scarcely be considered revolutionary.*

In the Report of the Sanitary Commission of the Army presented to the House of Commons by command of Her Majesty on 9th February, 1858, page 79, the following recommendation occurs:—"And we think it desirable that, if possible, one and the same Board should conduct the examination for the medical service of the East India Company, the navy, and the army."

Should this recommendation meet with the approbation of the authorities of the three services, it would go far to bring about an equalisation that would prove to be eminently satisfactory.

Further, the service-education of inceptive assistant-surgeons of the three services might be advantageously carried out in common at one institution. Thus the war-service of the country would be equalised as

* See 'Report of the Commissioners appointed to inquire into the Regulations affecting the Sanitary condition of the Army, the Organisation of Military Hospitals, and the Treatment of the Sick and Wounded; with Evidence and Appendix, presented to both Houses of Parliament by command of Her Majesty.'

regards the pupillary condition of the profession of Medicine, and complete parallelism between the services in every grade of rank would follow as a matter of certainty.

If service-education *in common* should be deemed unadvisable, each service must organise an educational establishment for itself, and Haslar or Greenwich might constitute the naval medical school, when endowed with suitable provision for instruction after the model of the Army Medical School at Netley.

SECTION III.

RETIREMENT AND PRIVILEGES OF RANK.

THE medical officers of the navy claim to be placed on an equality with their brethren in the army in the matter of retirement and privileges of rank, agreeably to the recommendation of the Commission of 1839, to the effect that it is "expedient to place the medical officers of the navy, with respect to rank, &c., on a scale more nearly corresponding to that assigned to officers of the Army Medical Department."

The following table shows the difference in the compulsory retirement of the medical officers of the two services:

Army.	Age.	Navy.	Age.
Inspectors-general	65 years.	Inspectors-general	70 years.
Surgeons-major	55 „	Staff-surgeons	60 „

The compulsory retirement of senior officers affords to young men an opportunity of advancement. The medical officers of the navy further ask for optional retirement upon the completion of twenty years' active service (inclusive of all the assistant-surgeon's time).

So much for retirement.

The privileges of rank claimed by the naval medical officers, to bring about an equalisation with the army, are the following:

1. Shore allowances compensatory for loss of emoluments of service afloat.
2. Similar allowances at a higher rate for service abroad.
3. Prize-money according to relative rank.
4. Honorary distinctions to naval medical officers,

on the same principles and as liberally bestowed as in the army.

5. Modification of the existing regulations respecting rank and command, so as to confer social privileges in equal ratio with relative rank.

6. Application to the navy of future regulations (unless retrograde) affecting the medical officers of the army.

1. *Shore Allowances* [see Appendix, art. 10, p. 65].

Whilst naval officers are serving on shore *conjointly with the army*, they receive the same allowances as the land forces; but under other circumstances of shore service they receive nothing but their pay, and are mulcted of rations, fuel, lights, and services of domestics.

The medical officers claim shore allowances compensatory for the emoluments of service afloat, which is the more reasonable as executive officers on full pay employed on detached service receive all their subsidiary allowances.

2. *Shore Allowances for Service Abroad.*

The medical officers claim a higher rate of compensatory allowances when serving in hospitals out of the United Kingdom.

The maintenance of the high character of the naval service, dear to the medical as to every other class of officers, renders a large expenditure necessary in colonies and foreign stations. The request is therefore made for the honour and benefit of the service.

It would be a boon to the medical officers of the navy to grant them, on paying off, one month of full-pay time for every complete year of foreign service, in consideration that all army officers have regulated

leave from foreign stations, and that clerks serving in foreign naval hospitals are entitled to one month's leave per annum.

3. *Prize-money* [see Appendix, art. 11, p. 65].

The medical officers of the navy claim to be treated similarly to their brethren in the army; that is to say, to share prize-money according to relative rank.

The Army Warrant of October 1st, 1858, art. 17, states that "such relative rank shall regulate rates of prize-money." The Navy Warrant of May 13th, 1859, art. 11, states, "Medical officers will share prize-money according to the Proclamations which may be in force at the time being," &c.

By the Proclamation of December 29th, 1853, and by the Proclamation of 29th June, 1865,* a surgeon shares in the *fourth class*, with "an ensign of land forces doing duty as marines," with an "assistant-engineer, gunner, boatswain, and carpenter."

Thus, naval medical officers are placed in a most inferior position as regards prize-money, although their duties and dangers in time of battle and boat action are equal to those of their shipmates, and the responsibility and fatigue attendant upon the care of the wounded, long after the action, presses more particularly upon them.

Surgeons in the army receive prize-money according to relative rank, and thus share with majors.

* The Proclamation of 1865 (an occurrence of yesterday) shows that the Admiralty are resolved to persevere in a course of treatment towards the medical officers that renews their grievance on this head. The only difference between the Proclamations of 1853 and of 1865 is the location of staff surgeons in the third class, by which regulation this medical officer, although holding the rank of lieutenant-colonel (junior of the rank), receives the prize-money due to captains and majors in the army.

Surgeons in the navy, ranking equally with majors, share prize-money with ensigns.

It is commonly said, and it is sung in our streets, that sailors are generous. Let these facts speak for themselves.

If seamen be generous, so are not sea lords.

4. *Honorary Distinctions* [see Appendix, art. 14, p. 66].

The medical officers claim the fair carrying out of the Order in Council of May 13th, 1861, which provides that "Medical officers shall be entitled to the same honours as other officers of the Royal Navy of equal rank." A reference to the 'Navy List' demonstrates the fact that medical officers have been overlooked in great measure in the distribution of honours. On the active list there was recently but one name distinguished by the Companionship of the Bath, and in this instance the officer had attained to the highest grade of his class by war services, thus meriting the K.C.B. instead of the C.B., if rewarded at all. Lately the C.B. has been conferred upon the Director-General.

The 'Army List' shows two K.C.B.'s and fourteen officers distinguished by the C.B., and in several instances the services that obtained the decoration were rendered by officers of the grade of surgeons. The 'Indian Army List' shows similar examples of the superior consideration afforded to medical officers serving as soldiers.

The Victoria Cross has never been given to a naval medical officer, whilst ten medical officers in the army have been recipients of this badge of humane bravery.

With reference to this inequality of the two services, it may be repeated now, as was asserted by the Naval and Military Commission of 1839, in judging of the comparative unpopularity of the naval medical service, "We feel assured that opportunities for individual distinction are far more frequent in the navy than in the army."

The writer forbears to mention instances occurring in late times, but they are known throughout the service.

War medals are not distributed to medical officers serving in hospitals on shore, *because such officers are borne on the civil establishment of the navy.*

Therefore medical officers of the navy claim to be recognised as always belonging to the military branch of the navy, to the end that they may receive a due recognition of their hospital services.

In the first edition the disparity between the two services as regards honorary distinctions was only lightly touched upon. Since that publication there has been a marked display by the authorities, of the derogatory view entertained by them of the position of the medical officers of the navy, in the circumstance that whilst five army medical officers have been decorated with the Order of the Bath only one medical officer of the navy has received that distinction. Two of the army officers were made K.C.B., and three C.B.; and amongst the latter were one surgeon-major and one regimental surgeon. The solitary naval medical officer was the Director-General, upon whom was conferred the *third* class of the Order, that to which regimental surgeons are freely admitted.

Such an invidious distinction needs no comment, but it is time that the cause of the evil should be laid bare and brought before the entire profession that

they may understand the true *status* of their naval brethren.

In the appendix there will be found a reprint of two Ordinances in the Statutes of the Order of the Bath, showing that whilst, in the army, regimental surgeons and staff surgeons, and in Her Majesty's Indian Military *and Naval* Forces, the senior surgeons, are admissible to the second class of the Order of the Bath, viz, that of K.C.B., as well as to the third class or that of C.B.; in the Royal Navy, the lowest grade of medical officer that can be decorated with the Order in its *third class*, is that of Deputy Inspector-General.

It would be an injustice to the memory of that Prince whose sign-manual is affixed to the Statutes, to conceive that he was aware of the derogatory disparity between the services, particularly as he placed confidence in the professional skill and social qualities of those medical officers of the Royal Navy that had access to his presence.

Prince Albert was remarkable for his appreciation of scientific men, and he delighted in encouraging and rewarding those that laboured to benefit their fellow men.

It is certain that he must have overlooked rather than have disregarded the equal rights of army and navy surgeons.

A collation of facts and dates will place the entire matter in a clear light, completely exonerating His lamented Royal Highness.

1st October, 1858, date of army Warrant, giving regimental surgeons the rank of major.

31st January, 1859, date of Statutes admitting regimental surgeons fully to the honours and distinctions of the second and third classes of the Order of the Bath, by virtue of their newly acquired rank of major.

30th May, 1859, date of Admiralty Warrant giving to naval surgeons equality of rank with their brethren in the army.

No further edition of the Statutes has taken place, although such was necessary to the rectification of the position of the medical officers of the navy.

The authorities of the army acted with promptitude in obtaining an issue of the Statutes containing Ordinances suitable to the altered circumstances of the medical officers, thus showing (in this particular) *bona fides in the treatment of their surgeons.*

The authorities of the navy neglected to take action under similar circumstances, and thus showed *mala fides to their surgeons.*

The inference is fair, either that the Board of Admiralty are insensible to the indignity offered to the Royal Navy in this disparagement of the medical department, or that *class feeling* has caused them to view with satisfaction this depressing disability of the medical profession serving under their authority.

After such continued ill-treatment and insult, can the public wonder that the Admiralty find it to be a difficult task to fill up the ranks of the naval medical department? Medical gentlemen possessed of fine feeling shrink from entering a service in which they meet with nought but disparagement and insult, and those of active and ambitious minds despise the few inducements to a successful career in life offered by the Lords Commissioners of the Admiralty.*

5. *Rank and Command.*

The public naturally regard social position and rank as inseparable attendants upon each other, and will

* See a copy of the Statutes of the Order of the Bath in the 'Appendix.'

scarcely credit the assertion that the sea lords of the Admiralty have attempted a breach in the fundamental usages of society, comparable to that grammatical absurdity, the "with but after" distinction.

In confirmation of the foregoing assertion, the following extract is made from the Regulations of August 1st, 1861, article 4, section 6, chapter iv:

"If two officers of the civil branch have met together, and an officer of the military branch under whose command the senior of the two is serving be also present, the junior civil officer, whatever his rank and standing may be, cannot, in such case, take precedence of the officer of the military branch, but must assume his position according to his rank and standing after the officer of the civil branch next above him in rank or seniority."

This regulation (scarcely written intelligibly) has subverted the natural connection between rank and social position, and it confers upon the commanding officer social privileges that will never be conceded by the public. It might thus happen that a junior lieutenant might be the senior executive officer; in such case, under the existing regulations, the medical officer of the highest grade of his class, and ranking with a rear-admiral, would sit at a dinner-table along the side, whilst the lieutenant would take the president's chair.

The Army Warrant of October, 1858, placed medical officers in their right place on all boards (excepting only courts-martial), namely, position at the board according to relative rank and date of commission; but as the internal economy of the two services differs essentially in the constitution of boards, this question can scarcely become a grievance with medical officers of the navy.

The privileges of the medical officers of the army on boards have since been withdrawn.

The social privileges of the medical officers of both services, as regards mess, &c., are still denied to them, constituting a grievance demanding redress.

The medical officers of the navy require that rank and command shall be regarded as separate entities, and that social position and privileges shall be invariable attendants upon relative rank.

The Queen's Regulations, page 45, chap. v, article 2, distinctly point out the difference between rank and command *in all relations between the army and navy.* That which is urgently needed is the same regulation for the internal economy of the navy.

"Nothing contained in these regulations is to give a claim to any officer of the navy to assume command of Her Majesty's land forces on shore, nor to any officer of the army to assume command of any of Her Majesty's squadrons or ships, or of any of the officers or men thereunto belonging, unless under special authority from the Government in England for any particular service. But when officers of the navy are employed on shore, on joint service with Her Majesty's land forces, their relative rank shall carry with it all precedence and advantages attaching to the rank with which it corresponds (except command as aforesaid), and shall regulate the choice of quarters, rates of lodging-money, servants, forage, fuel and lights, or allowances in their stead."

The question of rank and command is worthy of investigation, and the following is an historical sketch of the subject, dating from the first half of the last century. In 1734 there was an Order in Council fixing the marks of respect to be paid by troops in garrison to naval officers down to the rank of commodore.

In 1747 relative rank with the army was for th first time conferred by an Order in Council upon officers of the navy down to the rank of lieutenant.

It was stated in the order that relative rank was given *inter alia* to enable the officers "to support the dignity of their rank in their respective stations."

In these facts the alliance between rank and social privileges is affirmed; but it is clearly shown that *rank* was not the *right to command*, by the 12th paragraph of the Order in Council of 1747:

"That nothing in this regulation shall give any pretence to any land officers to command any of His Majesty's squadrons or ships, or to any sea officer to command at land." This clause continues in force to the present day.

Rank was the same, but *command* belonged to each only in his own province.

Summary of relative rank of naval officers by date of Orders in Council.

1747 [10th *February*]. Commissions and relative rank given to executive officers down to lieutenants inclusive.

1805 [23rd *January*]. Relative rank, without commissions, given to medical officers inclusive of assistant-surgeons.

1808 [28th *September*]. Ditto to masters, exclusive of second masters.

1814 [23rd *July*]. Ditto to pursers, now styled paymasters.

Same date. Commissions in lieu of warrants given to masters, medical officers, and pursers (now styled paymasters).

1840 [10th *August*.] Commissions and relative rank given to mates, now styled sub-lieutenants.

1844 [1st *January*]. Commissions and relative rank given to second masters.

1847 [27th *February*]. Commissions and relative rank given to engineers.

1852 [3rd *July*]. Commissions and relative rank given to assistant-paymasters.

6. *Future Regulations.*

The medical officers desire that all regulations (unless retrograde) respecting medical officers in the army shall be immediately made applicable to the medical officers of the navy.

Hitherto this has not been the case; much time and labour had to be expended, and much printer's ink used, ere improvements in the army were conceded to the navy.

SECTION IV.

FULL PAY.

THE great changes that have occurred in the value of money relatively to the necessities of the social position of officers of the Royal Navy require a rectification of money payments. The increase of pay that has from time to time been given to the junior grades of surgeon has not been afforded to officers of mature years and service, which is *primâ facie* evidence that the increase was given rather to induce medical gentlemen to enter the service than to reward medical officers that had served long and well.

It is a prevalent error in the service, that medical officers have received increase of pay during the present century in much higher ratio than executive officers.

An examination of this matter brings out some curious statistics, pointing markedly in the contrary direction. [See the table in the note to Section IV, page 59.]

It will be seen that lieutenants have risen in the ratio of 54 per cent. on their minimum pay, and 107 per cent. on their maximum, whilst surgeons have advanced only in the ratio of 50 per cent. on their minimum, and 38 per cent. on their maximum.

In the higher grades there is much greater disparity,

as will be seen by a reference to the table, the ratios running as follows :—

Executive officer	.....	107
Medical „	.....	7
Executive „	.....	21
Medical „	.....	8
Executive „	.....	93
Medical „	.....	2

Besides the circumstance of pay, there are differences in favour of the higher grades of executive officer in the matter of table-money, allowances for servants, &c.;* also in promotion by seniority after the attainment of a certain rank; and in retirement (when disqualified for further active service), with a grade of rank, together with its emoluments, unlike the honorary grade bestowed now and then upon medical officers for "distinguished service" on the occasion of their retirement.

For other particulars the reader is referred to the table in the note.

The following is a scheme of the full pay that the profession considers to be adapted to the present period.

Scheme of Full Pay.

Director-General.—Civil pay of £1000 per annum, and allowance for house, as at present, with the addition of the half-pay of his proper rank, similarly to the Controller of the Navy, who is a naval officer on the civil establishment of the Admiralty, like the Director-General.

This addition of half-pay would be agreeable to the

* Table-money and allowances are counted as pay in the comparison between the executive and medical branches. Allowances are in cash, or of a stated money value, and are justly included in the calculations. No one can object to this mode of computation except cavillers.

spirit of the Order in Council of 1st April, 1853, viz., that the Surveyor of the Navy (now styled Controller) should receive his half-pay in addition to the salary attached to his civil office.

	Per diem.
Inspectors-general, after 3 years' service in rank	£3 3 0
,, ,, under 3 ,, ,,	2 12 6
Deputy inspectors-general, after 9 years' service in rank	2 2 0
,, ,, ,, 6 ,, ,,	1 17 6
,, ,, ,, 3 ,, ,,	1 15 0
,, ,, under 3 ,, ,,	1 10 0
Staff-surgeons, after 25 years' entire service	1 10 0
,, under 25 ,, ,,	1 5 0
Surgeons, after 16 ,, ,,	1 2 6
,, ,, 14 ,, ,,	1 0 0
,, ,, 12 ,, ,,	0 17 6
,, under 12 ,, ,,	0 16* 0
Assistant-surgeons, after 10 years' service	0 14 0
,, ,, 6 ,,	0 12 6
,, ,, 3 ,,	0 11 0
,, under 3 ,,	0 10 0

It is necessary that the whole of the assistant-surgeon's time shall count for service in the succeeding grades.

For the purpose of equalising the army and navy, it will be necessary to allow the whole of the assistant-surgeon's time to count for pay, promotion, retirement, &c., up to the inspector class. A distinction in the scheme is made between the mode of counting time for the grades of surgeon and that employed for the grades of inspector. The reason is as follows:—Surgeons rise from assistant-surgeon to the rank of staff-surgeon by length of service, whilst promotion to the rank of deputy inspector is given for merit and distinguished service, and may be conferred upon a surgeon of ten years' service in the Royal Navy, and three years' service in the grade of surgeon. There-

* The amount stood as 15*s.* in the first edition.

fore it becomes necessary to give to the deputy inspector that pay which the staff-surgeon (in his highest service) would receive; otherwise the deputy inspector might be in receipt of less pay than surgeons of longer standing than himself. For this reason the scheme distinguishes the mode of counting time into "service inclusive of all time" for assistant-surgeons, surgeons, and staff-surgeons; and "service in rank" for deputy inspectors and inspectors.

Half a century ago a parallelism existed between the emoluments of certain grades of the executive and medical branches, which is now wanting. For instance, early in the present century a lieutenant by serving until he attained to the rank of a rear-admiral increased his emoluments from £118 12*s.* 6*d.* to £881 5*s.* 1*d.* per annum. At the same period an assistant-surgeon, by serving until he attained to the rank of physician to hospital or fleet (of ten years' service in physician's rank) increased his emoluments from £118 12*s.* 6*d.* to £766 10*s.*

Since that time cardinal changes have occurred in the service, so that in the present year of 1865, lieutenants rise from the pay of £182 10*s.* to be rear-admirals, with the minimum pay of £1672 10*s.* (the maximum being £1825), whilst assistant-surgeons rise from £182 10*s.* to be inspectors-general with the maximum pay of £821 5*s.*

Thus the medical branch has not increased its emoluments, *pari passu*, with the executive branch. Increase of rank has been conferred upon medical officers for the advantage of the service without corresponding advance of emoluments, and this is most strikingly shown on a comparison of the superior grades of the two branches.

For the relative rank of medical officers see the

Warrant of May, 1859, clause 9; and for the relative pay of the branches, see note to Section IV.

Had the emoluments of the medical officers risen in a corresponding degree with those of the executive officers, their pay in the superior grades would now be much greater than it is.

The medical officers are dissatisfied that such correspondence does not exist. They freely concede to the Admiralty the right to reserve to the military branch command and enforcement of discipline, but they maintain their claim to advance in emoluments suitable to the period.

A better income progressively increasing might induce "*young surgeons*" to continue in the service instead of quitting it for the purpose of private practice.

On the present scale of pay, the medical officer that without loss of time completes 25 years of service, viz., 10 as assistant-surgeon, 10 as surgeon, and 5 as staff-surgeon, receives the following:

	Per annum.
For first 5 years' period	£182 10 0
For second „	209 17 6
For third „	273 15 0
For fourth „	328 10 0
For fifth „	401 10 0

The mean sum for 20 years amounts to £248 per annum; but should the full-pay service extend to 25 years, the mean sum will be about £280 per annum. The scheme of pay that is now advocated (which is the minimum that the medical profession can regard as fitting remuneration for their naval brethren), would yield a mean sum of £283 per annum for 20 years' service, and £318 per annum for 25 years' service.

By this scheme, increase of pay would take place at

determinate periods of short duration; inducing officers to continue in active service.

The Government must expect to pay market price for professional talent. Experience shows that the naval medical service is becoming more unpopular with surgeons day by day; for, as Lord C. Paget admits, "*there is so much employment for them elsewhere.*" This is tantamount to saying that the terms offered by the Admiralty are insufficient to induce gentlemen of the medical profession to take service under their Lordships' rule.

SECTION V.

HALF-PAY AND RETIREMENT ALLOWANCES.

The legitimate aim of the authorities of the public service is to obtain from their *employées* the full benefit of active and continuous *work*.

If the half-pay be disproportionate to the pay for active employment, officers have but little inducement to serve. This fact is well shown by the Report of the Royal Commission on Naval and Military Promotion in 1840, page 53, "We have no doubt, however, that the deficiency of service and unwillingness to be employed, as shown in the evidence before us, has arisen in many cases from the little inducements to lieutenants to remove from half-pay to full pay."

Evidence of Sir W. Parker, then a Lord of the Admiralty, in his examination by the Commission:

Page 151, Replies 22, 23. "Now, I experience the greatest possible difficulty in getting lieutenants to serve."

And speaking of half-pay being allowed to mates, he says, "They might assign inability from infirmities such as rheumatic pains, headaches; or give other reasons for exemption to which it would be difficult to object, and thus they would avoid service."

The Admiralty increased the full-pay of the lieutenants and thus induced them to seek employment. Inasmuch as all classes of officers are liable to frailty of a like nature to that mentioned, it is wisdom to

pay better, proportionately, for *work* than for *retainment of services*.

Retirement after long service is of a nature wholly different from half-pay. The principle that should guide the authorities in providing for their *employées* is this, That every officer should attain to honour and competence after long and faithful service. The period of twenty-five years, constituting a quarter of a century, is one that is not surpassed by officers of any class, as a general rule, and may be accepted as a good practical amount of active service. Officers of every class attaining to this amount should retire with one grade of substantive rank with the minimum retiring allowance of that superior rank. Retiring rank is given to officers pretty generally, but it is only accompanied by corresponding pecuniary allowances in the case of the military branch.

It is a requisition of the medical officers that staff-surgeons shall retire with *the substantive rank* of deputy inspector general, and with the minimum retiring pay of that rank, namely, *one guinea per diem*, after twenty-five years of active service.

In justification of this requisition several arguments may be adduced in addition to the one just discussed.

There is the alteration in the appointments at the dockyards limiting the period to five years, thus bearing hard upon the staff-surgeons by preventing them from attaining to the ten years of civil service necessary to entitle to a civil pension additional to their half-pay. Also the loss of full-pay time (common to all naval officers) acts disadvantageously to naval surgeons by rendering them advanced in age by the time that they attain to staff title, so that in frequent instances they become compelled to retire through age after a tenure of office insufficient to realise its advantages. It is cal-

culated that naval surgeons lose 20 per cent. of active time; consequently they are five years older than army surgeons upon retirement.

It is the opinion of certain economists that the naval medical service might be conducted by a small working staff, with perfect efficiency and with advantage to the State, provided that incentives to continuous active employment were afforded, together with certainty of honourable rank and competence on retirement.

If due incentives be offered, the result will be that surgeons will seek employment even in small ships on foreign stations, so as to make up time.

It is important to give increment of pay at short intervals.

It is the proper function of gold to encourage exertion in the path of duty, and it may be legitimately employed to that end.

Optional retirement need not be accompanied by any grant of honour nor by any augmentation of allowances. When asked for, doubtless it will be a boon that will be as thankfully received as it is much desired.

SECTION VI.

GREENWICH HOSPITAL PENSIONS.

Soon after the issue of the first edition of this pamphlet from the press, the attention of the writer was directed to the paper "relating to the proposed alterations in the government of Greenwich Hospital, and in the appropriation of its income."

In the Bill to provide for the better government of Greenwich Hospital, and the more beneficial application of the revenues thereof, that received the Royal assent on the 5th July, which may be cited as the Greenwich Hospital Act, 1865, provision is made to manage the Hospital somewhat on the model of Haslar, accommodating 600 sick and infirm pensioners in time of peace, and 1710 additional men in time of war, if requisite.

The staff of officers is to consist of—

1 Captain-superintendent.
2 Lieutenants.
2 Inspectors-general of Hospitals.
2 Deputy „ „
1 Surgeon and medical storekeeper.
4 Assistant-surgeons.
1 Agent and steward.
2 Chaplains.
6 Clerks.

Pensions are to be given to 5000 seamen and to 188 officers.

It is contemplated to sell the advowsons of the livings in Northumberland and Cumberland belonging to the Hospital, and to grant pensions to those

chaplains of the navy on whom the presentations are now bestowed.

Gratuities are to be given to the widows of seamen and marines killed or drowned in Her Majesty's service.

The list of officers nominated to receive pensions is as follows:

Retired list.

20 Flag-officers (10 at the date of the Act of Parliament).
16 Captains (10 at the date of the Act of Parliament).
24 Commanders (15 at the date of the Act of Parliament).
80 Lieutenants (50 at the date of the Act of Parliament).
24 Masters (15 at the date of the Act of Parliament).
15 Paymasters (0 at the date of the Act of Parliament).
0 Surgeons (0 at the date of the Act of Parliament).
0 Engineers (0 at the date of the Act of Parliament).
9 Warrant officers (0 at the date of the Act of Parliament).
Pensions to Chaplains (livings at the date of the Act of Parliament).

Table of number of officers of the specified classes on the active list. [See Navy List for July].

	Number on active list.	Number of pensions to officers on retired list.	Value of each pension.	Gross amount.
Flag officers	102	... 20	... £150	... £3000
Captains	300	... 16	... 80	... 1280
Commanders	399	... 24	... 65	... 1560
Lieutenants.....	773	... 80	... 50	... 4000
Staff-Commanders 126 / Masters..... 244	370	... 24	... 50	... 1200
Paymasters.....	299	... 15	... 50	... 750
Warrant officers.....	900	... 9	... 25	... 225
Chaplains	139	(Proposed to be pensioned by the sale of livings)		
Naval Instructors...	38	... Nil	... Nil	... Nil
Medical officers	596	... Nil	... Nil	... Nil
Engineers	243	... Nil	... Nil	... Nil

Whilst the Bill was in Committee, Captain Sir John Hay, R.N., obtained the sanction of Parliament for the establishment of a sinecure office endowed with a salary of £1000 per annum out of the Hospital Funds,

for the benefit of some flag-officer; that is, the creation of a *sinecure governorship* in "A Bill to provide for the *better government* of Greenwich Hospital and the *more beneficial application of the revenues* thereof"!!

This addition of £1000 to the £3000 already appropriated to the flag-officers is an instance of the influence and prestige of the military branch when the weightiest interests of the Navy are being discussed.

It remains to be seen whether medical officers, naval instructors, and engineers, can be much longer excluded from participation in the Greenwich Hospital pensions.

In reply to a question put to him in the House of Commons, Mr. Childers stated that it was not contemplated to deprive the medical officers of their appointments in the Hospital.

Truly not. The numbers will even be increased. The medical officers will continue to do their duty as heretofore, and, I trust, in as efficient and praiseworthy a manner.

Hear what the Commissioners appointed in 1859 to inquire into Greenwich Hospital state in their Report, in May 1860.

The words of the Duke of Somerset, in the paper from which I am quoting, are as follows:

"The portion of Greenwich Hospital which is devoted to purposes of an infirmary and helpless wards, is admitted to be successfully administered. The Royal Commissioners report that in this department, the dietary, the dormitories, the dress of the patients, the attention bestowed on their comfort, leave nothing to be reformed. This establishment is, they state, conducted in a manner which is worthy of a great national institution."

Great praise, coming from so high a source! Yet

medical officers are excluded from any participation in the proposed distribution of out-pensions from the funds of the Hospital that they serve so well.

It is sophistry to say that medical officers on the active list, performing laborious and responsible duties in the Hospital, for which they receive their bare pay and lodging, are deriving emolument from Greenwich Hospital. If it be true of one class it is true of many, and admirals, captains, lieutenants, &c., should have been denied out-pensions heretofore because officers of such classes were employed in the active service of the Hospital.

The contemplated alterations in the Hospital are unfair, for they exclude surgeons, naval instructors, and engineers; moreover, *the ratios of the numbers of pensions to the numbers of each class are unequal.*

Verily this Greenwich Hospital Bill is a fit corollary to my pamphlet. It manifests the same spirit of injustice towards the medical officers of the navy that I have portrayed as existing from early times; and it furnishes the medical profession with evidence of an irresistible kind, that no reliance can be placed upon the Admiralty for just and proper treatment of naval surgeons.

One more remark I have to make. It appears to me that the funds of Greenwich Hospital should be expended on the seamen and marines, and on the warrant officers and non-commissioned officers, *and not on commissioned officers.* Greenwich Hospital would then provide a splendid patriotic fund that would meet all the cases of necessity that might arise during war; it would also furnish gratuities and pensions to widows, and afford relief to the survivors of shipwreck, and to the families of those lost at sea.

How is it that money left to posterity for the use of the poor always becomes diverted into the pockets of the rich? It is the ravening spirit of covetousness—that sin of mankind.

But since it has been decided to grant pensions to the commissioned officers, agreeably to the purport of the Bill lately passed by Parliament, I demand, *as a matter of right*, that the medical officers of the navy shall participate in the same.

Table of good-service pensions (not connected with Greenwich Hospital) already enjoyed by officers:

7 Flag-officers at	£300	per annum.
21 Captains	150	,,
3 Marine officers, viz.—		
1 General	300	,,
2 Colonels	150	,,
3 Medical officers (with rank of flag-officers) at	100	,,

SECTION VII.

SUMMARY OF THE REQUISITIONS OF THE MEDICAL OFFICERS OF THE ROYAL NAVY, AS UNDERSTOOD BY THE WRITER.

I. EQUALITY with the medical officers of the army in every particular; consequently—

(*a.*) A definite order by the Admiralty "to provide a cabin for every assistant-surgeon."

(*b.*) The whole of the assistant-surgeon's time to count for pay, promotion, retirement, &c., in the succeeding ranks.

(*c.*) The list of staff-surgeons to be distinct from that of surgeons, as is the case with the surgeons-major in the army.

(*d.*) The relative rank of the staff-surgeon to correspond with that of commanders by date of commission.

(*e.*) Compulsory retirement of staff-surgeons at the age of fifty-five, and of the inspector class at the age of sixty-five.

(*f.*)* Optional retirement of medical officers of any grade after twenty years of active service.

(*g.*) Shore allowances compensatory for loss of emoluments of service afloat.

(*h.*) Similar allowances, at a higher rate, for service abroad.

(*i.*) Prize-money according to relative rank.

(*j.*) Honorary distinctions on the same principles, and as liberally bestowed, as in the army. Removal

* This is a requisition of the medical officers of the army as well as of the navy.

of existing restrictions affecting the medical officers invidiously as regards admission to the Order of the Bath.

(*k.*) Social privileges in alliance with relative rank, without reference to command.

(*l.*) The removal of medical officers from the civil to the military branch of the service, to the end that their services in hospitals at the seat of war may be recognised as military service.

(*m.*) Application to the navy of future regulations (unless retrograde) affecting the medical officers of the army.

II. Increased emoluments to meet the altered circumstances of the age.

(*n.*) The director-general to have brevet rank of a vice-admiral.

(*o.*) The director-general to receive the half-pay of his naval rank in addition to his civil pay and allowances, as is the case with the Controller of the Navy.

(*p.*) An increase of full pay to be given to the medical department, generally, of the army and navy, adequate to meet the increased expenses of society at the present day; with increase of half-pay at the corresponding periods of service, or on final retirement.*

(*q.*) Substantive rank of Deputy Inspector-General, with the minimum retiring pay of that rank, to be given to staff-surgeons on retirement, after 25 years, service.

At the session of the General Medical Council lately held in London, official returns from the army and navy medical department were presented and read.

These documents demonstrate the fact that first-class

* Requisitions *n*, *o*, *p*, appeared in the first edition as suggestions of the writer, but the medical officers have endorsed them, and they consequently become their own requisitions.

and even second-class medical gentlemen eschew the public service of the country.

Notwithstanding the urgent need of medical officers, the army rejected 26 per cent. of the candidates for that service in the year 1864, and the navy rejected 45 per cent.

The competitive examination of the army must be looked upon as more searching than the pass examination of the navy.

It must, therefore, appear tolerably certain that the candidates for the navy were of an inferior description as compared with those that presented themselves for the army examination; and the latter are declared to be only third-class men. The number that passed a good examination for the navy in 1864 constituted one in five. Cheering prospects for our seamen!

The *mala fides* of the authorities of the army and navy towards the medical officers is the main cause of this deplorable state of matters; and the medical profession trust to Parliament, and *to Parliament only*, for position and privileges in the public service of the country, suitable to the requirements of the present day, and based upon *bona fides*.

NOTE TO SECTION I.

[See p. 17.]

During the short peace of Amiens a great number of surgeons availed themselves of the chance of quitting the service, so that on the resumption of hostilities a great dearth of medical officers was experienced. An Order in Council of 22nd May, 1804, conferred improvement on the medical department of the army. On the 10th of October, 1804, the physician and the surgeons of the Mediterranean Fleet, under Lord Nelson, memorialised the First Lord of the Admiralty respecting their position. An address to Lord Nelson was forwarded to him, together with the memorial. Nelson replied graciously to the address, and transmitted the memorial. The following are quotations from the address, and show the deplorable state of the medical department of the navy at that period:

"We are conscious that we can prefer no complaint to you concerning the present degraded and neglected situation of naval surgeons which is not acknowledged by hundreds, and denied by none who have seen even a little service, and whose hearts are not shut against the compunctious feelings of nature. No thinking or feeling man will deny that this department of the public service imperiously and irresistibly calls for reform."—"Nothing, as it now stands, can induce young men to enter into this service but a want of that necessary education which fits him for such an important profession, and the total want of friends. Nothing can support him, even for a short term of years, through the labours and, not unfrequently, the difficulties of this way of life, but a fastidious and determined force [*sic*] of his profession, and an imperious sense of duty above all obstacles. Hardly can anything detain him in a service where he is little honoured and respected."—"Unless Government will remove the invidious distinctions and disparity of encouragement existing between the army and naval medical departments, they can never fix the hopes of young men on the service, nor even obtain from them those voluntary and zealous services which no sense of duty and subordination can produce."—"Men trained to the service as officers find themselves initiated in a way of life full of danger, but replete with honour; from this principle they love it, and they are separated from all other professions by almost insurmountable barriers. But ours is a profession where a thousand ways are opened to ambition, and every situation is lucrative compared with that of the navy; and from year to year our fleets are drained of those whom Government would most wish to retain, as we see daily advertisements neglected, and all flocking to the

standard of the army, where they are made respectable, and their services are better requited. Should this derogatory neglect, which is as unworthy of the English nation as it is hurtful to the service, continue to be extended to the medical department of the navy, it requires no spirit of divination to foretel that ere a few years the British seamen, who are the nerves and defences of the country, shall be more helpless in the day of battle and under the invasion of disease than the peasant employed in his more peaceful labours on shore, when assailed by the afflictions of ill-health."—"Other circumstances are not generally known, and if they were they would not fail to astonish the public mind, and certainly cannot do otherwise than awaken awful feelings in those more immediately concerned."—"Let the man of the most determined spirit think of this, and if he has not that disregard for life which deprives mere animal courage of all praise, let him say with what heart he can go into the midst of battle, where in a few minutes all is confusion and horror; when the dangers of the hour make no distinction with respect to person; when the high and the low are laid side by side, dead or dying, and the surgeon, for the want of the necessary means of information and instruction in the profession, is incapable of administering assistance."—"These considerations acquire additional importance, as they are incontrovertible truths."—"Truths which must make a strong impression on a mind like your lordship's, which has learned from numberless circumstances duly to appreciate the incalculable importance of having men of matured abilities and persevering industry in the navy."—"Might we not with the most submissive earnestness ask, Is it acting with the liberal feelings of Englishmen to suffer the medical class of the navy to be thus unprovided for and disrespected? No; we flatter ourselves that your lordship will agree that every generous argument pleads the reverse, particularly when we advert to the generous national favours so abundantly extended to our most fortunate brethren in the army. Surely, then, it must be allowed that it is a galling and afflicting disparagement, highly calculated to paralyse the ambition and to avert the commendable spirit of emulation which actuates men to an intimate cultivation of medical science and their profession in general."—"From what we have, with deference, ventured to advance, your lordship will readily perceive that men honoured with such a momentous charge in the public service of the state ought to be adequately remunerated, which would incite them to a becoming study of their profession with assiduity and diligence, and they would be proud to support their station in an honorable and respectable rank, by which means Government would at all times command men qualified for any line of service; and this, we presume to affirm, would be as much an honour to the country as the want of it is a discredit, and it would be unequivocally subservient to the state and the purposes of humanity, more grateful to the navy throughout, to see the medical department raised, improved, may we not say created anew? In seeking your lordship's protection we candidly confess that we have no claim to your lordship's patronage."—"We are sure that nothing can be more gratifying

to your wishes and ambition than to see the sick-bed of the brave sailor furnished with comforts and medical attendants of superior abilities."

This was the language of the surgeons of the fleet, addressed to Lord Nelson one year previously to the death of that naval hero at Trafalgar. It was the language of sincere men, conscious of the dignity of their calling and sensible of their wrongs, but earnest in their love to that service that they had chosen, and desirous of securing to their gallant shipmates the highest benefits of medical science. The gracious manner in which Lord Nelson received the address of the medical officers, and the pleasure he felt in preferring their claims, appear in the words of his lordship's reply:

"Victory, at Sea;
"*October 12th*, 1804.

"Gentlemen,—I have received your letter of October 10th, transmitting me a memorial, sent to Viscount Melville, which I shall forward with much pleasure, and to the truth and fair statement of it I most fully agree. I think, from the justice and liberal way of thinking of his lordship, that you have everything to hope for the success of your application, and you may rely that, if I can in any way be useful in rendering justice to such a meritorious set of professional gentlemen as the surgeons of the navy, it will be always embraced by,

"Gentlemen,
"Your faithful and humble servant,
"Nelson and Bronté.

"To Dr. Snipe, Physician to the Fleet.
" Felix, Surgeon H.M.S. Belleisle.
Mr. Magrath " Victory.
" Watherston " Royal Sovereign.
" O'Beirne " Canopus."

From this statement of facts, made by men of such standing in the service, and vouched for by Lord Nelson, it is proved to us beyond doubt that the medical department of the navy was in a deplorable state in 1804.

The surgeons of the fleet, in their memorial to the First Lord of the Admiralty, which was forwarded by Lord Nelson, wrote thus of their relation to the army surgeons:—"That, educated at the same schools, possessing the same share of abilities, embarked in the same cause, and actuated by the same zeal for their profession and love for their country, and suffering equal if not superior labour, difficulties, and dangers to those of their brethren in the army medical department, they see with mortifying concern."

* * * [Grievances follow.]

"That, without meaning any offence or invidious comparison to a body of men they so highly and deservedly esteem, they humbly presume the character of the naval surgeon stands as high in respect, that his duties

are as estimable and important, and his services to his country as useful and meritorious, as those of the more fortunate army surgeons.

"They therefore submissively claim, and, under your lordship's influence and protection, confidently hope to receive, the same consideration from their country," &c.

On receipt of the memorial of the surgeons of the fleet, the Admiralty applied to the King in Council, praying for changes in the position of the naval surgeons, as follows:—"Your Majesty's naval service having suffered materially in the present war from the want of surgeons and surgeons' mates, and the commissioners for sick and wounded seamen having represented to us that the difficulty of procuring qualified persons being in a great measure to be attributed to the more liberal provision made for the same description of officers in your Majesty's land forces, we directed the said commissioners to propose to us a plan for the better encouragement of surgeons and surgeons' mates of your Majesty's navy, which might in their opinion tend to remove, or at least to alleviate, the difficulty above mentioned, and be consistent at the same time with the economy necessary to be observed in the expenditure of the public money; and they having, with their letter to our secretary of the 8th of last month, submitted to us a plan which they conceived to be adapted to that purpose, in which they represent to have had in view the regulations existing in the medical department of the army; and while, on the one hand, they have taken care not to make any proposal which, carried into effect, might create dissatisfaction in that department, they have, on the other, left no reasonable ground of complaint to the naval medical officers; and the commissioners having further submitted to us the propriety of allowing medical officers to wear a distinguishing uniform during the time of their being actually employed, and of giving them a comparative rank in the service suitable to their situation, to which consideration it is believed they attach much importance, especially as the regimental surgeons are allowed to rank with captains, and their assistants with subaltern officers, we have hereunto annexed a copy of the plans above mentioned; and having taken the same into our consideration, we are of opinion that the adoption of the proposal therein contained will be of great advantage to your Majesty's naval service, and do therefore most humbly propose to your Majesty that the same may be carried into execution; that the said medical officers be also allowed to wear a distinguishing uniform, and to have a similar rank with the officers of the same class in your Majesty's land service, to be subordinate, however, to lieutenants of your Majesty's ships and vessels wherein they may be employed, during the period of their service, although their appointments may be of prior dates."

[Here follows the scheme of pay and of general economy as proposed by the commissioners in their letter dated 8th December, 1804.]

NOTE TO SECTION IV (see p. 38).

Tabular View of Comparative Increase of Full Pay since the Peace of 1815.

MILITARY OR EXECUTIVE BRANCH.		Year 1815.	Year 1865.	Increase.
Rear-Admirals and Commodores of the First Class, serving under a Senior Officer	Full pay	£881 5 1	£1095 0 0	
	Table-money when serving abroad	Nil.	730 0 0	
		881 5 1	1825 0 0	Total ..... 107 per cent.
	Table-money when serving at home ports	Nil.	577 10 0	
			1095 0 0	
		881 5 1	1672 10 0	Total ..... 90 per cent.
Captains (Seniors)	Full pay (maximum)	812 6 0	960 14 7	
	Command-money	Nil.	328 10 0	
	Servants' wages	Nil.	57 5 10	
		812 6 0	986 10 5	Total ..... 21 per cent.
Captains (Juniors)	Full pay	284 3 9	300 19 7	
	Command-money	Nil.	91 5 0	
	Servants' wages	Nil.	57 5 10	
		284 3 9	548 10 5	Total ..... 93 per cent.
Commanders in command of sea-going Ships	Full pay (maximum)	368 10 9	365 0 0	
	Command-money	Nil.	68 8 9	
	Servants' wages	Nil.	48 13 0	
		368 10 9	482 1 9	Total ..... 31 per cent.
Commanders serving under Captains	Full pay (minimum)	261 8 0	365 0 0	Total ..... 39 per cent.
Lieutenants in command of Vessels	Full pay (maximum)	148 12 10	200 15 0	
	Command-money	Nil.	68 8 9	
	Servants' wages	Nil.	48 13 0	
		148 12 10	317 16 9	Total ..... 107 per cent.
Lieutenants (Juniors), on promotion	Full pay (minimum)	118 12 6	182 10 0	Total ..... 54 per cent.

MEDICAL BRANCH.		Year 1834.	Year 1865.	Increase.
		£ s. d.	£ s. d.	
Physicians of Hospital or Fleet, with ten years' service in rank	Full pay	766 10 0	.....	
Inspectors-General, with thirty years' entire service on full pay	Full pay	.....	821 5 0	Total ..... 7 per cent.
	,, ,,	.....	.....	
Physician to Hospital or Fleet, with three years' service in rank	Full pay	574 17 6	.....	
Deputy Inspectors-General, with thirty years' entire service on full pay	Full pay	.....	630 10 0	Total ..... 8 per cent.
	,, ,,	.....	.....	
Surgeons of Hospitals, on promotion	Full pay	500 0 0	.....	
Deputy Inspectors-General, on promotion	Full pay	.....	511 0 0	Total ..... 2 per cent.
	,, ,,	.....	.....	
Surgeons of Dock Yards	Full pay	500 0 0	500 0 0	Nil.
Surgeons serving afloat	Maximum full pay	328 10 0	456 5 0	Total ..... 38 per cent.
Surgeons ,, ,,	Minimum ,, ,,	182 10 0	273 15 0	,, ... 50 ,,
Assistant-Surgeons	Maximum full pay	136 17 6	237 5 0	Total ..... 73 per cent.
Assistant-Surgeons	Minimum ,, ,,	118 12 6	182 10 0	,, ... 54 ,,

A comparison of the figures in the per-centage column shows that the increase in the two branches has taken place unequally, there being but slight advance in the upper grades of the medical branch, whilst it is very great in the higher ranks of the executive branch. This circumstance is mainly due to the allowances given to executive officers. In other matters besides full pay there is inequality between the branches, as will appear on perusing the following table.

Tabular View of Inequalities of Executive and Medical Branches as regards Good Service Pensions, Court Appointments, &c. [See Navy List of April, 1st, 1865.]

Good Service Pensions.	Naval Aides-de-camp.	Course of Promotion.
In 1815 four Senior Captains held sinecures as Colonels of Marines. In 1837 these sinecures were commuted for Good Service Pensions. In 1865 twenty-one Captains, on the Active List, hold Good Service Pensions of £150 per annum.	In 1830 the rank or office of Naval Aides-de-camp was instituted. In 1865 there are ten Captains, on the Active List, holding the appointment, and receiving £193 10s. per annum.	By course of service, Commanders attain to the rank of Captain with moderate certainty, for it consists of Captains (200 in number) is recruited from the List of Commanders (400 in number). Promotion goes forward with certainty from the Captains' to the Admirals' List, provided that a certain amount of service be performed.

Honorary Physicians and Surgeons to the Queen.	Good Service Pensions.	Course of Promotion.
.....	.....	
In 1865 three retired Inspectors-General hold Good Service Pensions of £100 per annum.		
In 1865 there are eight Honorary Physicians and Surgeons to the Queen, but this appointment does not carry with it a salary, as is the case with that of Naval Aides-de-camp.		
		By course of service, Medical Officers can count with certainty upon retirement as Staff-Surgeons. Promotion to the grades of the Inspector class occurs by selection, and is consequently uncertain. The Active List contains— Seven Inspectors (five on full pay, and two on half-pay); seventeen Deputy Inspectors (thirteen on full pay, and four on half-pay). The Active List contains 886 Surgeons. These figures show that the prizes of rank are few, and that the number that attain to the Inspector rank can scarcely exceed one per cent. of those that enter the Medical Branch of the Service.

APPENDIX.

THE UNFULFILLED WARRANT.

ADMIRALTY; 30*th May*, 1859.

(*Medical Officers, Royal Navy—Pay, Half-Pay, Rank, &c.*)

HER MAJESTY having been pleased, by Her Order in Council of the 13th instant, to establish the following regulations with regard to the pay, half-pay, rank, &c., of the medical officers of the Royal Navy, my Lords here make known the same, for the information of all whom it may concern.

1.—There shall in future be four grades of medical officers, viz.—

1. Inspector-general of hospitals and fleets.
2. Deputy inspector-general of hospitals and fleets.
3. Surgeon, who, after twenty years' service on full-pay, ten of which in the rank of surgeon, shall be styled staff-surgeon.
4. Assistant-surgeon.

2.—No candidate shall be admitted to the examination for a commission in the medical department of the Royal Navy who does not possess such a diploma as would qualify a civilian to practise medicine and surgery; and no such candidate shall receive a commission as assistant-surgeon until he shall have satisfactorily passed an examination in naval surgery and hygiène before a board of examiners appointed by the Lords Commissioners of the Admiralty.

3.—No assistant-surgeon shall be eligible for promotion to the rank of surgeon until he shall have passed such examination as the Lords Commissioners of the Admiralty may require; and shall have served on full-pay, with the commission of assistant-surgeon, for five years, of which two, at least, shall have been passed on board one or more of Her Majesty's sea-going ships.

4.—No surgeon shall be eligible for promotion to the rank of deputy inspector-general of hospitals and fleets until he shall have served ten years in the Royal Navy, on full-pay, of which three at least must have been passed in one of Her Majesty's ships, on some one or more foreign stations, with the rank of surgeon.

5.—No deputy inspector-general of hospitals and fleets shall be eligible for promotion to the rank of inspector-general until he shall have served five years at home, or three years abroad, in the rank of deputy inspector-general.

In cases of emergency, however, or when the good of Her Majesty's service may render such alteration desirable, it will be competent for the Lords Commissioners of the Admiralty to shorten the several periods of service above mentioned, in such manner as they shall deem fit and expedient.

6.—The rates of full-pay for the medical officers of the Royal Navy will in future be in accordance with the following schedule:

Rank.	After 30 years' Service on full-pay.	After 25 years' Service on full-pay.	After 20 years' Service on full-pay.	After 15 years' Service on full-pay.	After 10 years' Service on full-pay.	After 5 years' Service on full-pay.	Under 5 years' Service on full-pay.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Inspector-General of Hospitals and Fleets	2 5 0	2 5 0	*2 0 0	...	...	...	...
Deputy Inspector-General of Hospitals and Fleets	1 14 0	1 10 0	*1 8 0	...	...	...	...
Staff-Surgeon	...	1 5 0	1 2 0	...	...	...	...
Surgeon	...	...	...	0 18 0	*0 15 0	...	...
Assistant-Surgeon	...	...	...	...	0 13 6	0 11 6	0 10 0

7.—Every medical officer on the active list, now on half-pay, and those who may be placed on half-pay, subsequently to the 13th instant, will be allowed the half-pay to which his period of service on full-pay shall entitle him, according to the following schedule:

Rank.	After 30 years' Service on full-pay.	After 25 years' Service on full-pay.	After 20 years' Service on full-pay.	After 15 years' Service on full-pay.	After 10 years' Service on full-pay.	After 5 years' Service on full-pay.	Under 5 years' Service on full-pay.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Inspector-General of Hospitals and Fleets	1 17 6	1 13 6	*1 10 0	...	...	...	...
Deputy Inspector-General of Hospitals and Fleets	1 5 6	1 2 6	*1 1 0	...	...	...	...
Staff-Surgeon	...	0 18 6	0 16 6	...	...	...	...
Surgeon	...	...	...	0 13 6	*0 11 0	...	...
Assistant-Surgeon	...	...	...	...	0 10 0	0 8 0	0 6 0

* Or on promotion, should these periods of service not have been already completed.

8.—With a view to maintain the efficiency of the service, all medical officers with the ranks of staff-surgeon, surgeon, and assistant-surgeon, will be placed on the retired list when they shall have attained the age of sixty years. Deputy inspectors-general will be placed on such retired list when they shall have attained the age of sixty-five years, and inspectors-general when they shall have attained the age of seventy years. Officers thus superannuated will receive the rates of half-pay mentioned in the preceding schedule.

9.—The relative ranks of the medical officers of the Royal Navy will be as follows

An assistant-surgeon will rank as a lieutenant in the army, according to the date of his commission, and after six years' service on full-pay as a captain in the army, according to the date of the completion of such service.

A surgeon will rank as major in the army, according to the date of his commission, and a staff-surgeon as lieutenant-colonel, but junior of that rank.

A deputy inspector-general of hospitals and fleets will rank as lieutenant-colonel, according to the date of his commission, and after five years' service on full-pay as deputy inspector-general will rank as colonel, according to the date of completion of such service.

An inspector-general of hospitals and fleets will rank as brigadier-general, according to the date of his commission, and after three years' service on full-pay as inspector-general will rank as major-general, according to the date of completion of such service.

Provided always, that no medical officer, while borne on the books of one of Her Majesty's ships, or employed in establishments on shore, shall be deemed superior in rank to the officer appointed to command such ship or establishment; but such commanding officer shall, under all circumstances, be held to be superior in rank and precedence to every officer under his command.

10.—When medical officers of the navy may be employed on shore, on joint service with Her Majesty's land forces, such relative rank will carry with it all precedence and advantages attaching to the rank with which it corresponds, and shall regulate the choice of quarters, rates of lodging-money, servants, forage, fuel, and light, or allowances in their stead; but medical officers serving in the fleet, notwithstanding the relative rank thus conferred upon them, will, in all such details, and also in all matters relating to the duties of the fleet and to the discipline and interior economy of Her Majesty's ships, be subject, as heretofore, to the authority of any executive officer of the military branch, while on duty, under the general regulations which may from time to time be prescribed by the Lords Commissioners of the Admiralty.

11.—Medical officers will share prize-money according to the proclamation or proclamations which may be in force at the time being, for regulating the distribution of the proceeds of prizes in the Royal Navy.

12.—Medical officers will be entitled to the same allowances on account

of wounds and injuries received in action as combatant officers holding the same relative ranks.

13.—The families of medical officers will in like manner be entitled to the same allowances as granted to the families of combatant officers holding the same relative ranks.

14.—Medical officers will be held entitled to the same honours as other officers of the Royal Navy of equal relative rank.*

15.—A medical officer retiring, after a full-pay service of twenty-five years, may, in cases of distinguished service, receive a step of honorary rank, but without increase of half-pay.

16.—Good service pensions will be awarded to the most meritorious medical officers of the Royal Navy, under such regulations as shall from time to time be determined upon.

17.—Four of the most meritorious medical officers of the Royal Navy will be named "Honorary Physicians," and four "Honorary Surgeons" to Her Majesty.

By command of their Lordships,

H. CORRY.

To all Commanders-in-Chief, Flag-Officers, Captains, Commanders, and Commanding Officers of Her Majesty's Ships and Vessels.

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* This clause does not extend to the compliments to be paid by garrisons or regimental guards, as laid down in pages 29 and 30 of Her Majesty's Regulations for the army, nor to corresponding honours paid on board Her Majesty's ships.

STATUTES OF THE MOST HONORABLE ORDER OF THE BATH.

31st January, 1859.

BY THE SOVEREIGN'S COMMAND,

"ALBERT,"

Great Master.

Ninth Ordinance.—"It is ordained, that the Military Division of the Second Class, or Knights Commanders, shall not exceed one hundred and ten in number; and that no person shall be appointed thereto who doth not, at the time of his nomination, actually hold a commission in Our Army or Marines of or above the rank of Colonel, or a corresponding commission in Our Indian Military Forces, or a commission in our Navy of or above the rank of Captain, or a commission of or above the rank of Assistant Commissary-General in Our Army, or a commission of or above the rank of Deputy Commissary-General, of or under three years' standing in Our Indian Military Forces, or of *Staff or Regimental Surgeon in Our Army*,* or a commission of or above the rank of *Deputy Medical Inspector of Fleets and Hospitals* in Our Navy, or a commission of or above the rank of *Senior Surgeon* in Our Indian Military or Naval Forces."

Eleventh Ordinance.—"It is ordained, that the Military Division of the Third Class, or Companions, shall not, except under temporary exigencies, exceed five hundred and fifty in number; and that no person shall be nominated thereto who doth not actually hold, at the time of his nomination, a commission in Our Army or Marines, or in Our Indian Military Forces, of or above the rank of Major, or a commission in Our Navy, or in our Indian Naval Forces, of or above the rank of Commander; or a commission of or above the rank of Assistant Commissary-General, in Our Army, or a commission of or above the rank of Deputy Commissary-General, of or under three years' standing, in Our Indian Military Forces, or of *Staff or Regimental Surgeon in Our Army*, or a commission of or above the rank of *Deputy Medical Inspector of Fleets and Hospitals* in Our Navy, or a commission of or above the rank of *Senior Surgeon* in Our Indian Military or Naval Forces; nor shall any person be admitted into this division, unless his services have been marked by the especial mention of his name in despatches, as having distinguished himself by his valour and conduct in action against the enemy, in the command of a ship of war, or of Our troops, or at the head of a military department, or as having, by some active service under his immediate conduct and direction, contributed to the success of any such

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* All the italics in this "Ordinance" are those of the writer.

action: Provided, nevertheless, and We hereby declare, that this last-mentioned regulation shall not be applicable to Commissariat and Medical Officers, and instead thereof, We further declare that no Commissariat or Medical Officer shall be competent to be an Ordinary Member of the Military Division of the Second and Third Classes of the said Order, unless it shall appear to Us that by his meritorious services in actual war in providing for the wants of Our Army or of Our Indian Military Forces, or in taking care of the sick or wounded Officers, Soldiers, and Seamen of Our Army or Navy, or of our Indian Military and Naval Forces, he has deserved such distinction."

LONDON: J. E. ADLARD, PRINTER, BARTHOLOMEW CLOSE.

MEMORIAL TO THE LATE LORD HERBERT.

REPORT

OF THE PROCEEDINGS AT

THE PUBLIC MEETING

HELD AT

WILLIS'S ROOMS, KING STREET, ST. JAMES'S,

On THURSDAY, 28*th* NOVEMBER, 1861.

HIS ROYAL HIGHNESS

THE DUKE OF CAMBRIDGE, K.G.

IN THE CHAIR.

LONDON:
PRINTED BY R. CLAY, SON, AND TAYLOR.
1862.

CONTENTS.

THE LATE LORD HERBERT.

THE much lamented death of Lord Herbert occurred on Friday, the 2d August, 1861. He died in the 51st year of his age.

Failing health had obliged him to resign his seat in the Cabinet as Secretary of State for War. He had held that office from the formation of Lord Palmerston's Administration, and had devoted all the energy of his highly gifted and cultivated mind to the moral and physical care of the British soldier. Lord Herbert's successful efforts in his work are well evidenced in the following pages.

On Lord Herbert's decease, his friends and constituents in Wiltshire evinced their regret for his loss, and their sympathy for his family, by holding a public meeting at Salisbury, and agreeing to erect a suitable memorial to him in that county. The subscriptions at Salisbury will be appropriated to the erection of a bronze statue of Lord Herbert in that city, and to the support of the Convalescent Hospital at Charmouth, which is a branch of the Salisbury Hospital, and a local Institution to which Lord Herbert was a liberal benefactor, and in which he took much interest.

There were, however, many beyond the sphere of his own county, who desired to testify their sense of the loss which the NATION had sustained by his untimely death. The Army, Lord Herbert's coadjutors in the Cabinet, and many political and private friends to whom he had endeared himself, expressed their anxiety to perpetuate his memory by some appropriate memorial in the metropolis. Early in the month of November the paper on the next page was circulated, and published in the public journals; and a meeting was held, of which a report is herewith given, and at which it was resolved to appropriate the subscriptions which might be received—

First. To the erection of a statue of Lord Herbert in London.

Second. To apply the surplus to the endowment of Exhibitions or Gold Medals in connexion with the Army Medical School at Chatham, which was founded under Lord Herbert's auspices.

(ADVERTISEMENT.)

A PUBLIC MEETING will be held at WILLIS'S ROOMS, King Street, St. James's, on THURSDAY, the 28th of November, at which

HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE

will preside, for the purpose of adopting such measures as may result in an appropriate MEMORIAL to the late lamented

LORD HERBERT.

The following Noblemen and Gentlemen have expressed their desire to support his Royal Highness on the occasion :—

FIELD MARSHAL THE LORD SEATON, G.C.B. &c.
GENERAL THE VISCOUNT GOUGH, K.P. G.C.B. K.S.I.
GENERAL THE LORD CLYDE, G.C.B. K.S.I.
GENERAL SIR JOHN BURGOYNE, BART. G.C.B.
LIEUT. GEN. SIR GEORGE BOWLES, K.C.B.
LIEUT. GEN. SIR J. F. LOVE, K.C.B. K.H.
LIEUT. GEN THE RIGHT HON. J. PEEL, M.P.
LIEUT. GEN W. T. KNOLLYS.
LIEUT. GEN. SIR HARRY JONES, G.C.B.
LIEUT. GEN. SIR J. L. PENNEFATHER, K.C.B.
LIEUT. GEN. THE EARL OF CARDIGAN, K.C.B.
MAJOR GEN. THE HON. SIR JAMES YORKE SCARLETT, K.C.B.
MAJOR GEN. SIR RICHARD I. DACRES, K.C.B.
MAJOR GEN. SIR HOPE GRANT, G.C.B.
MAJOR GEN. SIR T. A. LARCOM, K.C.B.
MAJOR GEN. SIR EDWARD LUGARD, K.C.B.
MAJOR GEN. EYRE.
MAJOR GEN. SIR ALEXANDER TULLOCH, K.C.B.
MAJOR GEN. J. LAWRENSON.
MAJOR GEN. THE LORD FREDERICK PAULET, C.B.
MAJOR GEN. SIR ROBERT VIVIAN, K.C.B.
COLONEL SIR THOMAS TROUBRIDGE, BART. C.B.
COLONEL THE HON. PERCY HERBERT, C.B.
JAMES BROWN GIBSON, M.D. C.B. DIRECTOR GENERAL OF MILITARY HOSPITALS.
THE REV. G. R. GLEIG, CHAPLAIN GENERAL.

THE RIGHT HON. VISCOUNT PALMERSTON, K.G. M.P.
THE RIGHT HON. THE LORD CHANCELLOR.
THE RIGHT HON. THE EARL GRANVILLE, K.G.
HIS GRACE THE DUKE OF ARGYLL, K.T.
THE RIGHT HON. THE CHANCELLOR OF THE EXCHEQUER.
THE RIGHT HON. SIR GEORGE GREY, G.C.B. M.P.
THE RIGHT HON. THE EARL RUSSELL.
HIS GRACE THE DUKE OF NEWCASTLE, K.G.

THE RIGHT HON. SIR G. C. LEWIS, BART. M.P.
THE RIGHT HON. SIR CHARLES WOOD, BART. G.C.B. M.P.
HIS GRACE THE DUKE OF SOMERSET.
THE RIGHT HON. T. MILNER GIBSON, M.P.
THE RIGHT HON. EDWARD CARDWELL, M.P.
THE RIGHT HON. CHARLES PELHAM VILLIERS, M.P.

THE DUKE OF WELLINGTON, K.G.
THE DUKE OF SUTHERLAND.
THE DUKE OF BUCCLEUCH, K.G. K.T.
THE MARQUIS OF LANSDOWNE, K.G.
THE MARQUIS OF WESTMINSTER, K.G.
THE EARL OF DERBY, K.G.
H.E. THE EARL OF CARLISLE, K.G. K.P.
THE EARL OF SHAFTESBURY.
THE EARL OF TANKERVILLE.
THE EARL STANHOPE.
THE EARL SPENCER.
THE EARL OF CLARENDON, K.G. K.P. &c.
THE EARL OF CARNARVON.
THE EARL OF MALMESBURY, G.C.B.
THE EARL OF POWIS.
THE EARL OF ST. GERMANS, G.C.B.
THE EARL DE GREY & RIPON.
THE EARL SOMERS.
THE EARL OF BESSBOROUGH.
THE EARL GROSVENOR, M.P.
THE LORD JOHN MANNERS, M.P.
THE LORD HARRY VANE, M.P.
THE VISCOUNT SYDNEY.
THE VISCOUNT EVERSLEY.
THE LORD STANLEY, M.P.
THE VISCOUNT ENFIELD. M.P.
THE LORD ELCHO, M.P.
THE VISCOUNT CASTLEROSSE, M.P.
REAR-ADMIRAL LORD CLARENCE PAGET, C.B. M.P.
THE LORD BISHOP OF LONDON.
THE LORD BISHOP OF OXFORD.
THE LORD BISHOP OF SALISBURY.
THE LORD LYTTELTON.
THE LORD HARRIS, K.S.I.
THE LORD DE TABLEY.
THE LORD BROUGHAM & VAUX.
THE LORD DUFFERIN & CLANEBOYE.
THE LORD OVERSTONE.
THE LORD BELPER.
THE LORD EBURY.
THE LORD LYVEDEN.

THE SPEAKER OF THE HOUSE OF COMMONS.
THE RIGHT HON. WILLIAM COWPER, M.P.
THE HON. ALGERNON EGERTON, M.P.
THE HON. ARTHUR KINNAIRD, M.P.
THE RIGHT HON. THE LORD MAYOR.
THE RIGHT HON. SIR W. G. HAYTER, BART. M.P.
THE RIGHT HON. SIR JOHN McNEILL, G.C.B.
THE RIGHT HON. H. U. ADDINGTON.
THE RIGHT HON. T. E. HEADLAM, M.P.
THE RIGHT HON. H. A. HERBERT, M.P.
THE RIGHT HON. SPENCER H. WALPOLE, M.P.
THE RIGHT HON. J. STUART WORTLEY.
VICE-CHANCELLOR SIR WILLIAM PAGE WOOD.
SIR JOHN SHELLEY, BART. M.P.
SIR STEPHEN GLYNNE, BART.
SIR WILLIAM ALEXANDER, BART.
SIR EDMUND ANTROBUS, BART.
SIR HARRY VERNEY, BART. M.P.
SIR FRANCIS GOLDSMID, BART. M.P.
SIR JAMES DUKE, BART. M.P.
REAR-ADMIRAL SIR FREDERICK GREY, K.C.B.
THE SOLICITOR-GENERAL.
SIR BENJAMIN HAWES, K.C.B.
SIR RODERICK MURCHISON, G.C.ST.S.
SIR THOMAS PHILLIPS.
T. G. BARING, ESQ. M.P.
CAPT. CRAWFORD CAFFIN, R.N. C.B.
R. W. CRAWFORD, ESQ. M.P.
RAIKES CURRIE, ESQ.
CAPT. DRUMMOND, R.N. C.B.
CAPT. DOUGLAS GALTON, R.E.
HENRY H. GIBBS, ESQ.
G. G. GLYN, ESQ. M.P.
THOMSON HANKEY, ESQ. M.P.
PETER HOARE, ESQ.
KIRKMAN D. HODGSON, ESQ. M.P.
R. S. HOLFORD, ESQ. M.P.
R. MONCKTON MILNES, ESQ. M.P.
W. G. PRESCOTT, ESQ.
HENRY C. ROBARTS, ESQ.
BARON LIONEL DE ROTHSCHILD, M.P.
DAVID SALOMONS, ESQ. ALD. M.P.
MARTIN T. SMITH, ESQ. M.P.
H. GERARD STURT, ESQ. M.P.
TRAVERS TWISS, ESQ. D.C.L.
WESTERN WOOD, ESQ. M.P.
COUNT P. E. DE STRZELECKI, C.B. D.C.L.

J. STANDISH HALY, *Secretary.*

REPORT OF THE PROCEEDINGS.

[*Extracted from* THE TIMES *of November* 29, 1861.]

EVER since the untimely death of Lord Herbert, his friends have desired to perpetuate, by some suitable memorial, the frank, genial, and winning qualities of the man, the patriotism and devotion of the statesman, and the success which crowned his labours for the sanitary improvement and re-organization of the British army. The list of noblemen and gentlemen who expressed their desire to support his Royal Highness the Duke of Cambridge at a public meeting, and to participate in doing honour to Lord Herbert's memory, is of itself a record of which the noblest family and the oldest historic title might be proud, for in it are found the names of men of the highest lineage, statesmen of the greatest influence and most opposite political opinions, and military commanders, who knew what the lamented statesman had achieved for the British soldier. Many of these noblemen and gentlemen were prevented by illness and other causes from being present at a meeting held at Willis's Rooms yesterday, for the purpose of adopting such measures as may result in an appropriate memorial to Lord Herbert; yet seldom has the metropolis witnessed so brilliant and illustrious an assembly to do honour to the memory of a deceased Minister of the Crown as that which met yesterday under the presidency of his Royal Highness the Duke of Cambridge. The large room was crowded to excess.

His Royal Highness took the chair shortly after 1 o'clock, and was accompanied by General Sir John Burgoyne, Bart. G.C.B., General Sir John Aitchison, K.C.B., Lieut. Gen. the Right Hon. J. Peel, M.P., Lieut. Gen. the Earl of Cardigan, K.C.B., Major Gen. the Hon. Sir James Yorke Scarlett, K.C.B., Major Gen. Sir Richard J. Dacres, K.C.B., Major Gen. Eyre, Major Gen. Sir Alexander Tulloch, K.C.B., James Brown Gibson, Esq. M.D. C.B. Director General of Military Hospitals, Rev. G. R. Gleig, Chaplain General, the Viscount Palmerston, K.G. M.P., the Earl Granville, K.G., the Chancellor of the Exchequer, the

Earl Russell, the Duke of Newcastle, K.G., the Right Hon. Sir G. C. Lewis, M.P. (Secretary of State for War), the Earl of Carnarvon, the Earl De Grey and Ripon, the Earl Somers, the Earl of Bessborough, the Earl Grosvenor, M.P., the Lord Bishop of Oxford, the Lord Harris, K.S.I., the Lord Lyveden, the Right Hon. Wm. Cowper, M.P., the Hon. Arthur Kinnaird, M.P., the Right Hon. H. U. Addington, the Right Hon. T. E. Headlam, M.P., the Solicitor-General, Raikes Currie, Esq., Thomson Hankey, Esq. M.P., W. G. Prescott, Esq., David Salomons, Esq. Ald. M.P., Travers Twiss, Esq. D.C.L., Colonel North, M.P., the Right Hon. S. Estcourt, M.P., W. H. Bodkin, Esq., Sir Ranald Martin, Count P. E. De Strzelecki, C.B., J. Standish Haly, Esq. &c. &c.

Several ladies occupied seats in the body of the hall, among whom were the Baroness Brunnow, the Hon. Miss A'Court, Mrs. Gladstone, Lady Lyveden, the Hon. Mrs. and Miss Kinnaird, the Lady Mayoress, Lady Mayne.

His Royal Highness the DUKE OF CAMBRIDGE on taking the chair was loudly cheered.

His Royal Highness spoke as follows:—

My Lords, ladies, and gentlemen, it becomes my duty to open the proceedings of this day, and I must begin by expressing my gratification, valuing as I do the memory of my late lamented and distinguished friend, to see myself surrounded on the present occasion by so large, so respectable, and so influential a meeting.

Some short time after the painful event which has brought us together this day, the friends of the late Lord Herbert came to me, and asked me whether I should object to concur with them in calling such a meeting as that now assembled, with a view to express the tribute of their respect, and that of the public at large, to the memory of him who had so lately passed from among us. I could, of course, have personally no hesitation in complying with their request and cordially entering into that arrangement, but I hesitated to do so till I had conferred with my noble friend who sits on my right, whose judgment I thought on a matter of this sort ought to be consulted before my own. Lord Palmerston at once replied to me in a manner which induced me to go on with the proposal which I was anxious to entertain, and the result has been the assembling of this meeting, which I hope may tend to further the object—the painful, yet grateful object—we have in view, to perpetuate the memory of our dear departed friend.

It would ill become me to detain you with any general observations on the occasion which has called us together. Such observations will come with much better effect from the distinguished statesmen and soldiers I see around me who will be called upon to address you. I would only observe, so far as I am concerned, that this meeting has no political bearing whatever; otherwise, you can easily see that I, as a soldier, could hardly have felt myself justified in presiding on the occasion. I am surrounded by men of all parties, all anxious only to testify their respect, esteem, and regard for one of the most conscientious and able public servants that, I believe, this country has ever seen; one whose private worth and excellence of character we all so highly appreciated, and whose loss we so deeply deplore.

Personally I only became intimately acquainted with the late Lord Herbert during the more recent period of his public career. I knew his merits—I had heard of them ever since I entered public life, but, individually, my connexion dates with him from a comparatively recent period. There are others who sit around me who from a much earlier period are, no doubt, able to speak far more to his merits than I should be able to do; but this I may say, that from the day I first entered into official connexion with the late Lord Herbert to the very last day I may say of his life—for he literally died while he was performing the duties of his situation—I never found other than one anxious feeling to do his duty by his country; to do it in a manner most efficient for the public service, and most agreeable to those whom he had to control, and with whom he was individually connected.

As regards the service with which I am more immediately identified, the late Lord Herbert had the clearest views on military matters of any civilian I ever met with; and I can only say that his anxious desire was, whenever I had to confer with him on such subjects, to promote the interests and welfare of the British army, and in so doing to serve his country, by keeping that army in a state of efficiency, discipline, order, and regularity, such as it is desirable those great bodies should always maintain.

Ladies and gentlemen, I have already said I did not mean to detain you long; I can only say, as far as I am personally concerned, and as far as we military men are concerned, we feel the deepest sorrow at the loss which, as a profession, we have sustained in the severance by death of our connexion with one so amiable, estimable, and valuable; and I am sure anything we can do to testify our esteem, respect, and admiration for the personal worth and public and private character of the late Lord Herbert we shall only be too happy to do, in order to alleviate the pain which so sudden a bereavement has caused to the large circle of his family and immediate friends—thinking it but a due and proper tribute of respect to one whom living we so highly valued, and who was removed so suddenly, so unexpectedly, from among us.

I now leave the Resolutions in hands far more able than I am to do justice to the objects you have in view; and I have to request my noble friend Viscount Palmerston to present to you the first Resolution.

VISCOUNT PALMERSTON:—

Your Royal Highness, my Lords, ladies, and gentlemen, the Resolution which I take leave to submit for your acceptance is to the following effect:—"That this meeting desires to express its deep sense of the loss which has befallen this country by the untimely death of Lord Herbert, and is anxious to pay a fitting tribute to his eminent public services as a minister and statesman, and to the self-sacrificing zeal with which he discharged his official duties."

Your Royal Highness, I have, perhaps, more claims than you have put forward for presenting myself upon the present occasion, because, not only do I stand in the relation of official colleague to the late lamented Lord Herbert, but I may boast a personal, and, I may say, a hereditary friendship.

It is, your Royal Highness, a wise and useful thing that nations should record by marks of honour their respect for the memory of those who during their lifetime have performed great public services to their country. And this is a custom not only in our own nation, but in almost all civilized nations of the world. The custom has prevailed here even in cases in which the public man to whose memory honour is done, having been engaged in the stern battles of public life, has had to encounter violent antagonism, has made to himself political adversaries, and has excited political enmities which have utterly ceased when the grave has closed over him. Even in these cases, I say, conflicting political parties and men who were engaged in the strife of political warfare have united to bury those hostile recollections in the grave, and to do honour to the zeal, to the patriotism, to the public services of the man whom they had while in life upon details opposed.

But there are other cases, and the present is one of them, in which it has been the happy lot of a public man so to perform his public duty, so to serve his country to the best of his judgment and ability, that while he maintained his opinions, and stood firmly by his principles, he yet contributed to carry on the discussions and the combat in such a manner, that while on the one hand he secured vast numbers of political and personal friends, on the other he has been fortunate enough not to make a single personal enemy. This was the happy fortune of Lord Herbert. He stood prominently forward among the public men of his day. He was endowed by nature with qualities eminently calculated to fit him for the highest public functions. In the House of Commons he was marked out by singular powers and by immense popularity. He possessed that eloquence which persuades and delights. He was able to wield those arguments which

convince every impartial mind. He had the power to wield—though he forbore to do it in any manner to wound unnecessarily the feelings of others—he had the power to wield the keenest sarcasm required for the purposes of debate; but the arrows of his wit, though keen and sharply pointed, never were tinged with gall. His noble bearing bore evidence of the high lineage from which he sprang; and though he felt all that became a descendant of a great and illustrious race, yet he bore his honours with meekness, and showed the same kindness and sympathy for all which might have been shown by a person not endowed by fortune and nature with all the eminent qualities which he possessed. It might, indeed, be said of him—one might apply to him that description of another young man who fell prematurely in the performance of his public duties—

> "His mind each Muse, each Grace adorned his form,
> And grateful Science claimed him for her own."

But the science to which my late noble friend, in the latter part especially of his life, most devoted his anxious study, was that peculiarly connected with the service which he so ably conducted—I mean the military service of the country. There never was a man who brought to bear upon an interesting and important subject stronger intellect, more anxious desire, more indefatigable, and persevering labour than my noble friend did to everything that concerned the welfare, the comforts, and the health of the army. He would naturally have been led by the kindness and generosity of his nature to take a deep interest in any measures which depended upon him by which the comfort, the health, and the lives of any portion of his fellow-subjects might be affected. But he felt that he had a duty moreover to perform. He felt it of the utmost importance to the country that those brave men who engage in her service should be well cared for while well—should have every comfort and enjoyment compatible with the nature of their duties; and when ill, when unfortunately the labours and exposure connected with their duty might send them to hospital, that they should be treated in the best possible manner to insure their earliest and most complete recovery. He laboured with your Royal Highness in that field of exertion; and those who know the state of our army, and can measure the vast improvements which, under Lord Herbert and the Duke of Cambridge, have of late years been made in everything connected with the comforts of the army, in the field, in barracks, in camp, and in hospital, will duly appreciate the great merit that is due to my noble and departed friend. On this subject I may, perhaps, be permitted to say that they did not labour alone. They were not the only two; there was a third engaged in those honourable exertions, and Miss Nightingale, though a volunteer in the service, acted with all the zeal of a volunteer, and was greatly assistant, as I am sure your Royal Highness will bear witness, to the labours of your Royal Highness and of Lord Herbert.

Well, then, I say that it appears to me that here is a fitting occasion upon which to follow that useful and honourable course of bearing testimony to the merits of a public man gone from us. In the House of Commons his loss was great indeed. We had hoped that he might live many years to take a prominent and leading part in the deliberations of that assembly—to do good service to his country, whether in office or out of office; that his health and strength might have been equal to his great mental powers and attainments, and that he long would have survived to attract the admiration of his fellow-countrymen. These expectations were, unfortunately, disappointed. There were, no doubt, early premonitions of that malady which ultimately took him from us, but his zeal for the performance of his public duties, whether in Parliament or in office, was unconquerable. He shut his eyes to those symptoms which might, in a man less anxious for public duty, have been a warning to retire betimes—a malady which might, perhaps, even then have been subdued; but he went on labouring to the utmost of his physical powers from day to day, and I grieve to say, though it ought undoubtedly to enhance his claims upon the respect and honour of his fellow-countrymen—I grieve to say that by his unparalleled devotion to his public duties he neglected those opportunities which might possibly have saved him to his country, and he fell as much a victim to the performance of a nation's duty as if he had fallen in the field of battle.

I will not, your Royal Highness, and ladies and gentlemen, longer trespass on your attention to induce you to concur in that which I am persuaded you all felt before you entered this room, as being a fitting step to be taken. I can only say I believe the record which we propose to be made to the memory of Lord Herbert will not be less honourable to the nation that makes it, than it will be to the memory of the man to whom the nation, or a portion of the nation, shall award it.

The noble Viscount resumed his seat amid much cheering.

General Peel, M.P., in seconding the Resolution, said:—

I feel highly honoured in being requested by the committee to second the Resolution, not that I consider any seconder necessary except as a matter of form, for the Resolution will be cordially agreed to, and the noble lord has so eloquently and so feelingly portrayed the character of Lord Herbert, that anything I could say would only weaken the force of his appeal. But I feel it a privilege to express thus publicly the regard I entertained for Lord Herbert. I had the honour of his friendship from his first appearance in public life. There was something about Lord Herbert that no language can describe, that at once secured for him the attachment

of all who had the honour of his acquaintance. I know nothing which could more correctly describe him than to say he was a perfect specimen of an English gentleman. But it is not on account of his private qualities and virtues that we are assembled here to-day to take such measures as may lead to the erection of some monument to his memory. The special good which entitles him to our recollection was the unwearied exertions he took to improve in every way in his power the condition of the British soldier. He was not actuated herein solely by a sense of official duty or official responsibility. These are influences that govern the conduct of public men in this country, who all act to the best of their ability. But Lord Herbert went far beyond this. Out of office and in office he never failed to take advantage of every opportunity to improve the condition of the British soldier, and he never lost sight of the object he had in view. To this I can bear testimony. When I had the honour of holding the office in which he succeeded me, I was constantly in the habit of consulting him upon everything relating to the sanitary condition of the army. I knew I could not better perform my duty and carry out the recommendation of the Army Sanitary Commission than to take the advice of one who took so prominent a part in the deliberations of that Commission, and on every occasion I received from him the most valuable and ready assistance. Nor were the topics on which I consulted him confined to such matters as barrack accommodation or the sanitary arrangements of the army. Everything connected with the health of the army is, I hold, not only a matter of duty, but is also a matter of economy on the part of every Government. The British soldier has a right to expect from his own Government that they will provide everything that tends to his comfort when he is well, and to his recovery when he is sick. Lord Herbert thought, and thought truly, that those objects were very much promoted by such amusements and recreations as would relieve the dull monotony of barrack life, so as, if possible, to wean the soldier from the temptations of the tap-room and the canteen, and enable him to pass his time in a rational and proper manner, and thereby raise the character of the British soldier. You have all had an opportunity within the last few days of reading an account of the assistance given by Lord Herbert in establishing the Soldier's Institute at Chatham, which has these objects in view. It must be a matter of the greatest interest and pleasure to the soldiers of our army to know the mark of honour which is about to be paid to his memory for those exertions on their behalf, and to know that the record of those efforts is about to be perpetuated in a manner that may induce others to follow Lord Herbert's example. Believing that this effect will be produced by what we are about to do, I have great pleasure in seconding the Resolution.

The Resolution was then put and carried unanimously.

The CHANCELLOR of the EXCHEQUER :—

The Resolution I am to submit to your notice runs as follows:—"That a subscription be raised for the purpose of erecting a statue to the late Lord Herbert, and also for the endowment of exhibitions or gold medals in connexion with the Army Medical School at Chatham, to be given, at the end of each course of instruction, to the candidate or candidates for admission who evince the highest proficiency in the knowledge of the art of preserving the health of the troops at home and in the field."

I trust that this meeting will be of opinion that the terms of this Resolution are well chosen, so as to give a just direction to the feelings we all entertain on the subject that has brought us together. The purpose of erecting a statue is one that appropriately connects itself with the character and personal qualities of Lord Herbert, and the endowment of exhibitions or gold medals for the Army Medical School having for its object to give the utmost possible efficiency and vigour to the medical education of the army—a purpose that will, I hope, be thought eminently appropriate in connexion with one peculiar sphere to which Lord Herbert devoted his unwearied activity.

This is not an occasion on which it is necessary to enter into elaborate details upon the subject, or to relate the almost innumerable efforts and works of Lord Herbert for the improvement of the condition of the army, and, indeed, for every object of public and Christian benevolence. In every sphere in which he moved—and he moved in many—he has left behind him ample evidence, not only of the opulence and means with which he was endowed by Providence, but also of the boundless munificence and remarkable wisdom with which those means were applied to the benefit of his fellow-creatures. I think that his friends and neighbours in Wiltshire have done well in taking care that, besides the objects treated in the present Resolution, there should also be a proposal for contributing to a convalescent hospital, that is to be open without distinction of class; because, great as were the services of Lord Herbert in connexion with the army, it was not to the army alone that they were devoted, but every one who was in need—every one on whom he conferred his bounty and assistance—was, in his view, entitled to his utmost endeavours in their behalf.

As respects the army, let me endeavour to sum up, not the details, but the leading lines in which the course of his exertions was directed. A time of crisis came, for which no one was responsible, but which was, perhaps, the necessary consequence of so long a period during which the active services of the army had been happily disused. If no one was responsible, certainly no one was less responsible than Lord Herbert, because, from the first moment that his official connexion with the army began, it was a course of unwearied effort at improvement and reform, and that improvement and reform directed alike, and without distinction, to the physical, the moral, and religious condition of the soldier. But when that time of crisis came, he seems to have felt that it constituted a peculiar call to enter upon a vocation in which he was to earn distinction, and of which his countrymen engaged in the army were to reap the utmost benefit. I am not here to draw invidious distinctions between the comparative claims of those who were his fellow-labourers in the same honourable field. My noble friend who moved the first Resolution directed attention to one name in particular that ought never to be mentioned with any elaborate attempt at eulogy; for the name of Miss Nightingale is indeed a power that has become a talisman to all her fellow-countrymen. The modesty of my right hon. friend (General Peel) who seconded the Resolution prevented him from adverting to the fair claims that may be made on behalf of those who have filled responsible situations, whether it be, Sir, yourself, as the professional head of the army, or whether it be those who, as politicians or advisers of the Crown, have, under that sense of responsibility, gladly co-operated, and who freely accepted from the hands of Lord Herbert those important and salutary changes which he in a great degree matured and prepared for their acceptance. It would be most unjust to exclude others from our view, especially if we were to exclude those numerous members of the medical profession, both within the army and beyond its limits, whose skill, time, and utmost endeavours have been devoted to that sacred cause. It would not be invidious and unjust to any of them, if I say that Lord Herbert was the great standard-bearer in that work—that he devoted himself to it with almost unequalled self-devotion—and that, through the bounty of Providence and the remarkable nature of his personal gifts and qualities, he had a power of helping it forward that hardly any one else, even with equal will, possessed. To him, therefore, in a principal degree, we owe that important Commission for Inquiring into the Sanitary State of the Army, that has produced results, destined, I hope, to endure for many generations. To him, in a principal degree, and with the co-operation of others, we owe the Commission for Inquiring into Barracks and Hospitals. To him we are indebted for the re-organization of the medical department of the army. To him we owe the Commission for Inquiring into and Remodelling the Medical Education of the Army. And, lastly, we owe to him the Commission for presenting to the public the vital statistics of the army in such a form, from time to time, that the great and living facts of the subject are brought to view; for statistics in a case of this kind are not mere matter of form only, nor do they simply afford gratification to an honourable and useful curiosity, but they are the means by which all the realities of the case are kept before the face of the nation and the military authorities, and by which, therefore, we have the

best guarantee in our power against the recurrence of the evils that Lord Herbert struggled to overcome. We see the fruits of these Commissions; for, from year to year, from month to month, and almost from week to week, we have one measure or another carrying these inquiries into practical effect. And it is touching to record, that the very day which removed Lord Herbert from the gaze of his admiring countrymen the General Hospital at Woolwich, organized on the system that he has been the means of introducing, was for the first time opened for the benefit of the army. I think that I speak on the highest authority, upon authority far higher than my own, when I state the significant fact that the mortality of the British army has, in consequence of the measures in which Lord Herbert, at so great a cost to himself, took so commanding a share, been reduced by no less than one-half. That is to say, one-half of the men die now who died in the British army, under the same circumstances, before these measures were adopted. I think this summary is enough to satisfy those who are incredulous, if any such there are, as to the reality of the services that we are here met to commemorate.

And if it be true, as it has been asserted here to-day, that Lord Herbert was untimely in the hour of his death, at least it may be said, with equal truth, that he was happy in the whole course of his life, and in every incident of his character and position. Great as are the works of Lord Herbert, there is something, if possible, of still greater interest to those who enjoyed the privilege of knowing and loving him from his youth upwards, and that was the character of Lord Herbert. On their recollection it will ever remain engraven, in some sort, as a model of imitation; yet hardly for that sort of imitation which aims at reproducing its original, for I do not use the language of exaggeration when I say that characters of that kind and stamp are of rare production, and that seldom indeed is it given to men to exhibit before their fellow-creatures such a combination of every mental and moral as well as social gift. Even more remarkable, I presume to say, in their recollection than his great eloquence, than his administrative power, or than his unequalled social fascination, were those qualities underlying the surface that, even in this assembly, although I tread on tender ground, stamped him not less and not more with the character of an eminent citizen than that of an eminent Christian. In Lord Herbert there were such gifts, and so peculiar, that even here they may be placed on record. He, it must be admitted, was the gentlest man that ever undertook to confront the difficulties of public affairs. It is true, that he was strong as well as gentle. But how rare in the world we inhabit is the genuine union of gentleness with strength. It is difficult for an ardent lover of his country, like Lord Herbert, not to confront abuses, and not to endeavour to remove and mitigate great public evils. But he confronted them, not like others, with perhaps

honest anger and fervid indignation, but he confronted them, in the main, by that winning gentleness that subdued far more than resistance, and he achieved far greater triumphs for the benefit of his country than were ever achieved by the spirit of anger and wrath. That gentleness was combined with a modesty such as I, for one, never knew equalled in any station of life. It would, perhaps, have been intelligible and excusable if so remarkable a combination of personal gifts and outward circumstances had produced on him some degree of intoxication. But, on the contrary, his modesty was such, that I doubt whether there lives the man among all his colleagues, among all his friends—and here, whatever our political differences, we are all friends—I say, I doubt whether there lives the man who ever heard Lord Herbert, I will not say boast, but even recite to any one as his own, one of the services that he performed. Men think it pardonable, if they have achieved great works for their country, if they sometimes refer to one or the other. But the language of Lord Herbert was not, "I did this," or "I did that." Eager and enthusiastic as he was in the discharge of his duty, when that duty was performed he cared little for the reward, and less than little to seek that reward by any assertion of self. That modesty of his was deeply founded in the humility of the man. I declare it to be my belief that, in some manner, by the general purity of his nature, and by his high principle and conscience, he contrived to hide from himself the signal character both of his virtue and his works.

We are here for a purpose of great public utility. While we testify to the past, we are also, I believe, making provision for the future. To us common men, it is but in a limited sense that we can be exhorted to imitate men so uncommon; yet to every one of us it is, in some degree, open to profit by these high and noble examples of human excellence. In a country in which its noble and high-minded youth have, in so many instances, exhibited a remarkable combination of gifts and power, let us hope that no small effect will be produced on our countrymen by the scene before us—by this crowded hall, under auspices so high as those of his Royal Highness, and by an assembly where every rank, every class, every political party, is combined with one heart and soul to do honour to departed virtue. I trust that many will thus be hereafter incited to follow Lord Herbert in his career of self-denial and public duty, in which we may all in some degree follow him, by perceiving that it is not only within the conscience, not only within the hopes of an unseen world, but likewise here and now, and amid the applause of a grateful country, that here in England public services and distinguished virtues are remembered.

His Royal Highness the DUKE of CAMBRIDGE said, in the absence of Lord Clyde, who was unfortunately prevented from

attending, the Resolution would be seconded by Sir John Burgoyne.

GENERAL SIR JOHN BURGOYNE:—

Nobody can deplore more than I do the absence of Lord Clyde, but I esteem it a very high honour to be called on to take part with the distinguished individuals here present in the proceedings of this day. I can only attribute it to the fact of my being the oldest military man on this platform.

Notwithstanding the able and brilliant encomiums that have been bestowed on the late Lord Herbert, I cannot reconcile it to my conscience to stand up in this meeting without testifying, in a very few words, to the great respect I entertain for the memory of the late Secretary of State for War. Placed as I am at the head of one of the branches of the War Department, it has fallen to my lot to have frequent intercourse with the late Lord Herbert. It would be needless for me to testify to the high qualities and attributes which he possessed, and which have been so ably described by others; but there was one characteristic he had which struck me particularly as a man of business—indeed, I never left his presence without being sensible of it—that, with a high degree of firmness of purpose, he always united an amount of courtesy in his manner that greatly tended to stimulate the zeal and gain the cordial co-operation of everybody that was under him. Lord Herbert was pre-eminently the soldier's friend. His hobby appeared to be to promote the health and comfort of the soldier, and his pet was Miss Nightingale, who had for many years devoted herself to the same pursuit.

For myself, I will only say I shall be greatly disappointed if the army generally do not largely contribute to the special objects of this Resolution.

The Resolution was carried unanimously.

The BISHOP of OXFORD, who was loudly cheered, said:—

May it please your Royal Highness, ladies and gentlemen, the Resolution which has been committed to me is—"That the following noblemen and gentlemen be requested to act as members of the committee to collect subscriptions." I will not take up your time by reading the list, but will assume it as read. Your Royal Highness, however, will allow me to say, as touching this special Resolution, that it seems to me to bring before our notice one especial feature of the character of Lord Herbert which this meeting may, perhaps, listen to still. That committee, headed by your Royal Highness, begins with a list of the most distinguished men in the British army; it is then followed by a compartment of the great statesmen of the day; and then comes a third class, including clergymen and gentlemen of every rank and of every pursuit among us; marking the way in which the character of this man addressed itself to every good citizen, to every rank, to every labour of virtue, of gentleness, and of kindness.

It is not for me, Sir, to speak about what he has done as to the British army. Suffer me, however, to say that I do not for one moment consider there is anything in the Christian ministry alien from the best interests of a Christian army. I have no such mawkish feeling in my nature. An unjust war is the greatest of iniquities; but a just and a defensive war is the last and the greatest appeal to the God of Truth.

But, Sir, I will leave that subject to those who have so well handled it, as they were so well entitled to deal with it, and for the few moments I shall occupy your time, I will rather refer to what in some respects is peculiarly fitted to illustrate another part of the character of this man; it is this—the many-sidedness of his character, mixed with its remarkable reality, always struck me as one of the distinguishing features of the man. Its many-sidedness in this way—devoted as he was to that master-subject of reforming many of the arrangements of our army, there never was any one reasonably considered plan for mitigating the sufferings of others which did not meet at once in him a ready response. And there was this peculiarity about it—it was not that general glow of universal benevolence which is anxious to impart great unascertained advantages to masses as masses; but it was a real, trouble-taking, thorough sensibility of sympathy with the individuals that made up the masses. For instance, the exertions of Lord Herbert as to the Charmouth Infirmary may be known to some present; but I doubt whether there be any, certainly they are few, who know that, before joining with others in that undertaking, he had singly founded and maintained at Mudiford, in Hampshire, a hospital for scrofulous children. Yet this was one of the special features of his most lovable character. Human infirmity in its every form, human suffering in its every exhibition, appealed at once to the sympathy of his most humane heart. In man, in woman, or in child, it awoke at once in him the responsive note of unity of sorrow with the sufferer.

Nor was this all. Another feature of his character was here strikingly exhibited. His reality led him to deal unsparingly to himself with all the minutest details of any work of love he had undertaken; and so, having learnt that at the institution at Kaiserwerth, in Germany, great relief had been administered by the use of one particular bath, he rested not till he had himself secured the bringing from the distant asylum the ingredients needful for securing the like healing for these English little ones whom he had made his care.

It was my lot, at his desire, to take some part in that scheme of emigration he was so much engaged in for the benefit of the poor sisters of our race in this great metropolis who were—I will not say driven—but

perilously induced to the very edge of vice by the strong necessity of obtaining the means of living. That same manly heart of his which made him the soldier's friend made him also the woman's protector. And how did he do it, Sir? Not by coming and making an occasional speech, which his ready utterance made no difficulty to him, but by taking into that full hand even the details of administration; and I, for one, can well recollect, when called on to confirm some young persons on board one of the emigrant ships, accompanying him on a pouring day through one of the murkiest purlieus of the Thames, he himself sitting in the cabin, and, just before the sailing of the vessel, writing the last recommendatory letter which was to be in their new land their only introduction.

Yes, it was such sights as this which made one's heart rejoice while we loved the man, which thus lifted us up to communion with the best, the most loving, the most devoted examples of our common race. It ought never to be forgotten that all this labour and all these acts of self-devotion were undertaken by a man who had everything this world could give to withdraw him from these things. It was the simplicity of his nature, so beautifully spoken of by his friend the Chancellor of the Exchequer—the unostentatiousness of his nature, that struck one with so much surprise. However overpowering his work might appear to be, seeing him in the midst of it, if you mingled with him outside the room of business, there was nothing about him that told you how hard-worked he was. There was no allusion to the great amount of labour he had to undergo; and here was the indication of his inner feeling—he was as remarkable for the joyousness of his life as for the depth of his sensibility.

There was a man, who was gifted by a gracious Providence with every mental attribute—gifted, I may say, with every moral gift—gifted with a fine person, which bespoke the man with whom you had to deal—the full, open eye, the noble, manly bearing—a person which seemed to cast off the very physical stains of the atmosphere around him, as if the purity of his inner nature breathed through the outward tabernacle—it was this man, who, instead of yielding himself, I will not say to ignoble and selfish indulgence, for it would have been none to him, but, instead of indulging himself in all that art could give to beautify life, and all that the most refined sensibility could enjoy, spent himself freely for every suffering brother, to mitigate the adverse lot of every tempted sister.

Yes; and he has left among us memorials that will endure for ages. He was the founder of hospitals, he was the builder of churches, he was a maintainer of schools, and his right hand knew not what his left hand gave. Day after day, now there comes the secret witness from most unsuspecting quarters, "My sorrows have been alleviated up to this time by him who has been taken from us; am I to be left to sink because he is gone?" And this has been, to those who stood the closest to him,

the first intimation that that hand of liberality had ever been opened in those quarters.

Truly, truly has it been said, that though taken too early for us, he has not been taken too early for himself; for I do believe that there was the deep under-foundation of a Christian faith, giving its utterance to all these words of gentleness, giving action to all these deeds of kindness, which made that life so beautiful as well as so useful; and these, Sir, I believe, have gone up as a memorial before God for our departed friend.

They who, like myself, were honoured for many years, even from his sweet youth up, with the blessing of his intimate acquaintance, know well that life has lost one of its most blessed lights when he was removed from them—a heart that never failed to feel with you in sorrow, a head that never failed to suggest to you something noble and useful.

And yet we may let him go, anxious, indeed, as we should be, to embalm that grateful memory in a nation's thanks; but knowing that, after all, when we have done our best, there is ever a yet more abiding record, as we venture humbly to believe—a record which shall endure for ever, where works done from love to God and love to man shall never be forgotten.

EARL DE GREY and RIPON, in seconding the Resolution, said:—

I feel that I can add nothing to that which you have already heard addressed to you, but I am glad to have this opportunity of bearing my testimony to the spirit in which my lamented chief laboured in the office with which I had the honour of being connected with him for eighteen months. Day by day, and hour by hour, I was a witness to that zeal which never failed, even before the advancing ravages of that illness which brought him prematurely to his grave—to that energy which was guided by the calmest and strongest judgment—and yet more to that buoyant disposition which enabled him to pass through the arduous duties of an arduous office without those working with him having ever seen a cloud ruffle the surface of his genial nature. It was in such a spirit of untiring and cheerful devotion that he laboured for the benefit of the British army and for his country—it was such a spirit that enabled him to improve the physical and moral condition of the soldier, to organize and raise that volunteer force which has added a new means of defence to the country, to fortify and place in security our forts and arsenals. The right rev. prelate alluded to one characteristic of my noble friend when he told you that there was no trace visible to those who met him outside of the great labours in which he was engaged; but permit me to say that that characteristic he brought into the office itself, and it was by his unvarying courtesy and the equanimity of his temper that he was enabled to do so much in the short space of time he was

permitted to remain here. He had the secret of winning the hearts of all who served under him, and it was by the confidence he placed in those who did their duty well, that he inspired all who came near him with a portion of his own self-sacrificing and devoted spirit. I will only say that it is to me a proud, though a melancholy satisfaction, that my official connexion with Lord Herbert has induced the managers to invite me to take part in this proceeding. I know the spirit with which he was animated. I was acquainted with those qualities which made us love the man and respect and admire the statesman; and I feel confident that though as regards Lord Herbert, his monument is not to be built in stone or bronze, but written on the heart of the British soldier whom he served—of the country in whose service he spent his life, yet it is a wise and judicious act of his countrymen to raise to him a record of their respect and admiration, leaving it to others who come after him to imitate the noble career to which he devoted himself.

The Resolution, which requested the noblemen and gentlemen therein named to collect subscriptions, and devise the best means of carrying into effect the Resolutions of the meeting, was then put from the chair and passed unanimously.

The DUKE of NEWCASTLE, in rising to propose the last Resolution, said:—

He might be allowed to sum up the virtues of one of his oldest and best friends by bearing testimony to the amiability of his disposition, his great social qualities, the geniality of his temperament, his amenity, gentleness, manly frankness, and, above all, the excellence of his private character, which had brought many to that meeting independently of Lord Herbert's public virtues. His right hon. and gallant friend (General Peel) had said that they were not met to commemorate the private virtues but the public character of Lord Herbert. That was true, but no one would more readily recognise that those private virtues added greatly to the estimation in which his public character was held, and by those private virtues the public were very much guided in their estimate of a public career. For proof of this assertion he had only to look at that meeting, and see how the acerbity of political warfare had been softened by Lord Herbert's amiability. Whatever monument might carry his name down to a future generation, no testimony could be more grateful than the aspect of that platform, upon which were seen a Prince in the chair who belonged to no party, the leading men of two rival Administrations, and men of every profession and class. He hoped it would not be indelicate if he drew aside the portals of domestic life, and pointed to one sacrifice, which was the

greatest Lord Herbert had made. The deceased was in his life the centre of a large, loving, and domestic circle. He was beloved, not only by those who were born into his house, but by those whose happiness it was to have formed a connexion with his family. Those domestic affections he had been ready to sacrifice, and on his death-bed he felt that they were one of the greatest sacrifices he had made to the service of his country. He thought a proper discretion had been used in not reading any of the numerous letters that had been received from those who were unable to attend the present meeting. But he would ask permission to read a few lines from one of Lord Herbert's oldest friends—from one who was no longer living, but who had felt the greatest regard and affection for Lord Herbert, and who at the risk of his life had travelled across the length and breadth of the land to be present at his funeral. He referred to Sir James Graham, who, in a letter to his friend Mr. Sotheron Estcourt, speaking of Lord Herbert, said—"He so lived and so truly applied the means that a bountiful Providence placed at his disposal, that he will be long remembered both in his public and private station. I think a statue of him, if by an eminent artist, in Salisbury, will be a most suitable monument, under the shadow of the cathedral spire, which points to that Heaven where his hopes were centred, and where I trust he has received his great reward." This letter was written by one who himself now slept in a country churchyard, and who could no longer agitate the Senate by his eloquence. The noble duke, after apologizing for diverging from the immediate object of his Resolution, proposed that the thanks of the meeting be presented to his Royal Highness the Duke of Cambridge for his cordial co-operation, and for his kindness in taking the chair.

EARL GROSVENOR, in a few appropriate words, seconded the motion.

The Resolution was carried by acclamation.

His ROYAL HIGHNESS said, it had afforded him much satisfaction to express publicly his sense of the great ability and good qualities of Lord Herbert, and his own devotion to the memory of one whom he regarded as a sincere and devoted friend. He had thus performed a most painful yet most pleasing duty, and had now only to express his gratitude for the compliment that had been paid to him in the Resolution just agreed to.

The proceedings then terminated.

Several smart members of the corps of Commissionaires were in attendance in the room, who rendered useful service in the preliminary and other arrangements of the meeting.

From "THE TIMES," *November* 29th, 1861.

The service done to the State by the late Lord Herbert has been recognised by a concurrence of testimonies and tributes almost without parallel, but the true value of Lord Herbert's exertions can be measured only by their results. It is a case not so much for panegyric or eulogy as for dry statistics. When we state that at the close of the year 1859 a number of soldiers equal to an entire battalion were living and vigorous who but for Lord Herbert's efforts would have been lying in their graves, and that this is the estimate of a single year, and for England only, we shall have offered, perhaps, the most impressive evidence that could be given of the claims established by the departed statesman to the gratitude of his countrymen.

For many a long year the sanitary condition of the soldier had been utterly neglected. Here and there, it is true, some eminent commander would take the matter into his own hands, and secure, by judicious arrangements, the efficiency of the troops under his care, but, as a general rule, the soldier was left to take his chance, and a very poor chance it was. He was ill-lodged, ill-fed, and exposed to an infinity of avoidable risks. On active service his position was worse still, insomuch that the casualties of war were really created not by the sword of the enemy, but by the ravages of preventible disease. Unhealthy and crowded camps, ill-managed and defective hospitals, insufficient supervision, and ill-ordered establishments were the true causes of military mortality. Fever and dysentery slew their tens of thousands, while even at home the army, instead of containing the healthiest classes of society, was visited by sickness and mortality far exceeding the ordinary or natural rate. Soldiers are men in the prime of life, selected for their unblemished constitutions and vigorous frames, kept much under beneficial control, and assured by State provision against anything like privation or want. Nevertheless, in this class of men, thus favourably situated, 17 out of every 1,000 died annually on their own native soil, whereas the mortality among corresponding classes in civil life was but 8 in 1,000. Of every two soldiers, therefore, who died, one died from causes which it was reasonable to suppose might be removed, and the removal of these causes was the good work to which Lord Herbert devoted himself.

As early as the close of the Revolutionary Wars the subject had forced itself upon the notice of the authorities. In those days a good deal of evil was quietly accepted as unavoidable, but when 30 men out of 100 were found to perish in a year—as was occasionally the case on a West India station—it did seem that something might be done. A little inquiry

showed that if the barracks of the troops were but removed from the plains to the hills the most destructive epidemics might be at once escaped, and that discovery was not left unheeded. How slight, however, and unsubstantial was the progress accomplished in this direction may be inferred from the terrible history of the Crimean War and of the hospitals at Scutari. Those were the events which impelled Lord Herbert to concentrate his efforts on the great task of improving the condition of the soldier; but as the subject expanded under his eye it became evident that much was to be done at home as well as abroad; that barracks as well as hospitals must be re-organized, and that the soldier required to be preserved in health as well as nursed in sickness. The work to be done was not merely medical work. The object, indeed, was not so much to cure invalids as to diminish invaliding. Why should these strong, picked, hearty men, sink in such numbers from fever and consumption? Why should soldiers in barracks die at twice the rate of hard-worked, under-fed, and ill-clothed farm labourers? Those were the questions asked, and inquiry soon furnished answers. The men fell sick and died because their barracks admitted no effectual ventilation; because they were all night breathing foul air, because their diet was so monotonous as to be nauseating, and because all this had a natural tendency to set them drinking. To remove these sources of disease it was necessary to make barracks wholesome, to introduce good sanitary regulations, to improve military cookery, and generally to give the soldier a little more enjoyment of his life. If Lord Herbert did not survive to complete this good work, he lived long enough to promote it so effectually that the record of results is scarcely credible.

As a matter of fact, we can state that the mortality of the British Army has actually been reduced at home and on some foreign stations by 50 per cent. The one death out of two that was held preventible has actually been prevented. At the last meeting of the British Association Dr. Farr read a paper in which the statistics of this subject were most perspicuously given. The mortality prevailing in the Foot Guards had been 20 in 1,000; it fell in 1859 to 9. In the Infantry of the Line at home the rate had been 18 in 1,000; it fell to 8. The number of deaths annually occurring among all arms of the service at home used to be 17 in 1,000; the average number among all the troops at Aldershot and Shorncliffe in the years 1857-8-9 was 5 in 1,000. From the colonies also some striking results are reported. In Newfoundland, the military death-rate has fallen from 11 in 1,000 to 4; in Nova Scotia and New Brunswick, from 16 to 7; in Canada, from 17 to 10. At the Cape the deaths have been reduced by about 25 per cent. In Bermuda they have dropped from 34 in 1,000 to 14. In the Mediterranean also improvements have been effected, though not to the same extent. The mortality in Gibraltar has been greatly lessened, and that station no longer figures as an unhealthy

one, but the death-rate in Malta and the Ionian Islands is still higher than it should be. Over the Indian Army the Secretary at War had no direct control, but the sanitary condition of that vast force has been made the subject of formal inquiry, and, as the mortality in Ceylon has been already reduced from 42 in 1,000 to 32, we may reasonably anticipate good results for India.

It must be allowed that such facts as these speak loudly indeed to the value of Lord Herbert's work. Here are results—actual and unmistakeable results. The old rates of mortality with which we have compared the rates of 1859 are not obsolete or exceptional returns. They are formed by an average taken from the ten years ending in 1846, and furnish therefore a fair specimen of times just gone by. It is not pretended that the mortality of 1859 expresses a standard permanently established. Circumstances may possibly raise the figures once more, but the contrast between the two periods we have given is so very broad and distinct that there can be no question about the substantial improvement accomplished. To this improvement we may now look with satisfaction and thankfulness. The State can no longer be charged with indifference to the welfare of its defenders. The British soldier is now the object of far greater solicitude than he could have been even in his own home. His health is maintained by judicious regulations, his ailings and liabilities are carefully watched, and all the sympathies of the public attend the efforts of the authorities for the further improvement of his position. The question, indeed, is not one of sentiment. It involves the highest principles of national wisdom and economy. Lord Herbert's last work was the application of these principles to the organization of the Chinese Expedition, and we saw the results in the extraordinary efficiency of the army and the rapid success of the war, no less than in the lightness of the sick-lists and the wonderful preservation of life.

From the "STANDARD," *November* 29th, 1861.

The meeting at Willis's Rooms on Thursday shows that party feeling in this country is not quite so embittered as some have represented it. At all events, it does not seem that Conservative statesmen are as unforgiving and implacable as they are sometimes painted. It is not long since the Minister at War of Lord Palmerston's Cabinet died. He had once been a Conservative, but was conspicuous in the fatal defection from the ranks of that party which spread like an epidemic disease among the personal followers of the late Sir Robert Peel. In his devotion to the constitutional theory, in his affection for the Church, Sidney Herbert

was still a Conservative, though he took his place among the Whigs. The contemplation of his worth and his talents did not by any means reconcile us to his change of sides. He was an able administrator, a true gentleman, and a thoroughly conscientious man. More was the pity, it was said, that he did not co-operate with those with whom he could best sympathise.

But all this is past. Lord Herbert is dead, and we know that he died prematurely because, from a strong sense of duty, he persisted too long in the arduous labours of his office. He atoned, as it were, by a long penance of work for the good of the soldier, for his part in the responsibility of that terrible calamity of the Crimean winter for which he blamed himself, but from which others now excuse him. For every soldier who perished in those bitter trenches, or died in that ill-fed camp of hunger and disease; for every wounded man who groaned away his soul in those hospitals for the want of lint and linen to cover his wounds, the remorseful Minister of the Government of Lord Aberdeen determined that if he lived to do it he would save the life of at least one British soldier by his earnest attention to the sanitary arrangements of the army. The Government of Lord Palmerston, in offering him again the Ministry of War, held out to him the opportunity he coveted—the chance of usefulness to which he seems to have postponed all political considerations whatever. With a feeble frame, undermined by an insidious disease, he went on till the over-stretched bow snapped at its fullest tension. It was, then, for our army, it was for our country, that he gave his life and lost it. This being so, then, whether he were Whig or Tory, Radical or Conservative, it is all one to us. Detraction cannot touch him now, and political controversies are of little importance to the dead.

It was thus that the leading men of both political parties took their share in Thursday's demonstration. General Peel seconded a resolution proposed by Lord Palmerston. Lord Malmesbury stood on the platform near Lord Russell. Lord Derby approves of the Memorial equally with the present Prime Minister. The amiability and attractive manners of the deceased statesman had doubtless done much to attach to him all who came in contact with him. But even had his character been wanting in its polished refinement—had he been what he was not, a bitter partisan or a rough political gladiator, we are sure that the statesmen on the opposite side of the House would have been just as ready to pay their tribute to the merits and services of the man.

These services consist mainly in his devotion to the work of the re-organization of the army and of providing for the health of the soldiers. The first and most important step which Sidney Herbert took in this latter direction was to procure a parliamentary commission to inquire into the sanitary state of the army. By the labours of this commission a very

grievous fact was elicited. This was that the death-rate among soldiers in the British army was twice, and sometimes three times, as great as that among civilians of the same age. This inquiry was followed by an investigation into the state of barracks and hospitals, and by a provision for the periodical publication of the vital statistics of the army at home and abroad; so that from time to time we may learn what good has been done, and whether there has been any halting in the work of improvement. The Minister also re-organized the medical department of the army, at the same time that he endeavoured to carry out various suggestions as to the health and comfort of the soldier made by high medical authorities. Under his auspices the various military hospitals underwent a complete renovation, and a new hospital, combining all the recent improvements, was, by a singular coincidence, opened at Woolwich the very day he died.

The benefit of Lord Herbert's reforms is proved by the gratifying fact stated by Mr. Gladstone, that the mortality in the army is now just half of what it was. A battalion of troops is thus saved every year to the country! Every one knows that a generous and heroic lady, with whose name all Englishmen are familiar, and whose illness is a national sorrow, had very much to do with the initiation of those reforms with which Lord Herbert's name is now associated. We must not, too, forget to allow to the intelligent members of the medical staff of the army the credit in the great work which falls of right to their share. There are men who have deserved well of their country and of mankind who have never had statues erected to them, or scholarships founded in their name. Such a man was Dr. Thompson, who died in consequence of his attendance on the wounded Russians through the night after the Alma. We are not likely to forget such a man as this. *Exegit monumentum ære perennius.* The friends of heroes in a humbler rank can hardly complain of the tribute which is accorded to those higher in place and station. This recognition is one of the attributes of rank. Before objections can be taken fairly to such a distinction as an injustice, it must be proved that statues and memorials are of some use to the dead.

These latter remarks have been suggested by the grumblings of one of those organs which are supposed to represent the state of feeling in the army. While coldly approving of the Herbert Memorial, it quarrels with each one of the grounds on which it is proposed. It seems inclined to deny all merit to Lord Herbert because he sometimes did what was distasteful, or what seemed unwise and wrong. We are told that his sanitary reforms were pressed upon him by the House of Commons, and against his will. The private soldiers, it is said, owe little thanks to the man who refused to allow any increase of accommodation for the married in barracks or camps, until tents for married soldiers at Aldershot were constructed at the command of the Queen. They bear him a grudge,

too, for having perpetuated the discipline of flogging. The officers in the army are not pleased with him for having resisted the grant of pensions for wounds, by which resistance he exposed the Government to the humiliation of a defeat in the House. The medical officers, too, are chafing under the suspension of the army medical warrant of 1858, the provisions of which should certainly be carried out.

It is scarcely possible that a man in Lord Herbert's position should have avoided giving occasional offence to those placed under his control. The indictment preferred against him is not heavy. Agreeing in much of it, we think it but a trifling set-off against the services which he has rendered. The proposers of the testimonial have laid themselves open to attack by proposing a subscription among all ranks of the army—a proceeding which is contrary to the army regulations, and would render its promoters liable to a court-martial. We trust that it is now placed upon a better footing.

From the "MORNING POST," *November* 30, 1861.

It has been finely said by the German poet, Aloys Blumauer, that there are two kinds of human greatness, each well becoming the man whom Heaven has gifted with it; but in the greatness which each wears as a royal robe, the aims and attributes are as different as if different threads and dyes were worked and interwoven in the texture. One species of greatness is surrounded by a blaze of light, whilst the eye feels refreshed in resting on the mild, calm tints of the other. One dazzles like the orb of day, but scorches not less surely than it warms; the other, like a soft crescent moon, sheds a mellow hue over darkness. One, rushing like the torrent spray, is dashed in foam over broken rocks; the other pursues its tranquil course almost unobserved by the dwellers in the plain on which it bestows fresh verdure. One rears proud mausoleums to itself, to ambition, and to glory, whilst the favourite trophies and triumphs of the other are the tears of grateful human hearts. The one would fain be praised, be observed, and be renowned; but though its renown often stretches from pole to pole, the mortals whom it truly befriends are possibly but few, and the light encircling it casts a lurid glare; but the other —calm greatness, the self-sustained and self-controlled greatness—ever steadily pursuing its course in the paths of duty, whilst shrinking from the noise of vulgar plaudits, is found to have graven countless benefits and blessings on the hearts of the individuals whom it succoured, or the story of the country which it loved and served.

The meeting held on Thursday, at Willis's Rooms, to take the requisite steps for raising an appropriate Memorial to the late Lord Herbert,

cannot be better described than as the spontaneous tribute of the Prince of the blood royal who presided at that meeting, of the Prime Minister and the eminent statesmen of all political parties who shared in it, and as reflecting and representing public opinion throughout the country, of the whole British nation, to this second kind of greatness, this calm, steady, undazzling virtue, embodied in the private and public life of him whose memory it was designed to honour. Rarely have the choicest boons of nature, and the chief distinctions of fortune and of rank, been lavished with greater abundance on a single individual, and more rarely still have the talents received from Heaven been so faithfully and conscientiously turned to account, and employed under the deep and enduring conviction that he to whom they had been given was ever in his great Master's eye. There was no species of social, or literary, or political distinction to which the late Lord Herbert might not have aspired. He might have played in the world of fashion the brilliant and seductive, but really worthless part performed by the Grammonts of a former age, or the D'Orsays of more recent times. He might have made good the hereditary claims to intellectual distinction which descended to him from one of the most graceful poets and one of the subtlest sceptics of the seventeenth century. Of one respecting whom the Duke of Cambridge observed that he had the clearest view on military matters that he almost ever met with in a civilian, it is not too much to affirm that, had he chosen the profession of arms, he would, if the occasion ever required it, have displayed the administrative resources in conducting a campaign of a Napier or a Soult. He who at his first entrance into public life was marked out by the late Sir Robert Peel as the future Prime Minister of England might by his voice and decision have turned the scale of parties, had he not preferred giving up to mankind the abilities and influence which mere party would too gladly have monopolised. But Lord Herbert was something far better and far greater than a mere leader of fashionable society, or a mere scholar and writer, or a mere military administrator, or a mere party chief. All his gifts and graces were harmoniously blended in the execution of the great task which he had set before himself—the improvement of the military service of his country. Lord Palmerston, whose earliest official duties, more than half a century ago, were connected with our military administration during the last years of the war against the first Napoleon, and who has had the best opportunities of observing the career of every statesman employed in similar functions from that to the present day, summed up the public services of Lord Herbert in the comprehensive sentence—"There never was a man who brought to bear upon an interesting and important subject a stronger intellect, a more anxious desire, and more incessant and indefatigable labour, than did my late noble friend in everything that concerned the welfare, the comfort,

and the health of the army." It is at such a moment as the present, when we are, it may be, on the eve of a great crisis in our country's history, when both our military and naval energies will be invoked and called into action, that we must gratefully appreciate the self-sacrificing toils of him who worked while it was day, for the night cometh when no man can work. This grateful appreciation was not wanting in any of the addresses delivered at the meeting of Thursday. In the words of General Peel, we are told that "there can be no truer description of him than to say that he was the perfect specimen of an English gentleman." In the words of Mr. Gladstone: "Great as are the works of Lord Herbert, his character was greater still;" and amongst the peculiar personal gifts which Mr. Gladstone left on record was his unequalled gentleness, the fact that he was the gentlest man that ever undertook to confront the difficulties of public affairs. In the words of Sir John Fox Burgoyne: "he was pre-eminently the soldier's friend." The Bishop of Oxford says of his benevolence that it had this peculiarity about it—"it was not that general glow of universal benevolence which is anxious to impart great and unascertained advantages to the masses as masses; but it was a real trouble-taking, a thorough sensibility, a sympathy with the individuals that made up the mass." Lord de Grey observed, that "Lord Herbert's monument is not to be made of stone or bronze, but will be written on the heart of the British soldier, whom he served." The last speech made at the meeting, that of the Duke of Newcastle, possessed a double interest, for the speaker, in addition to the tribute of his own veneration for the memory of Lord Herbert, was enabled to unite that of another eminent public man just removed from this life—the late Sir James Graham—than whom, perhaps, there was no more competent judge of administrative capacity and zeal. Indeed, the tone and spirit of all the speeches at this memorable meeting were honourable to the living not less than to the dead, evincing as they did that not merely around Lord Herbert's tomb every feeling of party animosity was extinguished, but that during the hottest party struggles of his life, the purity of his motives, and the uncontested nature of his public services had never ceased to excite the sympathy and command the esteem of his party antagonists quite as much as of his political associates.

From the "MORNING CHRONICLE," *November* 30, 1861.

Seldom have so many of our public men assembled to pay a tribute of respect to a departed statesman as met together on Thursday, to take the initiative in raising a Memorial to the late Lord Herbert. If that noble-

man was treated with some degree of injustice during his life, every one seems to have resolved that his merits shall now be fully recognised. The First Minister of the Crown connects his name with the warmest eulogiums, the Commander-in-Chief speaks of him in terms of the sincerest admiration, and the Chancellor of the Exchequer bids us regard him as a model for imitation in almost every particular. Never was Sterne's thought, that death opens the gates of fame and shuts the doors of envy, more strikingly illustrated. Even the jealousies and animosities of political life fade in the presence of the grave. The Earl of Malmesbury was one of those present at the recent meeting; and although it was scarcely to be expected that Mr. Disraeli would take any prominent part in the undertaking, yet it is understood that he will participate in it in the way which is open to the general public—that is, by contributing to the common fund.

The addresses delivered by the eminent men who addressed the meeting were, upon the whole, worthy of the occasion, and they curiously bring out the different styles and characteristics of the speakers. Lord Palmerston, as usual, goes straight to his point, and awards praise in the frank and manly manner with which he performs every public act. Mr. Gladstone is more elaborate, more minute, and more polished, but his speech forms a very noble panegyric on a great man. The single-heartedness, the devotion to duty, the unceasing anxiety to serve his country, that distinguished Lord Herbert, are set before us in an impressive, if not a new light; and the Bishop of Oxford does not draw less upon our admiration when he assures us that the late War Minister was a founder of hospitals, a builder of churches, the maintainer of schools, the supporter of numerous poor persons, and that his right hand never knew what his left hand gave. This is testimony which the greatest of the empire might wish could be borne to them; and every one who knew Lord Herbert feels that it is not the language of courtly compliment, but a just and unexaggerated description of the man. Never did England have a servant more disinterestedly attached, and more heartily desirous of promoting her welfare—never was there one who cared less for the ordinary rewards of office, or who was moved so little by the promptings of ambition. This is just such a man as the nation delights to honour. Even in the midst of the excitement occasioned by a probable collision with America, we are sure that the country will respond in a proper spirit to the appeal now made to them. It is very true that all the money required could be raised easily, and in a few days, among those who knew Lord Herbert, or who are engaged in public life; but this would not be to erect a "national" memorial. It is desired that every person who chooses should have an opportunity of testifying respect to the memory of a most excellent man: a dozen statues might be placed in our public

streets without asking the general public for a penny; but Lord Herbert worked, and died through working, for the great body of his countrymen, and not for any particular section of them. Lord Palmerston puts this point before us in so clear and emphatic a manner, that we cannot refrain from asking our readers to ponder over it. Referring to the premature death of Lord Herbert, the Premier says:—"He shut his eyes to those symptoms that might to a man less zealous of his public duty be a warning to retire in time from public life, so that, perhaps, the malady might be subdued, but he went on labouring to the utmost of his physical powers from day to day; and I regret to say—although it undoubtedly enhances his claims to the respect and gratitude of his fellow-countrymen—I regret to say that by his unparalleled devotion to the performance of his public duties, he neglected those opportunities of rest which might have saved him to his country; and he fell as much a victim to the performance of public duty as if he had fallen on the field of battle."

There can be no doubt that this will be the view taken throughout the land. Few, who can allow themselves the pleasure of contributing towards perpetuating the name of an Englishman who reflects honour on his country, will abstain from co-operating in the present design.

The memorial is to be of a twofold form—a statue will be erected to Lord Herbert, and an endowment of exhibitions or gold medals is to be established "in connexion with the Army Medical School, at Chatham, to be given, at the end of each course of instruction, to the candidate or candidates for admission who evince the highest proficiency in the knowledge of the art of preserving the health of the troops at home and in the field." The proposition is an exceedingly judicious one. Lord Herbert himself would undoubtedly have wished the memorial to be confined to the encouragement of the Army Medical School, since he had no object so much at heart as the personal comfort of the soldier. If soldiers only knew how much they are indebted to the late Minister, they would be foremost in coming forward now to pay honour to his name. Most of our readers must be well acquainted with the efforts he made to improve the sanitary condition of the army, and how ardently he was supported in those efforts by Miss Nightingale. Had he lived, he would assuredly have done very much more for the rank and file of our forces; as it is, some of the best institutions for the relief of the sick soldier have their origin in him. It is highly appropriate, therefore, that his name should still be linked with the schools of medicine. But with regard to the statue, we own that we have some misgivings. The reproachful figure of Havelock seems to warn us off any more caricatures of our public men. We are almost inclined to ask whether it would not be better to leave the statue proposal out of the plan. Lord Herbert is not likely to be forgotten; even if such a thing were probable, better so than be stuck up as a target for small jokes, and

as another example of the incompetency of our sculptors. Sir Robert Peel at Cheapside, and Wellington everywhere, Napier and Jenner in Trafalgar-square, and a host of other witnesses, seem to rise up protestingly against the first part of the suggested memorial. On the other hand, we cannot deny the fact that if ever man deserved a statue as a mark of national respect it was Lord Herbert. Surely there must be some one of our English sculptors adequate to produce such a work without discrediting his countrymen. It would be ignominious, indeed, to be compelled to seek assistance from abroad—let us have no foreigner's hand in this thoroughly English undertaking. We may consider it absolutely certain that money enough and to spare will very soon be forthcoming—the names on the committee give us confidence that it will be expended with care and judgment. And if the statue can be placed in the Houses of Parliament or in Westminster Abbey, the site would be a fitting and appropriate one. It is an instructive commentary on the vicissitudes of a public life, that the services this memorial is designed to commemorate were rendered at the very time when Lord Herbert lay under some degree of unpopularity, and was exposed to severe animadversions from a portion of the press.

From the "MORNING HERALD," *November* 30, 1861.

It is not always that "the good that men do is interred with their bones." The brilliant meeting held on Thursday, at Willis's Rooms, to do honour to the memory of Lord Herbert could hardly have been gathered together in honour of any living statesman. Not perhaps that the merits of the living men would have been less, or have won abstractedly a less just recognition, but that the circumstances under which they would make their appeal would fail to be seconded by considerations so hallowed and exalting. Just as Mr. Gladstone suggested the happiest characteristic of the deceased peer when he said, "that by the genuine purity of his nature, by his high principle and conscience, he covered and hid from himself the signal character both of his virtues and his works," we are willing to believe that it may be alleged of many of that distinguished audience, that the chief feeling which had stimulated them to concur in a tribute so pre-eminent was the consciousness that "honour's voice" could not "provoke the silent dust," nor "flattery soothe the dull, cold ear of earth," and that when the higher feelings were brought into play, living worth was found to have a less claim on their homage than that whose gratitude was for ever silenced by the most solemn of all eventualities.

Yet it may not be said that Lord Herbert was one of those to whom

post-obit justice strives with tardy step to atone for a neglect and wrong wreaked during his life. We have unfortunately in our history had too many instances of great men the victims still more than the benefactors of their age, who have been claimed, like Homer, after their death, by the enthusiastic rivalry of parties who, while they were living, were content to see them begging bread through their cities. We may proudly claim, as regards the late lord, that in every sense he was made "to see good in his day." The warm appreciation of his many excellencies which always characterised those who knew him in private life, where, as the Duke of Newcastle said, "he was the centre of a large, loving, and sensitive domestic circle, comprising not only those who were born in his house, but those who had the good fortune to form connexions with his family;" that appreciation had long before his death extended to the nation, and to all the political parties that divided it. Though the most unobtrusive of politicians, the public had come by degrees to acquire confidence in that character and those qualifications as a statesman which had early won the sagacious regard of Sir Robert Peel. Like Bishop Atterbury, though honoured by one party, he was not the less esteemed by the other. It has been said by one who was himself a great statesman, that a few feathers of ostentation are essential to all public men, and that he who is content to be only real needs the highest qualities of genius and attainment. The late Lord Herbert had less about him of the adventitious and the assumed than Lord Bacon would have thought wise. The estimate of himself suggested by his manner would have given a very erroneous cue to his real deserts. Though there be scarcely any exaggeration in the glowing panegyric in which Lord Palmerston, Mr. Gladstone, and General Peel claimed for him at the meeting, "every gift under heaven"—though his character was indeed "of that kind and stamp that are of very rare production"—though it be seldom that it is given to man to "exhibit such a combination of moral and intellectual excellence," and though his administrative powers were almost beyond comparison, and helped by so high an order of eloquence that he was able, as Lord Palmerston tells us, "to wield the keenest sarcasm required for the purposes of debate," and to be one of the most effective speakers in the House, he was, nevertheless, we are told, the gentlest man that ever undertook to confront the difficulties of public affairs. "That gentleness," continues Mr. Gladstone, "was combined with modesty such as I, for one, have never known to be equalled, I think I may almost say, in any station of life." But this almost poetic tenderness of disposition, set off by the sterling strength of his intellectual ability, was not without its advantages. "Corruption wins not more than poverty," says Shakspeare; and Lord Herbert's character enabled him to confront the public evils that stood in his way "with a winning gentleness," says one of his colleagues, "which subdued far more of resistance, and

achieved far greater triumphs for the benefit of his country, than could a spirit of anger and wrath."

In entering the War Office it became his business and first duty—for it was, indeed, the first necessity of his country—to evoke order out of chaos, and intelligent action out of confusion and antiquated routine. During the first seven months of the Crimean campaign our soldiers died at the rate of sixty per cent., and even at home, in a state of peace, it was found that though the army was composed of picked young men, the weak being rejected as recruits, the sickly or disabled being invalided, the mortality was still double that of any other equal portion of the English population. The late peer made it his mission to reform this frightful anomaly, and it is his high merit that in a great measure he achieved his aim, the glory being enhanced by the consideration that he deliberately died in the attempt. The four commissions he set afoot, on the state of the barracks and hospitals, on the re-organisation of the medical department, on the education of the army, and on the annual preparation of the vital statistics of the army, have already achieved infinite service, and the exposures they have made of evils, and the suggestions they have given of improvements, are daily operating in changes which are affecting the well-being of the soldier in every department of the service. The mortality of the army has been reduced to almost normal proportions. On the day on which he was buried the General Military Hospital of Woolwich, organised on the principles he had settled upon, was opened to the army. Thanks to his initiative, we have just now finished at Chatham the important institution which opens to all soldiers in that garrison a club under their own management, where, at very moderate charges, they may unite all the comforts of a home with all the advantages of a mechanics' institute; and it may be said generally, whether as regards the intellectual, the military, the moral, or social well-being of the soldier, that through his labours, if the army be not on the precise footing its enlightened friends wish, it is at all events placed in circumstances where none of its well-attested grievances can long be unredressed.

It is not to be concealed that the meeting of Thursday had its interest not a little heightened by the recent news which make it not impossible that the soldier may be soon again in active request, and that we may be early reaping, in his increased comforts and lessened risks, some of the advantages of the reforms introduced by the late Minister of War. As the Bishop of Oxford reminded the audience, that "while an unjust war was the greatest of evils, a just war was the last and best appeal to the God of truth," there can be no doubt that his hearers recognised much of the importance of the moment in the aptness of the memento. We believe that we were never better prepared for such an emergency, and this chiefly through Lord Herbert's reforms. But we earnestly pray that we

may be spared the necessity of putting them to so cruel a test as of being forced to make this most terrible of all a nation's appeals; praying, however, still more earnestly, to be spared those dishonours of a tame submission to reiterated wrongs, which may be even worse for a nation than the calamity by which we seek to avoid them.

From the "DAILY NEWS," *Dec.* 2, 1861.

It would seem impossible that any description of a man's character could be fuller, or any appreciation of his gifts and virtues more thorough, than that which we read in the speeches in honour of Lord Herbert at the meeting at Willis's Rooms, last Thursday. Yet we miss in those collective addresses any accurate estimate of the precise service to which he proposed to devote his life. All that was said of his powers, his devotedness, and the charm of his character and manners is true, and was grateful to the feelings of those who knew him; but the public, who regarded him in connexion with public affairs, have not found in the words of his eulogists any clear representation of Lord Herbert's aims and proposed services as a minister and a citizen.

With him began military administration in England. We need not go back beyond the Crimean War to show that there was then nothing worthy the name of administration at the War-office. We used to hear of the great services of the Duke of York in the military department; but there never was a time, nor an occasion, when the British army was not at the mercy of accidents in some direction or other; when its forces were not wasted by mismanagement; when its precious lives were not extinguished by thousands by disease and misadventure in barrack, camp, and field; when its affairs were not conducted in a desultory way, or left to chance; when, in short, military administration in England was not a chapter of accidents, and found to be so on occasion of any unforeseen trial.

The last time this was discovered by the people of England was when they had to call a coroner's inquest on their first Crimean army. Lord Panmure tided over the crisis by the most lavish use of the most lavish means ever afforded to a broken-down department. He brought our second army through; but the military department remained what it had been. It must be re-created. It was Sidney Herbert who saw most clearly what had to be done; and to him we owe, in the first place, whatever has been done towards instituting a real military administration.

It is but little that has been done towards that particular object; but whose fault is that? Much has been done towards saving the life and health of our soldiery, elevating their character, and ameliorating their

lives; but in other directions, much has been proposed that has never been accomplished—much promised that has been withdrawn; and the main object—the re-organization of the War-office—seems to be no nearer than when Sidney Herbert first meditated the method of it. Perhaps some of those who on Thursday spoke his praises may be unaware of what he desired and strove to accomplish, but there were others who must have known how and why he was baffled, and even dishonoured in the eyes of Parliament and the country, by having engaged for more than he was permitted to effect. There must have been some present who were, or ought to have been, conscious that the labours so lauded had been held vexatious, troublesome, inconvenient to the department; that the devotedness so extolled over his grave had been rebuked or mortified when he was in life; that the zeal for which the people were called on to praise him had survived so many attempts to quench it as to prove itself unquenchable but by death—the death which follows upon over work when the work is mixed up with anxieties and failures. There must be some who at this hour know how it is that Sidney Herbert's intentions and promises about the purchase system remain unfulfilled; and by what gallantry of spirit it was that he took on himself the blame of failures which disappointed him more than any of us.

Looking in somewhat of an orderly way at what he achieved, we are better able to understand what he failed to effect, and why; and, as it is of importance to the country that the case should be understood, in order to its being effectually dealt with, we may just glance at the list of Sidney Herbert's effective services in the military department.

Lord Panmure's Sanitary Commission, on the return of the army from the Crimea, was conducted by Sidney Herbert. His Report was the beginning of the internal reform of the army. Out of it arose, at his suggestion, four commissions, which occasioned reforms in as many departments of the military service. One undertook the subject of barrack and hospital reform; one the re-organisation of the medical department; one the reform of the medical statistics of the army; and the other the organization of a School of Army Hygiene at Chatham. Sidney Herbert conducted all these commissions while waiting for his proper office as War Minister. These four commissions were worth more than might be supposed by persons who regard them as working merely towards the health of the army. They have reduced the mortality of our soldiery one-half: but that is only a part of their value. They established the essential principles of administrative reform, and thus half achieved other reforms which appear to have no connexion with the life and health of our army.

The new Warrant for the Army Medical Service, which gave new virtue, capacity, and dignity to our army physicians and surgeons in a body, was the work of Sidney Herbert. He proposed it, and drew it up, and got it issued by General Peel. Who it was that afterwards tampered with it, and succeeded for a time in undoing a work of singular importance and benefit, will be known some day, perhaps soon. Meantime, the medical statistics of the army have become the best in Europe, and will save hosts of lives, and advance medical science for all time to come. The regulations by which the medical and sanitary re-organization was made effective in our whole military department were issued by him two years since, in a model code, of which foreign governments are eager to obtain possession. The school at Chatham was opened by him in October, 1860. Last January he completed the new arrangement of the Purveyor's Department, by which the sick and wounded are made secure of all needful provision in all situations. Later still he completed his reforms of the hospital service, so that the scandals of Scutari can never recur. The General Hospital at Woolwich will properly bear his name, in memory of this signal service. It is his doing that there are already two hundred camp cooks trained at Aldershot, and that there will be wholesome and economical cookery in the army henceforth. Whatever exists, and will exist, in the form of soldiers' institutes, soldiers' homes, day rooms, reading rooms, is his work; and whatever sobriety, cultivation of intellect, and improvement in manners which may result from such institutions must be attributed to him. The unheard-of lowness of the mortality and sickness of our army in China, and the reforms in the health, temper, and spirits of our troops in India, were his work. Instead of sixty dying in the hundred, as in the Crimea in 1854, only three per cent. died in China; and if we can keep up an army of requisite strength in India, it will be by his having shown us how to deal with the causes of mortality there.

What he did in re-organizing our national defences—the Militia, the Volunteers, and the Indian Army—the people of England are more aware of than of his services in the War-office. What they have chiefly to attend to, in justice to his memory, is that every step he took in his office was in the direction of reform, in a department in which it is singularly difficult to achieve reforms.

What he did *not* do was to re-organize the War-office. Hence his failures, hence his mortifications, hence such censures as he incurred, hence the anxieties, which are worse to bear than any amount of labour. Why he did not achieve this central work, why he had to account for promises unfulfilled, why he was baffled and humbled, and beset by difficulties, will have to be explained. His nature was modest; his spirit was generous; his temper was above the reach of irritation; and he was therefore a safe subject for thwarting. He was one who might be trusted to uphold dignities, and take censures upon himself. But the people of England must now look to these things for themselves; and they will choose to know the precise operation of the Horse Guards upon the War-

office; and why engagements of vital importance to the character of our military service remain unfulfilled; and how much the breath of praise over the dead is worth when it comes from those who contravened the efforts, and played fast and loose with the honour, of the statesman who rests from his labours. When the true history of Sidney Herbert's life becomes known, it will disclose some passages of some other men's lives which it concerns Englishmen to be acquainted with. Meantime the more he has done for us the more resolute we must be to obtain what he desired, but failed to achieve. His best monument will be the carrying out of his work in a thoroughly honest, just, and able administration of military affairs.

From the "COURT CIRCULAR," *Nov. 30th.* 1861.

We rejoice to see the very enthusiastic and praiseworthy efforts that are making to pay some appropriate tribute to the memory of the much-lamented and revered statesman, the late Lord Herbert. Under the auspices of his Royal Highness the Duke of Cambridge, a very numerously attended public meeting was held on Thursday last, at Willis's Rooms, and in addition to His Royal Highness, who presided, were Lord Palmerston, Earl Russell, Earl de Grey and Ripon, the Duke of Newcastle, the Earl of Carnarvon, the Chancellor of the Exchequer, and numerous members of the nobility and aristocracy, including several ladies, all of whom manifested the warmest interest in the proceedings. The speech of the Duke of Cambridge was indeed a truthful and eloquent panegyric, and breathed a spirit of affection at remembrance of the many estimable virtues which adorned the private and public career of the departed nobleman, when he alluded to the gratifying object for which they were assembled—that of perpetuating the memory of a dear departed friend. No statesman ever endeared himself to all more than did Lord Herbert; in the performance of his official duties he showed the most profound regard to all that contributed to the well-being of the army, and at the same time tended to uphold the honour and dignity of the country. To satisfactorily perform the important duties of the position he so worthily occupied was his constant aim, and he succeeded in winning for himself by his kind, courteous, and agreeable manners, the esteem, respect, and admiration of all those over whom he had control. In discharging his arduous duties he ever exhibited great clearness of views, and the British army, through every grade, lament the untimely death of one who was justly entitled to the proud distinction of being designated the 'Soldiers' Friend." Well might his Royal Highness express the sorrow felt by all classes of the army; for, in his capacity as Commander-in-Chief, he not only frequently came in contact with Lord

Herbert, but he also well knew the great regard in which he was held throughout every branch of the British service. His concluding remarks bear ample testimony to Lord Herbert's personal worth, when he said, as regards "the military men whom I represent on this occasion, I am sure anything we can do to testify our admiration, and respect for his personal, public, and private character we are ready to do, hoping that by so doing we may alleviate the pain which his sudden bereavement has caused, not only to his family and immediate friends, but the grief and sorrow which all have felt in seeing one so beloved pass so soon and so unexpectedly from the world." All the speakers united in expressing the deep admiration they felt towards Lord Herbert, and the remarks made by the Duke of Newcastle were very touching, particularly when he read a letter penned by the late Sir James Graham, in reference to the Herbert Memorial, in which he said: "He so lived and so applied the means with which a bountiful Providence had blessed him, that he will be remembered both in his public and in his private station. A statue of him at Salisbury would be the most suitable monument to his memory, under the shade of that cathedral whose spire points to those mansions where his hopes are centred, and where he now enjoys his reward."

The following Memoir of Lord Herbert is extracted from the *Times* of August 3d, 1861.

Death yesterday cut off in Lord Herbert one whom nature had intended for a Prime Minister. It is quite certain that, had he lived, he would before long have attained that honour, if not by virtue of extraordinary intellectual qualities, yet by force of character, by charm of manner, and by aptitude for business. He was one of the most winning statesmen of his time, and, by aid of a great social faculty, rose above men who were on other grounds superior to him. What was most remarkable in him was his anxiety to do everything well. His labours were unceasing; he never spared himself; he gave up life and luxury for toil and trouble; and if he did not die in harness, it was in harness that he earned his death. It was not merely in the fulfilment of duty that he was thus self-sacrificing; he was equally unsparing of himself in the discharge of those social observances which men usually bend to the convenience or humour of the moment. With great manliness of character there was curiously intermingled an extraordinary desire to please. He studied and strove to please, and heightened by all the arts of style the natural

attractiveness of his character. He had in his favour every social advantage—high birth, a great estate, a happy home, a handsome person, irresistible manners, many accomplishments, a ready address. He made the most of all this, so that his good nature seemed to be always overflowing, his frankness to be always unbounded, and his power of pleasing to be always undivided. So he won upon all comers, and won most upon those who knew him best. Men would give up to Sidney Herbert what they would grant to no one else. He inspired no jealousy; for his superiority was less the result of brilliant parts than of that indefinable charm from which there is no appeal. Add his power of work and of public speaking to his rare power of making friends, and you have the possible Prime Minister. That power and love of work, we grieve to say, has killed him, as it has killed many another statesman, before his time. He gave up the enjoyments of wealth and a brilliant home for the great game of politics, and has been known to pass a whole summer and autumn in London, with only perhaps a day and a night at Wilton. He drove a good constitution too hard, and at Christmas last began to feel that sentence of death had been passed upon him. There is some reason to think that even then, had he given up all work, he might have recovered. All that he did was to leave the House of Commons, and to try the comparative repose of the peerage, still retaining his office as Minister for War. The consequence has been fatal. He dies of overwork at the age of fifty-one—a great loss to society, a still greater loss to his party.

Sidney Herbert was born at Richmond in 1810, the second son of the eleventh Earl of Pembroke, whose title he would have inherited had he lived. His mother was the only daughter of Simon, Count Woronow, so that in blood he was half Russian. He was educated at Harrow and at Oriel College, Oxford, where he took his degree with honours in 1831. In the following year he entered the House of Commons as member for South Wilts, which constituency he represented from the date of the Reform Bill to the present session, when he passed to the Upper House. He began as a Conservative, and his maiden speech was delivered in 1834, against the second reading of a bill to admit Dissenters to the universities. Four years later we find him take the lead in opposing Mr. Grote and the ballot; and from this period to 1841, he took an active part, under Sir Robert Peel, in battering the lame government of the Whigs. When Peel entered upon office, Mr. Herbert was appointed Secretary to the Admiralty, and so remained until, in 1845, he was made Secretary for War, with a seat in the Cabinet. Thus it was under Peel that he had the first training as a minister in military affairs. But his connexion with Sir Robert Peel's cabinet was chiefly interesting for its influence on his conduct as a disciple of Free Trade. The doctrine of Free Trade was the Peelite bond of union. They opposed it hand-in-

hand, and they were converted in a lump. Theoretically, indeed, the principles of Free Trade had long been accepted by our statesmen, and Mr. Sidney Herbert, even before Peel's rise to power, could taunt the Whigs for their presumption in claiming to be the original discoverers and owners of Free Trade principles—"those principles having been enunciated years ago by a cabinet of which Mr. Huskisson and Mr. Peel were prominent members." But the policy which was allowed in theory was in practice qualified with exceptions; Mr. Herbert refused to accept Free Trade as an inflexible mathematical rule, and, practically, Protection was the order of the day. Towards the close of 1845, came the new order of things. Slowly, but surely, the light had been breaking in upon Peel. The commercial reforms which he had introduced forced him on, during a season of great distress, to the total abandonment of Protection. The point is worth notice in this article, because, in the spring of 1845, Mr. Herbert was put forward by Sir Robert Peel to oppose Mr. Cobden's motion for a select committee to inquire into the effects of the corn laws on the farmers. When that motion was made, the usual speakers of the Treasury bench were silent. Peel never opened his mouth, but laid the burden of reply on the Secretary for War. The doubt had then entered into Peel's mind, and instead of taking the responsibility of reply upon himself, he laid it on a young minister—a member of his cabinet—whom he had not yet admitted into his innermost confidence. Some ten months afterwards Mr. Sidney Herbert had to eat his own words, to declare that Mr. Cobden was right, that he himself was wrong, and that Free Trade in corn is the only wise policy. Nor did he find any reason to repent the course he then took. When taunted long afterwards with the suddenness of his conversion, he said,—"To the latest day of my life I shall feel a pride in the course I then took. It is true that we were exposed to much obloquy; it is true that we were exposed to much misrepresentation, and that we had to make a choice—a difficult one at any time, and a bitter option to take—a choice between party ties and the feelings of personal honour, as wrapped up in party ties, on the one hand, and the welfare of the country on the other; and if those principles for which we then sacrificed office, and have undergone since, what I admit to have been a necessary political ostracism, are to be attacked, no effort shall be wanting on my part to do my utmost to maintain those principles, and to preserve unimpaired, unreversed, unrevised, and unmodified the blessings which I believe to have been given by those measures to the great body of my fellow-countrymen."

The ostracism of the Peelites ceased when Lord Aberdeen's Government was formed. In that Administration, Mr. Sidney Herbert returned to his old post as Secretary for War. How the War Department broke down under the pressure of the Russian campaign is an old story which

need not now be revived. Mr. Sidney Herbert's reputation has survived that disaster. Whatever his faults or the faults of the system which he administered, no one has ever accused him of deficient industry or a lack of sympathy. While the Crimean disaster was still the subject of controversy, Mr. Herbert was for a few weeks Colonial Secretary in Lord Palmerston's first Administration; but when two years ago Lord Palmerston had to construct a Cabinet for the second time, the War Department was handed over to undoubtedly the best man for the post, the Minister whose loss we are deploring, and whose conduct as Secretary for War, a few years back, gave rise to much angry criticism. It is an unwieldly, half-organized department, but Lord Herbert, so far as his health would permit, was getting it into a little order. His term of office has been signalized by three great events—by the creation of an imposing Volunteer force, which he has had to organize and control; by the amalgamation of the Indian with the Royal army, which he has also had to superintend; and by the ascertained pre-eminence in the field of our rifled cannon. It is not likely that, for years to come, another Secretary for War will, in time of peace, have to deal with any changes that can be compared to these. He was fully alive to the magnitude of the questions which he had to decide, and no minister could have brought to bear upon them more intelligence or more zeal. Lord Herbert married, on the 12th of August, 1846, Elizabeth, daughter of the late Lieutenant-General Charles Ashe a'Court, by whom he leaves six children, four sons and two daughters, his eldest son, George Robert Charles (now Lord Herbert), having completed his eleventh year last month.

ADVERTISEMENT *of the* COMMITTEE.

MEMORIAL TO THE LATE LORD HERBERT.

President.

HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE.

Trustees.

THE RIGHT HON. THE CHANCELLOR OF THE EXCHEQUER.
THE HON. ARTHUR KINNAIRD, M.P.
PETER HOARE, Esq.
W. G. PRESCOTT, Esq.

AT a PUBLIC MEETING held at WILLIS'S ROOMS, King Street, St. James's, on THURSDAY, the 28th instant,

HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE
IN THE CHAIR,

It was Moved by THE VISCOUNT PALMERSTON, K.G. M.P.;

Seconded by LIEUT.-GEN. THE RIGHT HON. J. PEEL, M.P.; and carried unanimously—

"That this Meeting desires to express its deep sense of the loss which has befallen this country by the untimely death of Lord Herbert; and is anxious to pay a fitting tribute to his eminent public services as a Minister and Statesman, and to the self-sacrificing zeal with which he discharged his official duties."

It was Moved by THE RIGHT-HONOURABLE THE CHANCELLOR OF THE EXCHEQUER;

Seconded by GENERAL SIR JOHN BURGOYNE, BART. G.C.B.; and Carried unanimously—

"That a Subscription be raised for the purpose of erecting a Statue to the late Lord Herbert;—and also for the Endowment of Exhibitions or Gold Medals, in connexion with the Army Medical School at Chatham, to be given at the end of each course of instruction to the Candidate or Candidates for Commission, who evince the highest proficiency in the knowledge of the art of preserving the health of Troops at Home and in the Field."

It was Moved by THE RIGHT REV. THE LORD BISHOP OF OXFORD;

Seconded by THE EARL DE GREY AND RIPON; and Carried unanimously—

"That the following Noblemen and Gentlemen be requested to act as Members of the Committee, to collect Subscriptions, and to devise the best means of carrying into execution the Resolutions of this Meeting."

President.—HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE.

FIELD MARSHAL, THE LORD SEATON, G.C.B.
GENERAL THE VISCOUNT GOUGH, K.P. G.C.B. K.S.I.
GENERAL THE LORD CLYDE, G.C.B. K.S.I.
GENERAL SIR JOHN BURGOYNE, BART. G.C.B.
LIEUT. GEN. SIR GEORGE ROWLES, K.C.B.
LIEUT. GEN. SIR J. F. LOVE, K.C.B. K.H.
LIEUT. GEN. THE RIGHT HON. J. PEEL, M.P.
LIEUT. GEN. W. T. KNOLLYS.
LIEUT. GEN. SIR HARRY JONES, G.C.B.
LIEUT. GEN. SIR J. L. PENNEFATHER, K.C.B.
LIEUT. GEN. THE EARL OF CARDIGAN, K.C.B.
MAJOR GEN. THE HON. SIR JAMES YORKE SCARLETT, K.C.B.
MAJOR GEN. SIR RICHARD I. DACRES, K.C.B.

MAJOR GEN. SIR HOPE GRANT, G.C.B.
MAJOR GEN. SIR T. A. LARCOM, K.C.B.
MAJOR GEN. SIR EDWARD LUGARD, K.C.B.
MAJOR GEN. EYRE.
MAJOR GEN. SIR ALEXANDER TULLOCH, K.C.B.
MAJOR GEN. J. LAWRENCE.
MAJOR GEN. THE LORD FREDERICK PAULET, C.B.

MAJOR GEN. SIR ROBERT VIVIAN, K.C.B.
COLONEL SIR THOMAS TROUBRIDGE, BART. C.B.
COLONEL THE HON. PERCY HERBERT, C.B.
JAMES BROWN GIBSON, M.D. C.B. INSPECTOR GENERAL OF MILITARY HOSPITALS.
THE REV. G. R. GLEIG, CHAPLAIN GENERAL.

THE RIGHT HON. VISCOUNT PALMERSTON, K.G. M.P.
THE RIGHT HON. THE LORD CHANCELLOR.
THE RIGHT HON. THE EARL GRANVILLE, K.G.
HIS GRACE THE DUKE OF ARGYLL, K.T.
THE RIGHT HON. THE CHANCELLOR OF THE EXCHEQUER.
THE RIGHT HON. SIR GEORGE GREY, G.C.B. M.P.
THE RIGHT HON. THE EARL RUSSELL.

HIS GRACE THE DUKE OF NEWCASTLE, K.G.
THE RIGHT HON. SIR G. C. LEWIS, BART. M.P.
THE RIGHT HON. SIR CHARLES WOOD, BART. G.C.B. M.P.
HIS GRACE THE DUKE OF SOMERSET.
THE RIGHT HON. T. MILNER GIBSON, M.P.
THE RIGHT HON. EDWARD CARDWELL, M.P.
THE RIGHT HON. CHARLES PELHAM VILLIERS, M.P.

THE DUKE OF WELLINGTON, K.G.
THE DUKE OF NORTHUMBERLAND.
THE DUKE OF BUCCLEUCH, K.G. K.T.
THE MARQUIS OF LANSDOWNE, K.G.
THE MARQUIS OF WESTMINSTER, K.G.
THE EARL OF DERBY, K.G.
H.E. THE EARL OF CARLISLE, K.G. K.P.
THE EARL OF SHAFTESBURY.
THE EARL OF TANKERVILLE.
THE EARL STANHOPE.
THE EARL SPENCER.
THE EARL OF CLARENDON, K.G. K.P. &c.
THE EARL OF CARNARVON.
THE EARL OF MALMESBURY, G.C.B.
THE EARL OF POWIS.
THE EARL OF ST. GERMANS, G.C.B.
THE EARL DE GREY AND RIPON.
THE EARL SOMERS.
THE EARL OF BESSBOROUGH.
THE EARL GROSVENOR, M.P.
THE LORD JOHN MANNERS, M.P.
THE LORD HARRY VANE, M.P.
THE VISCOUNT SYDNEY.
THE VISCOUNT EVERSLEY.
THE LORD STANLEY, M.P.
THE VISCOUNT ENFIELD, M.P.
THE LORD ELCHO, M.P.
THE VISCOUNT CASTLEROSSE, M.P.
REAR-ADMIRAL LORD CLARENCE PAGET, C.B. M.P.
THE LORD BISHOP OF LONDON.
THE LORD BISHOP OF OXFORD.
THE LORD BISHOP OF SALISBURY.
THE LORD LYTTELTON.
THE LORD HARRIS, K.S.I.
THE LORD DE TABLEY.
THE LORD BROUGHAM AND VAUX.
THE LORD DUFFERIN AND CLANEBOYE.
THE LORD OVERSTONE.
THE LORD HELPER.
THE LORD EBURY.
THE LORD LEVESIDE.
THE SPEAKER OF THE HOUSE OF COMMONS.
THE RIGHT HON. WILLIAM COWPER, M.P.
THE HON. ALGERNON EGERTON, M.P.

THE HON. ARTHUR KINNAIRD, M.P.
THE RIGHT HON. THE LORD MAYOR.
THE RIGHT HON. SIR W.G. HAYTER, BART. M.P.
THE RIGHT HON. SIR JOHN MCNEILL, G.C.B.
THE RIGHT HON. H. U. ADDINGTON.
THE RIGHT HON. T. E. HEADLAM, M.P.
THE RIGHT HON. H. A. HERBERT, M.P.
THE RIGHT HON. SPENCER H. WALPOLE, M.P.
THE RIGHT HON. J. STUART WORTLEY.
VICE-CHANCELLOR SIR WILLIAM PAGE WOOD.
SIR JOHN SHELLEY, BART. M.P.
SIR STEPHEN GLYNNE, BART.
SIR WILLIAM ALEXANDER, BART.
SIR EDMUND ANTROBUS, BART. M.P.
SIR HARRY VERNEY, BART.
SIR FRANCIS GOLDSMID, BART. M.P.
SIR JAMES DUKE, BART. M.P.
REAR-ADMIRAL SIR FREDERICK GREY, K.C.B.
THE SOLICITOR GENERAL.
SIR BENJAMIN HAWES, K.C.B.
SIR RODERICK MURCHISON, G.C.St.S.
SIR THOMAS PHILLIPS.
T. G. BARING, Esq. M.P.
CAPT. CRAWFORD CAFFIN, R.N. C.B.
R. W. CRAWFORD, Esq. M.P.
RAIKES CURRIE, Esq.
CAPT. DRUMMOND, R.N. C.B.
CAPT. DOUGLAS GALTON, R.E.
HENRY H. GIBBS, Esq.
G. G. GLYN, Esq. M.P.
THOMSON HANKEY, Esq. M.P.
PETER HOARE, Esq.
KIRKMAN D. HODGSON, Esq. M.P.
R. S. HOLFORD, Esq. M.P.
R. MONCKTON MILNES, Esq. M.P.
W. G. PRESCOTT, Esq.
HENRY C. ROBARTS, Esq.
BARON LIONEL DE ROTHSCHILD, M.P.
DAVID SALOMONS, Esq. ALD. M.P.
MARTIN T. SMITH, Esq. M.P.
H. GERARD STURT, Esq. M.P.
TRAVERS TWISS, Esq. D.C.L.
WESTBY WOOD, Esq. M.P.
COUNT P. E. DE STRZELECKI, C.B. D.C.L.

It was Moved by HIS GRACE THE DUKE OF NEWCASTLE, K.G.; Seconded by THE EARL GROSVENOR, M.P.; and Carried unanimously—

"That the thanks of this Meeting be presented to his Royal Highness the Duke of Cambridge for his cordial co-operation in promoting the objects of this day's proceeding, and for his kindness and valuable aid in taking the Chair."

The Committee have to acknowledge the following Subscriptions:—

HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE, K.G. . . £100 0 0

	£	s.	d.
The Viscount Palmerston, K.G. M.P.	100	0	0
The Right Hon. the Lord Chancellor	21	0	0
The Right Hon. the Earl Granville, K.G.	50	0	0
His Grace the Duke of Argyll	20	0	0
The Right Hon. the Chancellor of the Exchequer (in addition to £50 sent to the Salisbury Fund)	50	0	0
The Right Hon. Sir George Grey, G.C.B. M.P.	50	0	0
The Right Hon. the Earl Russell	20	0	0
His Grace the Duke of Newcastle, K.G.	100	0	0
The Right Hon. Sir Geo. Cornewall Lewis, Bart. M.P.	50	0	0
The Right Hon. Sir Charles Wood, Bart. G.C.B. M.P.	50	0	0
His Grace the Duke of Somerset	25	0	0
The Right Hon. T. M. Gibson, M.P.	20	0	0
The Right Hon. E. Cardwell, M.P.	50	0	0
Gen. the Lord Clyde, G.C.B.	50	0	0
Gen. Sir William Gomm, G.C.B. and Lady Gomm	10	0	0
Gen. Sir J. Burgoyne, Bart. G.C.B.	5	0	0
Gen. Sir In Lacy Evans, G.C.B. M.P.	10	10	0
Gen. Sir John Aitchison, K.C.B.	5	0	0
Lieut. Gen. Sir George Bowles, K.C.B. (in addition to £20 sent to the Salisbury Fund)	20	0	0
Lieut. Gen. Sir Fredk. Love, K.C.B.	5	0	0
Lieut. Gen. Sir W. G. Moore, K.C.B.	10	0	0
Lieut. Gen. Sir C. Yorke, G.C.B.	10	0	0
Lieut. Gen. the Rt. Hon. J. Peel, M.P.	25	0	0
Lieut. Gen. Knollys	10	0	0
Lt. Gen. Sir Henry Bentinck, K.C.B.	10	0	0
Lieut. Gen. J. D. Rawdon	10	10	0
Lieut. Gen. Sir Harry Jones, G.C.B.	5	0	0
Lieut. Gen. Maunsel, K.H.	5	0	0
Lieut. Gen. the Earl of Cardigan, K.C.B.	10	0	0
Lieut. Gen. Sir J. L. Pennefather, K.C.B.	5	0	0
Lieut. Gen. Cameron, K.C.B.L.	5	0	0
Lieut. Gen. E. F. Gascoigne	5	0	0
Major Gen. T. Marten, K.H.	5	0	0
Major Gen. the Hon. Sir James Yorke Scarlett, K.C.B.	20	0	0
Major Gen. Sir T. A. Larcom, K.C.B.	10	0	0
Major Gen. Sir E. Lugard, K.C.B.	10	0	0
Major Gen. Charles Warren, C.B.	5	0	0
Major Gen. Eyre	5	0	0
Major Gen. Sir Alex. Tulloch, K.C.B.	7	7	0
Major Gen. Lawrence	10	0	0
Major Gen. the Lord F. Paulet, C.B.	10	0	0
Major Gen. C. Stuart	5	5	0
Major Gen. Sir Fred. Abbott, C.B.	2	2	0
Major Gen. Sir R. Vivian, K.C.B.	5	5	0
Major Gen. Norcliffe, K.H.	5	0	0
Major Gen. Rissondoli	5	0	0
Major Gen. J. R. Crawford	5	5	0
Major Gen. the Hon. G. F. Upton, C.B. M.P.	10	0	0
Major Gen. the Hon. Arthur Upton	10	0	0
Major Gen. Lawrence, C.B.	10	0	0
Major Gen. C. C. R. Hay	5	0	0
Major Gen. J. W. Angerstein	10	10	0
Major Gen. Dupin	5	0	0
Major Gen. F. H. Seymour	5	0	0
Major Gen. Foster, R.E.	5	0	0
Major Gen. W. N. Hutchinson	2	2	0
Major Gen. the Hon. A. Dalzell	3	0	0
Brig. Gen. Haly, C.B.	5	5	0
Col. the Hon. Percy Herbert, C.B.	10	0	0
Col. the Hon. W. F. Talbot	5	0	0
Col. Wilbraham, C.B.	5	0	0
Col. J. H. Lefroy, R.A.	5	0	0
Col. G. A. Maude	5	0	0
Col. W. M. S. Macnaredo	1	0	0
Captain Crawford Caffin, R.N. C.B.	5	0	0
Col. Sir Thomas Troubridge, Bart. C.B.	5	0	0
Col. Sidney North, M.P.	10	10	0
Col. W. R. Higgins	2	2	0
Lieut. Col. the Hon. C. H. Lindsay.	1	1	0
Lieut. Col. Heaton	1	0	0
Major Deakon	1	0	0
Rev. G. R. Gleig, Chaplain General	10	0	0
J. R. Gibson, Esq. M.D. C.B.	10	0	0
The Duke of Buccleuch, K.G.	100	0	0
The Marquis of Lansdowne, K.G. (in addition to £100 sent to the Salisbury Fund)	25	0	0
The Marquis of Bristol	25	0	0
The Marquis of Westminster, K.G. (in addition to £100 sent to the Charmouth Hospital)	50	0	0
The Marquis of Breadalbane	20	0	0
The Earl of Derby, K.G.	25	0	0
H. E. the Earl of Carlisle, K.G.	20	0	0
The Earl of Shaftesbury	10	0	0
The Earl of Tankerville	10	10	0
The Earl of Cowper	10	0	0
The Earl Stanhope	10	0	0
The Earl Spencer	50	0	0
The Earl of Clarendon, K.G.	30	0	0
The Earl of Carnarvon	25	0	0
The Earl of Malmesbury, G.C.B.	10	0	0
The Earl of Powis	100	0	0
The Earl of St. Germans, G.C.B.	50	0	0
The Earl of Dacie	10	0	0
The Earl De Grey and Ripon	100	0	0
The Earl Somers	25	0	0
The Earl of Lovelace	10	0	0
The Earl of Ellesmere	20	0	0
The Earl of Home	25	0	0
The Earl of Rosebery	10	0	0
The Earl of Southesk	50	0	0
The Earl of Meath	10	0	0
The Lord Burghley, M.P.	5	0	0
The Earl Grosvenor, M.P.	10	0	0
The Lord John Manners, M.P.	10	0	0
The Viscount Sydney	25	0	0
The Lord Stanley, M.P.	20	0	0
The Lord Elcho, M.P.	20	0	0
The Right Rev. the Lord Bishop of Oxford (in addition to £20 sent to the Salisbury Fund)	5	0	0
The Right Rev. the Lord Bishop of Salisbury (in addition to £25 sent to the Salisbury Fund)	5	0	0
The Lord Vernon	10	0	0
The Lord Digby	10	0	0
The Lord Northwick	10	0	0
The Lord Manners	10	0	0
The Lord Harris, K.S.I.	20	0	0
The Lord Hatherton	10	0	0
The Lord Cremorne	20	0	0
The Lord Ashburton	100	0	0
The Lord Dufferin and Claneboye, K.C.B.	15	0	0
The Lord Overstone	25	0	0
The Lord Helper	20	0	0
The Lord Ebury	20	0	0
The Lord Dunsany	5	0	0

	£	s.	d.
The Right Hon. the Speaker of the House of Commons	50	0	0
The Right Hon. Wm. Cowper, M.P.	10	0	0
The Hon. Arthur Kinnaird, M.P.	20	0	0
The Hon. F. Leveson Gower, M.P.	10	0	0
The Hon. H. R. W. Brand, M.P.	10	0	0
Col. the Hon. Douglas Pennant, M.P.	50	0	0
The Hon. John Ashley	10	0	0
The Hon. Geo. Denman, Q.C. M.P.	5	5	0
Rear Admiral the Hon. Sir Henry Keppel	1	0	0
The Right Hon. the Lord Mayor	10	10	0
The Right Hon. H. U. Addington	10	0	0
The Right Hon. Spencer H. Walpole, M.P.	10	10	0
The Right Hon. J. Stuart Wortley	10	10	0
The Hon. Mrs. Stuart Wortley	2	2	0
The Right Hon. T. S. Headlam, M.P.	10	10	0
The Right Hon. Edward Ellice, M.P.	25	0	0
The Right Hon. Henry Corry, M.P.	10	0	0
The Rt. Hon. Sir J. McNeill, G.C.B.	10	0	0
The Rt. Hon. H. A. Herbert, M.P.	20	0	0
The Right Hon. F. Peel, M.P.	10	0	0
The Vice-Chancellor Sir Wm. Page Wood	25	0	0
The Solicitor-General	50	0	0
Sir Stephen Glynne, Bart.	5	0	0
Sir Geo. Chetwynd, Bart.	10	0	0
Sir William Alexander, Bart.	10	0	0
Sir Walter James, Bart. and Lady James	50	0	0
Sir Harry Verney, Bart. M.P.	10	10	0
Sir John V. B. Johnstone, Bt. M.P.	10	0	0
Sir Francis Goldsmid, Bart. M.P.	50	0	0
Sir Arthur C. Magenis, K.C.H.	10	0	0
Sir Benjamin Hawes, K.C.B.	5	5	0
Sir Thomas Phillips	5	0	0
Sir John Kingston James	2	2	0
Sir Richard C. Kirby, C.B.	10	10	0
Sir James Clark, Bart. M.D.	10	0	0
Sir Wm. G. Armstrong	10	0	0
Sir Roderick I. Murchison	10	10	0
Sir Ranald Martin	5	5	0
Sir Joseph Paxton, M.P.	10	0	0
The Count P. E. de Strzelecki, C.B.	10	0	0
Samuel Petrie, Esq. C.B.	5	5	0
Dr. McWilliam, C.B. R.N.	1	1	0
David Salomons, Esq. Ald. M.P.	10	0	0
George William Hope, Esq. M.P.	21	0	0
T. W. Evans, Esq. M.P.	10	0	0
Wm. Scholefield, Esq. M.P.	10	0	0
Chas. Salisbury Butler, Esq. M.P.	10	10	0
Thomson Hankey, Esq. M.P.	20	0	0
T. G. Baring, Esq. M.P.	25	0	0
J. Milnes Gaskell, Esq. M.P.	10	10	0
George Grenfell Glyn, Esq. M.P.	10	10	0
C. W. Packe, Esq. M.P.	10	10	0
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J. STANDISH HALY, *Secretary.*

4, St. Martin's Place, Trafalgar Square,
March 17th, 1862.

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A LETTER

TO

THE LORD BISHOP OF LONDON

ON

THE STATE OF SUBSCRIPTION IN THE CHURCH OF ENGLAND AND IN THE UNIVERSITY OF OXFORD,

BY

ARTHUR PENRHYN STANLEY, D.D.,
REGIUS PROFESSOR OF ECCLESIASTICAL HISTORY,
AND CANON OF CHRIST CHURCH, OXFORD;
EXAMINING CHAPLAIN TO THE BISHOP OF LONDON.

Oxford and London:
JOHN HENRY AND JAMES PARKER.
1863.

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My dear Lord Bishop,

I have asked your permission to address this letter to you, not with the view of making your Lordship in any way responsible for its contents, which I have purposely forborne from submitting to your perusal beforehand, but because your eminent position in the Church will be the best explanation of my motives in calling public attention to a state of things which demands the serious consideration of those who are most interested in the welfare of the Church of England, and which has, both in former times and recently, engaged your own attention. That such a task as I here undertake is not of my own seeking you will readily understand. It diverts me from pressing and far more inviting occupations; and brings me across conflicts which I would gladly avoid. But I know that the sentiments which are here expressed are shared by many both amongst clergy and laity. My office as one of the Theological Professors in our great University, and as Examining Chaplain in the diocese of London, brings these questions directly before my notice; and "the signs of the times point not obscurely[1]" (as has been well observed in an able sermon lately preached before the University of Oxford) in the direction which was indicated in your Lordship's memorable Charge of last year,

[1] "Our Want of Clergy," by the Rev. T. E. Espin.

when you gladdened many hearts by declaring that "the whole subject of what our Subscriptions ought "to be requires, and must receive, immediate at-"tention."

You will not need any assurance from me that my interest in this subject, and the necessity of considering it, are quite independent of the controversies, which during the last three years have so vehemently agitated the Church on the questions of Biblical Criticism and the relations of Theology to Science. Important as these questions are, they are only in the most indirect and casual manner (as I shall presently shew) affected by our present subscriptions. However important may seem inquiries into the authorship of the disputed or anonymous books of the Bible, they are inquiries on which the Articles and Liturgy[b] have expressed no opinion. However eagerly the natural history, the geology, and the astronomy of the Bible may be discussed, these are discussions of which the Formularies of the English Church offer no solution. However numerous may be the theories of Inspiration, they are almost all of them subsequent in date to the time when the Articles and Liturgy were composed.

On these points the Church of England has main-

[b] Except in the allusion to St. Paul as the author of the Epistle to the Hebrews in the service for the Visitation of the Sick; and the ascription of the whole Psalter to David, (including the 90th and 137th Psalms,) in the title "The Psalms "of David,"—and in speaking of "the Prophet David" as the author of the 119th Psalm.

tained so entire a silence, that, as far as they are concerned, no change in the present forms of subscription would be needed. But your Lordship is well aware that the difficulty is of an older date, and of a more general nature. My own interest in it dates as far back as when five-and-twenty years ago we discussed these questions together, in relation to the scruples which then tormented young men respecting the Athanasian Creed, and the phrases respecting Absolution in the Service for the Ordination of Priests. It has been revived again in each successive controversy which has swept over the Church. You will bear witness to the urgency with which I have again and again pleaded for a latitude of subscription in favour of opinions with which I had no special sympathy, when many highly esteemed friends were inclined to take a more rigid view. On these general grounds I joined in a petition to this effect, presented by the Archbishop of Dublin to the House of Lords in 1840. On like grounds I always protested against the endeavour to press the obvious meaning of the Articles against the High Church party at Oxford in 1841, and again in 1845. On like grounds I urged, as your Lordship will doubtless remember, the necessity of a lenient construction of the 29th Article, which had been contradicted by a well-known Archdeacon in 1856. On like grounds I welcomed the immense latitude conceded by the Judgment of the Privy Council in 1850, to the opposite party in the Church, then represented by Mr. Gor-

ham in his struggle against the Bishop of Exeter. On the same grounds I shall always, I trust, be ready to protest against any construction which narrows the liberty of the Church, whether against those with whom I agree, or those whose opinions I should deprecate, and who would feel it their duty to exterminate opinions which ought to be tolerated as lawful, if not accepted as true. I shall always desire, even at the risk of misapprehension and offence, to support any measure for removing from the efficiency of the Church a stumbling-block of which the mischief has by every one of those controversies been rendered more glaring.

The immediate occasion for my entering into the matter at all is the desire which now prevails amongst many in this place for the removal of the subscriptions required from Masters of Arts. But this question runs up so instantly into the general requirement of the same subscriptions from all clergymen, that I have considered it best to treat them together.

There is no intention on the part of any of us, by asking for this or any similar relief, to revolutionize the Church of England. Whatever "revolution" the Church may be destined to undergo, must be by quite other means—by the increased activity and wisdom of its clergy, by the increased zeal of its laity, by a more ardent love of truth and justice in our religious controversies, by a profounder knowledge of the Bible, by a wider study of Theology, by a stronger sense of the importance of Charity, by

a deeper and more living faith in God and in His Son Jesus Christ our Lord.

It is to a much humbler task that I now address myself with as much brevity as the case will admit.

Opinion of Bishop Burnet.

"I have always had a true zeal for the Church "of England. I have lived in its communion with "great joy, and have pursued its interests with an "unfeigned affection. Yet I must say there are "many things in it that have been very uneasy "to me.

"The requiring subscription to the XXXIX "Articles is a great imposition: I believe them "all myself, but as there are some which might "be expressed more unexceptionably, so I think it "a better way to let such matters continue to be "still the standard of doctrine and to censure those "who teach any contrary tenets, than to oblige all "who serve in the Church to subscribe them. The "greater part subscribe without ever examining "them, and others do it because they must do it, "though they can hardly satisfy their consciences "about some things in them. Churches and so-"cieties are much better secured by laws than by "subscriptions: it is a more reasonable as well "as a more easy mode of government."

So wrote Bishop Burnet[c], at the conclusion of the "History of his own Times." He wrote in

[c] Burnet's Own Times, ii. 634. I have omitted a few words for the sake of greater perspicuity.

the recollection of the crisis, when, fifteen years before, the Church of England had been all but delivered from the evil of which he complains by the passing of the Comprehension Act. That Act dispensed all the ministers of the Established Church from the necessity of subscribing the XXXIX Articles. In the place of the present forms of subscription were substituted, in different stages of the Bill, two declarations. The first ran thus:—"I do approve of the doctrine and worship "and government of the Church of England by "law established, as containing all things neces- "sary to salvation; and I promise in the exercise "of my ministry to preach and practise thereto." Another clause granted similar indulgence to the members of the two Universities. In the later stage of the Bill, the following was substituted:— "I do submit to the doctrine, discipline and wor- "ship of the Church of England as it is or shall "be established by law, and promise to teach and "practise accordingly."

Comprehension Act.

Concerning this Act the Bishop of London of that time wrote to Archbishop Sancroft:—"This "and the Toleration Act are two great works in "which the being of our Church is concerned." The Toleration Act was carried. The Comprehension Act, as regarded the abolition of Subscription, was carried through the House of Lords. "Not a "single High Churchman raised his voice against "the clause which relieved the clergy from the "necessity of subscribing the Articles." It was

lost in the House of Commons, chiefly through the opposition of the Dissenters[d]. Since that time, the remedy which had received the approbation not only of such men as Halifax, Tillotson, and Burnet, but of the leaders of the High Church party, such as Nottingham, who himself took charge of the Bill, has not been attempted by the Legislature. But the evil which it was intended to remove has been left in undiminished magnitude, and with results more damaging to the welfare of the Church than even Burnet or Tillotson anticipated.

It will be my endeavour briefly to explain wherein the evil consists, and why the remedy which was vainly attempted in 1689, ought at least to be reconsidered now.

By an irregular and anomalous machinery growing out of the ecclesiastical and political struggles of the last three hundred years, a network of obligations and pledges has been drawn across the entrance to the degree of Masters of Arts in one of our two great Universities, and to the Ministry of our National Church. These pledges are made in a considerable variety of forms[e], some as stringent as human language can devise, some with considerable laxity, to two different documents. The first and most general subscription is to the XXXIX Articles; the second is to the Book of Common Prayer.

Let us take each of these documents separately.

[d] Macaulay, Hist. of England, iii. 91—100.

[e] I have subjoined these forms in Appendix II.

The XXXIX Articles.

Nothing can be further from my intention than to disparage the XXXIX Articles as an exposition of the faith of the Church of England. Historically they are a valuable index to the chief points of controversy which engaged the attention of the English Reformers, as against the Church of Rome, on the one side, and against the more revolutionary sects of the Reformation on the other side. Read in the light of an able commentary, like that of Hey, they rise to a still higher level, and may be taken as an excellent framework of theological instruction. Some of them pass beyond the bitter contentions of the time into the regions of pure history and theology. The 1st, 2nd, and 5th, with the exception of a few subordinate phrases, are redolent of the high Christian culture of the early centuries of the Eastern Church. The 15th, on "Christ alone without Sin," emerges with a simple and natural pathos out of the sphere of polemics into that of reverence and devotion. The 17th, on Predestination, has a double merit of no ordinary value. Unlike most of the others, it aims at a distinct definition of the doctrine which it proposes to set forth, and at the same time it is possessed by a consciousness rare in theological writers, especially at that time, of the difference between the dogmatic style of its own propositions and the more comprehensive language in which "the same truths "are generally set forth in Holy Scripture." The 21st Article conveys in a few rough and simple phrases the main substance of the principles historically involved in the convention of General Councils. The 34th may be said to contain by implication the germ of the great idea of Church and State so nobly worked out in Hooker's "Eccle-"siastical Polity." In a purely controversial point of view, the Articles against the Roman Catholic view of the Sacraments deserve special attention. In some of the Articles the conflict of jarring opinions has produced a balance of statement which renders them singularly well adapted for the purposes of a national confession. In others the same effect is brought about by the ambiguity of language, especially of language in a state of transition so unformed and lax as was that of English literature in the middle of the sixteenth century. They are favourably distinguished from most of the Protestant Confessions: less rhetorical than that of Augsburg, less dogmatic than that of Westminster, more Catholic than those of France and Switzerland. They are incomparably superior to any Articles which would be likely to be drawn up by any of the dominant factions now to be found in the English Church and Commonwealth. It is enough to refer to the freedom and moderation of the Thirty-nine Articles as contrasted with the narrowness and rigidity of the Nine Articles drawn up, with excellent intentions, by the Evangelical Alliance in 1846.

But, with all these advantages possessed by the English Articles,—which we most thankfully acknowledge, whether we are bound to them by

Difficulties of Subscription to the Articles.

subscription or not,—they do, on their very face, repel the notion of subscriptions to them, such as are now required by law both from graduates and from clergymen. They consist of a number of complicated propositions on many intricate and difficult questions,—propositions drawn up by men who lived three hundred years ago,—in the heat of vehement struggles which have long since passed away — by men who, venerable as they were in station, and some of them estimable in character, and distinguished in ability and learning, were still not the foremost even of the age in which they lived, and therefore not the men whose expressions on these subjects we should most naturally expect to be permanent.

Whilst there is perhaps no Article which does not contain some great truth to which every Christian, or at least every Protestant, would assent, there can be little doubt that many of them state the truth in terms which by large sections in the Church of England as now constituted, would naturally be regarded as exaggerated and one-sided. There are very few clergymen of the present day who, however firmly they may believe the general doctrine of Original Sin, would willingly express themselves exactly in the words of the 9th Article, which announces that man "originali "justitiâ *quam longissimè* distat." There are very few who, whether from a hostile or a friendly point of view, would feel so strongly against the doctrine of the Eucharistic Sacrifice as willingly to say with

the 31st Article, that "The Sacrifices of Masses ". . . . were *blasphemous fables* and dangerous "deceits."

The conflicts of the compilers of which, as I said, the traces are still visible in their framework, the mistakes in matters of fact[f] which they contain, the contradictions between their different editions, and between their English and Latin forms[g], both equally authentic, render them still more impracticable as a definite rule of faith and practice. In four instances the struggle out of which they rose is actually seen through the official reserve which has elsewhere concealed it. In the 20th Article[h], the insertion of the first clause by Queen Elizabeth has changed the drift of the Article as it originally stood, and yet the words which were intended to express the contrary doctrine are still left unaltered at the end. In the 28th Article the inser-

[f] For example, in the 8th Article the Creed (falsely entitled *Athanasian*) is called, in accordance with the then belief, "*Atha-* "*nasius's* Creed." In the 29th Article a quotation is ascribed to St. Augustine which is not Augustine's.

[g] In the 37th Article the permission "to serve in the wars" is in the English left open, in the Latin confined to "*just* "wars." See also the 9th and 18th Articles in Latin.

[h] The original 20th Article began, "*It is not lawful for the* "*Church to ordain anything contrary to God's Word written,*" and continues in the same strain of restriction on the Church's power. Elizabeth by adding the first clause made the power of the Church the leading principle, and the restriction the secondary qualification: "*The Church hath power to decree rites and cere-* "*monies, and authority in controversies of faith. And yet,*" &c. It is difficult to imagine a more complete change of the spirit of any composition.

tion of the word "given[i]" has the effect of throwing the whole of the argument into confusion. The 29th Article was actually struck out of one edition, and that edition the one which, according to some authorities, is the only one now legally in force[j]. In the 31st Article, the doctrine of the Atonement is in one edition expressed in the simple language of the Bible[k], in the other in the extremest theological language of a particular school in reference to this sacred subject.

To this document so venerable, yet so full of acknowledged imperfections, the law now requires the willing subscription of all young men who are to become clergymen, and of all (at Oxford) who wish to take their degree of Master of Arts. That any number of educated men, amounting to several hundreds every year, should make this subscription without considerable reservation is almost

[i] "The Body of Christ is taken and eaten only after a hea-"venly and spiritual manner." This was no doubt intended to be Zuinglian or Calvinistic. "The Body of Christ is *given*" was no doubt intended to be Lutheran or Roman Catholic. The conjunction of the two can hardly be said to be either Catholic or Protestant—the better perhaps for that reason, but not the more suited to receive an exact profession of verbal agreement.

[j] "*The wicked which eat not the Body of Christ in the use of the* "*Lord's Supper.*" In the edition of (38) Articles authorized by 13 Eliz. c. 12, this Article does not appear. In the edition of (39) Articles authorized by the Canons of 1603, and by the Act of Uniformity in 1663, it is enforced.

[k] In "the 39 Articles" (see previous note) the word is "*pro-*"*pitiation,*" a phrase accepted by all Christians. In "the 38 "Articles" it is "*pacifying God's wrath,*" a phrase if not actually repugnant, certainly not welcome, to large masses of sincere Churchmen.

a moral impossibility. The story of Charles V. and the clocks is well known. A recent illustration of the same difficulty occurred not long ago in this place, when a celebrated theologian, by no means disposed to relax the general obligations of tests, expressed his "utter amazement" that 80 men of various sentiments should have been able to subscribe their assent to three or four brief propositions contained in a memorial on an academical examination. What would he have said had he for the first time heard not of 80, but of 20,000 persons subscribing their assent to at least 600 propositions on the most intricate and complex subjects that can engage the human mind? The hardship of these subscriptions is considerably increased by the time of life at which the subscribers make them. They are imposed not in mature age, when the mind has usually come to its final resolves on most of those great questions, but exactly at that moment of a young man's career when his opinions are in the act of formation, when they are least likely to be depended upon, when the lapse of a few years is most likely to change them entirely, when his conscience is most tender, most likely to be alive to scruples, most likely to be hardened by resisting or explaining them away. They are required, further, not from the illiterate, not from those who having once turned their attention to these matters are not likely to study them again, but from those who by the very profession, for which those subscriptions are a qualification, are continually led to think, and

write, and preach on the topics to which their subscriptions relate, and from whom a truthful, and sincere, and unbiassed consideration of such subjects is even more important than it would be in any other profession; in proportion as the suspicion of untruth in one whose office is to seek out and speak the truth is more mischievous than in the case of those who are simply engaged in the mechanical, or literary, or legal, or commercial struggles of common life.

But this is only half the evil. Besides the subscription by which every English clergyman and every full Oxford graduate is made to declare that "all "and every the XXXIX Articles are agreeable to the "word of God," they are also made to declare of another document totally different, emanating mostly from a different age, from authors widely distinct in feeling and opinions from those who drew up the Articles, that in this also there is "nothing con- "trary to the Word of God;" and every beneficed clergyman is bound to go a step further and declare that "to all and everything in this Book he "gives his unfeigned assent and consent." This second document, I need not say, is the Book of Common Prayer. Towards the Book of Common Prayer in a still higher degree than towards the Articles I wish to express the reverence which I believe every true Churchman, I had almost said every educated Englishman, must feel. I have said that it comes from authors of a different age, and of habits and characters very different from those

who compiled the Articles. The prayers of the Liturgy are for the most part the product of an age anterior to the dogmatic and sectarian tendencies of the Calvinistic, and in some measure even of the Scholastic, period. Though thrown into their present form by the Reformers, they are for the most part derived from the ancient Breviaries and Missals. The work which the Reformers accomplished in the Prayer-book was far more in the way of judicious revision and omission, than of actual composition. What they did compose they composed as nearly as possible in the spirit of that which they were revising. What they added, namely the English form of the prayers, is the very best of its kind: so that instead of losing by translation into English, the Liturgy has actually gained by the process. The Articles would not be naturally selected as standards of style: but the Liturgy ranks amongst the highest models of English literature, by the side of Shakespeare or Milton, of Bacon or Hooker. "The essential "qualities of devotional eloquence, conciseness, "majestic simplicity, pathetic earnestness of sup- "plication, sobered by a profound reverence, are "common between the English Liturgy and those "fine ancient Liturgies from which it is to a "great extent taken. But in the subordinate "graces of diction the originals must be al- "lowed to be far inferior to the translations. . . . "The English of our services is English in all the "vigour and suppleness of youth, and has directly

" or indirectly contributed to form the diction of " almost every great English writer, and has ex- " torted the admiration of the most accomplished " infidels, and of the most accomplished Noncon- " formists—of such men as David Hume and Robert " Hall." So wrote an impartial judge, himself a perfect master of the English language [1].

And, if from the outward form, we pass to the spirit and substance of the Prayer-book, let me quote the judgment of another historian, not less capable of appreciating it than the great writer whom I have just cited, and not more liable to be suspected of partiality:—" While the Church of " England remains, the image of Cranmer will be " ever reflected on the calm surface of the Liturgy. " The most beautiful parts are translations from " the Breviary; yet the same prayers translated by " others would not be those which chime like " church bells in the ears of the English child. " The translations, and the addresses which are ori- " ginal, have the same silvery melody of language " and breathe the same simplicity of spirit.... From " amidst the foul weeds in which its roots were " buried, the Liturgy stands up beautiful, the one " admirable thing which the reign of Edward pro- " duced. Prematurely born and too violently forced " upon the country, it was nevertheless the right " thing, the thing which essentially answered to " the spiritual demands of the nation.... Services " which have overlived so many storms speak for

[1] Macaulay, iii. 475.

" their own excellence, and speak for the merit of " the workmen [m]."

The theology of most of the prayers soars so high above the popular opinions of the present day, as to furnish the very best escape that exists from the peculiar views which have threatened to degrade the Church into a narrow sect. The wide charity of the Burial Service is a perpetual protest against the limited conceptions in which many religious persons indulge respecting the future state. The Collects, the Communion Office, above all, the Collects for Good Friday and Easter-day, express in terms as touching as they are significant, the Catholic and Scriptural doctrine of the Atonement, which would else, at times, have almost died out of the English Church. Throughout, the great truths of Christianity are (with a very few exceptions) presented in forms as conciliatory and attractive as they are impressive and sublime.

For myself, and for many who feel with me, I can truly say that the doctrines, the sentiments, and the language of the Prayer-book are, for the most part, the best protection which I could wish for the cause of Christian freedom, no less than for the cause of Christian truth. Give us the general spirit of the Prayer-book, and you give us all that we need.

But this unrivalled excellence of the Liturgy is still no reason for requiring to every portion of it

[m] Froude, v. 391, 393.

a subscription of assent and consent, which if not actually intended as a declaration of agreement with the dogmatic truth of every statement that it contains or implies, is certainly so understood by hundreds of conscientious clergymen.

Subscription to the Prayer-book.

No doubt as a correction of the subscription to the Articles it is most valuable. There is hardly a statement to which any objection can be raised, in the Articles, which is not neutralized by some countervailing expression in the Prayer-book. Most valuable is this as a check to the evil of subscription, but from another point of view a cogent reason against the practice at all. If it is incredible beforehand that vast masses of young men should agree in the literal and dogmatic sense of propositions so numerous and elaborate as those contained in the Articles; if it is equally incredible that the same number should agree in the literal and dogmatic sense of all the sentences in the Prayer-book, many of them poetical and devotional in form, but, according to the terms in which the subscription is often understood, to be received in their most prosaic and matter-of-fact signification,—it becomes doubly incredible that the same number of youths should receive with the same unqualified and unhesitating confidence, both these sets of propositions, emanating as each does emanate, from ages unlike to each other, and each no less unlike to our own.

I gladly acknowledge that from time to time the strange anomaly of these exact and literal,

yet conflicting, subscriptions has been considerably qualified by the wide and liberal construction which both in Church and State has been put upon them. In the University of Oxford, so long as the subscription to the Articles was required from Undergraduates and all Bachelors of Arts, the most various and contradictory interpretations were put upon the act. Even under the present regulations of the University, according to which all Masters of Arts are compelled to make the same subscriptions as the clergy, ("that there is nothing contrary in the "Prayer-book to the Word of God," and "that "all and every of the Articles are agreeable to "the Word of God,") a general persuasion exists that these words are not to be pressed in their literal and obvious sense. With regard to the clerical subscriptions, many high authorities have declared that the subscription to the Liturgy is merely a subscription to the use of it; and that subscription to the Articles is simply an acknowledgment of them as Articles of peace, not to be impugned, but not of necessity to be believed by the subscriber. Such was the well-known opinion of Archbishop Bramhall[n], and Bishop Bull[o], and Mr. Burke[p], and, to a considerable degree, of Bishop Burnet[q] and Professor Hey[r], and has within our

Latitude of interpretation required.

[n] Schism Guarded, p. 245.
[o] Bull's Works, vol. ii. p. 211.
[p] Speeches, i. 94.
[q] Burnet on the XXXIX Articles, p. 7.
[r] Preface to "Lectures on "the Articles."

own memory been forcibly expressed both in public journals and by leading Prelates.

Others, again, have felt that the mere fact of the enormous scope of the subscriptions, involving assent to documents so various in kind, and in part so contradictory to each other in spirit, if not in form, must by the very force of the terms imply a general and not a particular assent,—a reception of the whole, not a reception of each particular part. Others (as the so-called Low Churchmen) have insisted on interpreting the subscription to the Liturgy entirely by the subscription to the Articles. Others (as the so-called High Churchmen, especially since the adoption of the principles of Tract XC. as the rule of construction,) have insisted on interpreting the subscription to the Articles entirely by the subscription to the Liturgy, or on interpreting the Articles not by the obvious intention of each Article, but by any Catholic meaning which the literal and grammatical sense of the words will bear; not by the meaning put upon them by their first framers in 1552 and 1571, but by the meaning which must have been put upon them by the Arminian and High Church divines who republished them in 1628 and 1662 [1]. If we

[1] It is the avowal of this doctrine which alone suffices as a proof that many High Churchmen "subscribe the Articles "in a sense, in their judgment, different from that in which "the Articles were originally put forth." To put the sense of Laud and Sheldon, or of the Fathers and Schoolmen, into the words of Cranmer, Ridley, and Jewell, is (it may be, under the peculiar circumstances, quite properly) "winning new senses "for old words."

pay due regard to the mind of the imposers, due regard to the counteracting qualifications of the different parts of the Formularies themselves, due regard to the common sense of mankind, and the opinions of English divines, due regard to the sense of Holy Scripture, at least wherever its expressions are used in the Formularies, there is not any section of the English Church, lay or clerical, which might not innocently subscribe to the present forms. But if once we press these subscriptions in their rigid and literal sense, as they have been, especially of late, so often pressed, without regard to all or any of these qualifications, then it may be safely asserted that in this respect there is not one clergyman in the Church who can venture to cast a stone at another—they must all go out, from the greatest to the least, from the Archbishop in his Palace at Lambeth to the humblest curate in the wilds of Cumberland.

That they have not done so; that the Church of England has been held together at all, is doubtless owing to the frequent, though unfortunately not constant, maintenance of these wide interpretations. Had interpretations such as these been universally received and acted upon, subscription, like so many legal fictions in this country, would not have been a practical grievance of serious magnitude. It would have been an evil, but still it would have been a tolerable evil. It would have been an awkward, anomalous, incongruous incumbrance of our system; but I for one, knowing the

difficulty of procuring alteration even of innocent anomalies,—knowing also (to use the homely but forcible illustration of King James I.) how "much "easier old shoes are than new ones,"—recognising the actual value of the counteracting influence of those multiplied forms of subscription, should not have thought it worth while to call attention either to the evil or to its remedy.

Evils of Subscription at Oxford.

But every one knows that these generous constructions of the acts of subscription have never been entirely satisfactory, have never prevailed universally, and have, in our time, been continually on the decrease. Even with regard to the subscription formerly required from Undergraduates, the effect on their minds was, at times, most pernicious. Bentham, from whom this requirement was made at the early age of twelve, declared that it left a stain upon his conscience which was never effaced in after life, and with this feeling he dissuaded the late illustrious Marquis of Lansdowne from coming to Oxford on the ground that it was "a nest of "perjury."

The subscriptions made by Masters of Arts at present hang heavily on the consciences of many who cannot persuade themselves that it is right to assume obligations which they are told that they need not construe literally and according to the obvious meaning of the words, but which they know may be any day thrown in their teeth by some malignant or narrow-minded partisan; and which, from the stringency of the terms used, seem

to them only too capable of such a rigid construction as they repudiate with their whole hearts and souls. Of the whole practice it was well said by the late Oxford Commissioners in 1852:—

"This subscription is found practically neither "to exclude all who are not members of the Church "of England, nor to include all who are.

"On the one hand, it is no obstacle to the ad- "mission of some persons who are known to be "members of other communions, such as the Evan- "gelical Church of Prussia, the Evangelical Society "of Geneva, the Wesleyan body, and the Esta- "blished Church of Scotland. On the other hand, "there are persons who, though members of the "Church of England, are unwilling to declare that "they adopt all that is contained in the Articles, "and therefore feel themselves excluded from taking "the higher Degrees. It certainly is singular that "a lay corporation should require from laymen, "simply as a condition of membership, that which "the Church of England does not require for par- "ticipation in its most sacred ordinance. . . . . .

"We do not offer any suggestion as to the man- "ner in which the evil should be remedied, but we "must express our conviction that the imposition "of subscription, in the manner in which it is "now imposed in the University of Oxford, habi- "tuates the mind to give a careless assent to truths "which it has never considered, and naturally leads "to sophistry in the interpretation of solemn obli- "gations."

With regard to the clergy, the application of the more liberal construction is still more unequal and uncertain. When controversy is asleep, then the subscription sleeps also. But the moment that controversy starts into life, the opponents on either side never fail to rattle up the sleeping lions, heedless of the reflection that when aroused they will devour with equal indiscrimination on the right hand and on the left. No phrase of the Articles is too parenthetical, no term of the Liturgy too rhetorical, to be pressed into the service. The large and liberal constructions which are generally admitted in times of peace, and which every party in the Church is obliged to claim for its own interpretation of subscription, are, when used by theological opponents, branded as sophistry or disingenuous subtlety. To the general evils of controversy is thus added the great and peculiar aggravation of the embitterment and exasperation caused by constant mutual imputations of dishonesty and bad faith. We need only recall the usual language employed by High Churchmen against Low Churchmen in the Gorham controversy, by Low Churchmen against High Churchmen in the controversy of the Tracts for the Times, by the extreme partisans of both these sections against Broad Churchmen in the controversy of the last few years.

Evils of the Subscription of the Clergy.

I do not mean that the larger view has never been conceded by the mutual opponents. In the great struggle of 1845 for enforcing the obvious historical sense of the Articles against High Churchmen at Oxford, Mr. Ward on the one hand freely granted, in his able address on that occasion, that his adversaries were entitled to the same latitude of interpretation as that which he and his party claimed for themselves; and on the other hand, amongst his theological adversaries there were some who have since been themselves attacked by those whom they then defended, but who then eagerly claimed for them the latitude required by the original compromise of the Church of England.

But the general scandal of these exhibitions of internecine warfare and attempts at extermination is undeniable, and of late years the severe and rigid construction has been constantly on the increase. Twenty or thirty years ago there was a general disposition on the part of those in authority to ease to the utmost the scruples and difficulties of those who undertook the obligations of the sacred profession. The attempt of Bishop Marsh to exclude even the unpopular Calvinists by the eighty-seven Peterborough questions was repressed by a burst of general indignation. Archbishop Howley, a prelate of no lax or revolutionary tendency, admitted Arnold to Priest's Orders, though professing doubts not merely on the authorship but the canonicity of the Epistle to the Hebrews. Since that time the gradual tendency (it may be from a sense of necessity) in our Episcopal and Ecclesiastical administration has been to strain the terms of subscription against each successive party that has attracted attention in the Church.

It is in these attempts to turn the Articles and Liturgy into weapons of bitter recrimination and exclusion, that the true inherent mischief of subscription is brought to light. The rigid interpreters can always say that the literal sense of subscription, especially of subscription expressed in such cogent terms as those in use with us, is the one if not intended by the imposers at least expressed in the words or in the act; and the conflict which then arises between the practical accommodation of the institutions to the necessities of the case, and these various interpretations, be they one or many, cannot fail to arrest the attention both of the public and of those who are called to make the subscriptions.

To what degree the subscriptions thus enforced amount to a tangible grievance, how many conscientious persons are actually excluded thereby from academical degrees and privileges, or from Holy Orders, may not be easy to ascertain, nor, if ascertained, would it be a measure of the whole extent of the evil. There can be no question that most thoughtful candidates for Holy Orders shrink in the first instance from the act of subscribing to forms complicated and in terms so stringent or so liable to misinterpretation. There can be no question that the number is very small indeed of those who subscribe willingly and heartily—*ex animo*—with the same ready zeal and active concurrence of heart and soul, as that with which they give themselves to the sacred service of their new profession, and throw themselves into its duties. There can

be no question that of those who make the same subscriptions on taking their degrees at Oxford, the reluctance, it is hardly too strong a word in many instances to say, the indignation, is such as must effectually counterbalance any good effect which can be expected from it. It was so formerly, when these subscriptions were required from Undergraduates and from Bachelors of Arts. It is so still, now that they are required from Masters of Arts. And although the harsh and narrow interpretation of the act is much less frequently urged against academical than against clerical subscribers, yet from the more eager and restless intelligence, that prevails and must always prevail amongst the lay students of a University, this act of adhesion to propositions in which they do not intend to profess, and in which they are not expected to profess, their detailed belief, becomes hardly less irksome to them than to the clergy who are constantly taunted with it.

I have said that it would be difficult to ascertain the number of those who are actually excluded from Academical degrees or from Holy Orders by the existing subscriptions. In the case of the Academical degrees, the amount perhaps is not large. The number of Nonconformists who have availed themselves of the privilege recently afforded to them, by the Legislature, of coming to Oxford, is very much below what might have been expected from the eagerness with which their claims were pressed,—very much below what might take place

with great advantage to themselves, to the University, and to the Church. Each would gain by contact with the other, and any practical difficulties could be easily obviated by University regulations, such as either do exist, or could be established for that object. But it is not the object of these pages to consider the case of Nonconformists, but of ourselves. For academical members of the Church of England, it is at least not too much to ask that they should not be pressed with a burden which is not imposed on members of the sister University of Cambridge. The subscription required is probably not construed literally by any single person who makes or receives it. A large number of those who make it look upon it as an act of humiliation, only to be justified by what they regard as sophistical casuistry. If it does not exclude more, this is because it is regarded as a mere form which ought not to exclude any one.

In the case of Holy Orders, the evil is more apparent, and needs to be stated at greater length. The Charge of the Bishop of Winchester, and the comments that have been made upon it, have at last roused the country and the Church to a sense of the danger which has for some years past been perceived by attentive observers of the signs of the times—that the intelligent, thoughtful, highly educated young men who, twenty or thirty years ago, were to be found in every Ordination, are gradually withheld from the service of the Church, and from the profession to which their tastes, their

characters, and their gifts best fit them. For this great calamity, the greatest that threatens the permanence and the usefulness of the Church of England, there are, no doubt, many causes at work, some transitory, some beyond the power of any legislative enactment to reach. But there can be no question that one cause is the reluctance[1], the increasing reluctance of young men of the kind just described to entangle themselves in obligations with which they cannot heartily sympathise, and which may hereafter be brought against them to the ruin of their peace, and of their professional usefulness. They see that the liberal constructions which enabled their predecessors in the former generation to overstep these obstacles, are now far less common than heretofore[2]. They see that recent judgments in the Ecclesiastical Courts, that which enforced the 29th Article against the Archdeacon of Taunton, that which enforced a phrase in the 2nd Article against a clergyman in the diocese of Winchester, and those portions of the judgment which enforced particular words of the 8th, 18th, 20th, and 31st

[1] I have been told on good authority that of nineteen young men within the acquaintance of a single individual, who were within the last few years known to have gone to Cambridge with the intention of becoming clergymen, every one has since relinquished his intention, chiefly on the ground of the present state of subscription. Similar statistics to a larger extent, although of a less definite form, might be produced at Oxford.

[2] This is well put in a work on "Clerical Subscription," by the Rev. C. Hebert, Vicar of Lowestoft, and also in the masterly pamphlet of the Rev. Professor Grote, on Dr. Lushington's judgment.

Articles against two well-known writers in the dioceses of Ely and Salisbury, have proceeded on the principle that the contradiction to any single phrase in the Articles or Liturgy is considered incompatible with their clerical position. They observe that these judgments, though not directly affecting the interpretation of the act itself of subscription, yet take away the larger and more liberal sense which, at the beginning of this century, and down to the decision of the Gorham Controversy in 1850, was supposed to mark the mind of the imposers. They are unwilling, accordingly, to make the same subscriptions which in the last generation were made without difficulty; and, although other causes may have predisposed their minds in another direction, this obstacle at the first entrance on their new and increasingly difficult course is the final barrier that turns them aside; this burden, slight though it be, is the last straw that breaks the back of the camel already overladen with other scruples and anxieties.

And this obstacle, this burden, unlike those other less tangible causes to which I have referred, is directly within the power of the Bishops and of the Legislature to remove. Of the Bishops, because, if they were to give their ready assent to such a change, there can be no question that it would be immediately adopted by the Legislature. Of the Legislature, because the subscriptions are either purely State enactments, or such as the State could, with general approbation, sweep away or prohibit.

Not a word of the Articles need be touched. They would still be left as the exposition of the Faith of the Church of England in the sixteenth century, as the standard of its faith at the present day. Not a word of the Liturgy need be touched. There are, no doubt, changes which would be acceptable to many, but they must be effected by other means. The change of a single word in the Rubrics would, for example, be sufficient to relieve the recitation of the Liturgy from one of its greatest difficulties. But these are altogether beside the question of subscription. Remove subscription and the Liturgy itself would remain the same, and would be used as it was used for fifty years before any subscription to it was dreamed of. All that is needed is the repeal of certain clauses of the two Acts of Elizabeth and Charles II., and of the 36th Canon. The Liturgy and the XXXIX Articles would continue as much as they are now, and as they were before subscription was required to them, the law of the State and of the Church.

This relief, so salutary and simple, long demanded by many conscientious members of the Church, so nearly granted in the reign of King William III. at the instance of High Churchmen, so urgently needed by the wants of our time, would probably not be resisted, but for the apprehension of the dangers which would follow from it. It is thought that the removal of subscription would open the door to great confusion in the doctrine and the discipline of the Church. Objections to relief.

It is thought that, in some way or other, it is bound up with the belief in Christianity, and with the constitution of the Church of England.

These apprehensions are happily such as a glance at the history of our own country and of Christendom will remove.

Subscriptions useless.

I might refer to the cases where such subscriptions have existed and have been swept away. There were till the year 1854 promissory oaths and declarations in almost all the Oxford colleges, some of the most stringent kind, to observe the statutes imposed by the several Founders. Whilst they continued in force the statutes were broken in almost every particular. They have now been declared illegal. Has the discipline or order of a single College suffered in the slightest degree from the omission?

Till the same year subscriptions to the XXXIX Articles were required from all Undergraduates; and the same subscriptions to the Articles and Liturgy as those now required from Masters of Arts, were required from all Bachelors of Arts. These were defended, so long as they lasted, as though they were necessary bulwarks of the Church and of the University; to repeal them was denounced as "a desecration of what we held "to be most sacred; the destruction of what we "deemed most valuable in this life, because it was "connected with the interests of the life to come." They have been abolished in Oxford—they had long before been abolished, if indeed they had ever been

enforced, at Cambridge. Has the faith of either University suffered from the change? Does not every Tutor of a College who had to explain and enforce these subscriptions on the young men whom he had to present for matriculation or for their degrees feel an immense relief?

Subscriptions not essential to religious unity.

But I will not confine myself to these isolated instances, but examine the history of subscription from the first. For the three early centuries the Church was entirely without it. The members of the Church made a profession of their faith at baptism. But this was in the simplest form; it was not a precautionary assent to a variety of intellectual propositions, but a profession of service under a new Master, and of entrance into a new life. No Deacon, no Presbyter, no Bishop, made any subsequent profession. The distinction between the requirements of belief from clergy and from laity was as yet wholly unknown.

Origin of Subscription.

The first subscription to a series of dogmatical propositions as such, was that enforced by Constantine at the Council of Nicæa. It was the natural but rude expedient of a half-educated soldier to enforce unanimity in the Church, as he had by the sword enforced it in the Empire. It was accompanied then by the same casuistry, by the same ambiguity, by the same inoperative results as at present. At each Council the same process was repeated by the Bishops who were present. But the practice, as far as appears, never extended to the clergy generally or to the laity; and, as it

was then in the Ancient Church, so on the whole has it been in those portions of Christendom which have clung most tenaciously to Catholic usages, and been most stedfast in the defence of Orthodoxy. The Roman Catholic clergy and the clergy of the Eastern Church neither formerly nor now are bound by any definite forms of subscription. The unity of the Church is preserved there, as the unity of the State is preserved everywhere, not by preliminary promises or oaths, but by the general laws of discipline and order, and by the general public sentiment of the whole community[y].

The accidental growth of the Reformation.

It was one of the misfortunes incident to the Reformation that every Protestant Church, by way of defending itself against the enemies that hemmed it in, or that were supposed to hem it in on every side, was induced to compile each for itself a new Confession of Faith. The brevity of the half-page of the Apostles' Creed, the page of the Nicene Creed, or even the three pages of the Athanasian Creed, forms a striking contrast to the two thick volumes containing the various Confessions of Protestant Christendom. It was not for some time, however, that to these Confessions was added the

[y] From priests of the Greek Church no declaration of belief is required. The bishops are required to declare their assent to the decrees of the first seven Councils. From the clergy of the Roman Catholic Church no subscription is required at all, nor at their ordination any declaration of belief. But when they enter on any cure or any office of instruction they recite aloud the Creed of Pope Pius IV., which is the faith equally of every Roman Catholic layman.

fresh evil of requiring subscription to all their contents; and this requirement when it was introduced was usually in inverse proportion to the magnitude of the interests at stake. The most stringent and elaborate subscription probably ever enforced was that in the Duchy of Brunswick, when Duke Julius required from all clergy, from all professors, from all magistrates, a subscription to all and everything contained in the Confession of Augsburg, in the Apology for the Confession, in the Smalcaldic Articles, in all the works of Luther, and in all the works of Chemnitz. This excess of subscription on the Continent overleaped itself, and has led to its gradual extinction or modification. "The Moravians have now no subscriptions at all. In the Calvinistic and Reformed "Churches, where subscription and compulsory adherence to formularies was once the most strin- "gently enforced, a natural and perhaps an extreme "reaction has introduced the largest liberty. In "Geneva, and most of the Swiss Cantons, and in "some Protestant States of Germany (not to speak "of the French Church also), subscription is entirely "abolished—ordained ministers merely engaging to "teach their flocks faithfully out of the Word of "God; though the National Confessions remain "for the most part as acknowledged and venerated "standards of doctrine. In Holland, if matters have "not been carried quite so far, yet Arminians are "once more enabled to take their place in the "Church of Grotius and of Barneveldt. In the

On the Continent.

" Lutheran Churches, as in Prussia and other Ger-
" man States, and among the Scandinavian nations,
" the ancient Confessions retain a more formal and
" acknowledged authority; yet it is not so much by
" subscription, as in the solemn declarations and
" pledges advanced in the Ordination Service, that
" ministers bind themselves to accept the doctrine,
" and teach according to the guidance of their
" Church [x]."

In England, nothing more completely shews the extrinsic, superfluous character of our subscriptions, and therefore their needlessness, than their gradual, capricious, accidental growth. The Church of England as such recognises absolutely no subscriptions. The tests which alone are acknowledged by the ancient formularies of the Church, and on which alone it relies for protection, are incorporated in the Services, to the exclusion (as it would seem) of all besides. From every member of the Church, at his baptism, at his confirmation, on his death-bed, one profession of belief, and one alone, is required, in order to his enjoyment of the highest privileges which the Church can give, namely, the Apostles' Creed [y]. From the clergy of the Church certain professions are required in their Ordinations—the Oath of Supremacy from all, the seven questions put to candidates for Deacon's Orders, the eight questions to candi-

In England.

Tests of membership.

Tests at Ordination.

[x] All these facts are well collected in the Edinburgh Review, vol. cxv. p. 604. For the subscriptions of the Scottish Presbyterian Churches, and of English Nonconformists, see Appendix III.

[y] See Appendix I.

dates for Priest's Orders, and the eight questions to those who are about to be consecrated Archbishops and Bishops [z].

These, and these alone, are required; and any one who looked at those declarations standing by themselves would be surprised to find that, over and above these, other declarations had to be made, and other obligations contracted, of a totally different kind, and in totally different terms. These other obligations were, in fact, not contemplated at the time of the first compilation of the Prayer-book and Articles, and have grown up as a mere excrescence through the pressure of political and ecclesiastical parties. The Articles were not subscribed (by anything like general usage [a]) till the twelfth year of Elizabeth; they were then, after much hesitation and opposition, ordered to be subscribed for a special purpose [b], and with a limitation which considerably mitigated the evil which it introduced. The special purpose was the wish to have some check on the admission of Presbyterian ministers of other Protestant Churches to serve in the Church of England without re-ordination. The limitation was that the clergy were to subscribe those Articles " which only con-
" cern the confession of the true faith and the doctrine of the Sacraments;" how many, or how few, were implied by this specification has been never determined; but the attempt at discrimination shewed a disposition very different from that which

Gradual growth of Subscription.

[z] See Appendix I.

[a] See Edinburgh Review, vol. cxv. p. 582.

[b] Ib., p. 583.

has since made every allusion and every turn of a sentence as binding as the Articles on the Being of a God or the doctrine of the Trinity.

The next step was that the Earl of Leicester, with a view of annoying and excluding the Roman Catholic or Romanizing party in Oxford, introduced into the University the subscription to the Articles which (till 1854) was required from all students at their first entrance[c]. The third step was the subscription to the Liturgy[d] and to the whole of the Articles enjoined in 1603 by the Canons to be enforced on the clergy, and on all graduates in Oxford, with the view of excluding the rising Puritans. Down to this time the Liturgy, as before observed, had remained without any subscription at all. From this time, by a paradox unknown to any other Church in Christendom, the Liturgy was turned from its proper purpose, of expressing the devotions of the congregation, into a storehouse of theological propositions to be enforced on all those who had not the knowledge to distinguish between the nature of a Liturgy and a Creed. And finally, the subscription to the Articles was extended, and the force of the subscription to the Liturgy immensely increased, by the Act of Uniformity passed after the Restoration, with the express purpose of driving from their places in the Church as many of the Puritan clergy as could be conveniently displaced.

It may be said, indeed, that though these successive enactments were called forth by the evils of the times, those same evils still continue, and still require the same remedies. It would be more true to say that these remedies were the product of violent party spirit on one side and the other, which no one would now wish to imitate, and which ought to be numbered with the other desperate remedies, the Star Chamber and the High Commission Court, the Services of the 30th of January and of the 29th of May, the Conventicle Act, and the Five Mile Act, which no one would now wish to revive.

[c] See Appendix II.

[d] Edinburgh Review, p. 594.

Inefficacious for unity of doctrine.

As these subscriptions are mere external additions to our system, the unfortunate growth of caprice and oppression, and of increasing narrowness, so also have they been almost entirely inefficacious for the purposes for which they were framed. They were enforced (so we are told in the Declaration of King Charles I. prefixed to the Articles) for the purpose of "maintaining the "Church in the unity of true religion and in the "bond of peace;" and, (so we are told in the title of the Articles,) "for the avoiding of diversities "of opinion, and for the establishing of consent "touching true religion."

Let the history of the contentions within the Church of England, and without it, tell whether the desired unanimity has been secured by these means. It is far more true to say that whilst no element of discord has been excluded by these subscriptions, whilst (happily) Calvinist and Ar-

minian, High Churchmen and Low Churchmen, Germanizers and Romanizers, have equally found shelter under the broad shadow of the Church itself, the chief embitterment of their sojourn in this wide tabernacle has arisen from the conflicts that beset and have arisen out of their first entrance through the narrow door of subscription.

They are continued (it is sometimes urged) for the sake of preserving unity and purity of doctrine. That unity and purity of doctrine should flourish is no doubt an object much to be desired, and it is an object which, within certain limits, has been attained in the Church of England. But to this result subscription can have contributed only in a very small degree. It must be observed that the instrument employed (if one may so say) is far too blunt for the purpose for which it is designed. Persons are tormented or excluded by it who agree in every particular with those who are included by it, except on the one point as to the degree of force which can be applied to the words in question. A scrupulous High Churchman, a scrupulous Low Churchman, a scrupulous Broad Churchman stumbles at expressions which in their literal and obvious (though perhaps only superficial) sense appear to him objectionable. But none of these obstacles avail to exclude those who by whatever means are able to persuade themselves that the real sense of such passages is identical with the opinions which they hold in common with their more scrupulous brethren on those very points. And thus

an inequality of comprehension and exclusion is produced which renders the test not only inoperative, but absolutely misleading.

Or, again, go into detail on these questions. Take some of the doctrines which are (to all appearance) most explicitly asserted by the Articles or Liturgy literally construed; as, for example, the condemnation of the virtuous heathen, as maintained by the words of the 18th Article; or the condemnation of all members of the Eastern Church, as maintained by the clauses of the Athanasian Creed, which appear to declare that those who refuse to acknowledge the Holy Spirit to proceed from the Father and the Son "without doubt perish ever-"lastingly." There is probably no well-instructed Oxford graduate or minister of the Church of England who, however often he may have subscribed to the 8th or the 18th Article, has any hesitation in thinking, and even, if need be, affirming, the salvation of Socrates and Marcus Aurelius in ancient times, and of the patriarchs, saints, and martyrs of the East in modern times. When Baxter subscribed the Articles he felt himself constrained to subscribe these two with a special reservation in behalf of a charitable construction[e]. With that reservation[f]

[e] Macaulay, Hist. of England, iii. 89.

[f] "Every sincere and conscientious member of the Greek "Church . . . must in the estimation of every clergyman of the "Church of England who holds every point and iota in their "literal sense 'without doubt perish everlastingly.' I repeat "solemnly that I never met with a single clergyman who be-"lieved this in the literal sense of the words, and for the honour

they are probably subscribed at present by the vast majority of the clergy and graduates, and the doctrines which they condemn are thus as generally admitted within the pale of the English Church as though no subscription to that effect existed at all. Public opinion for a long time sided with the Articles on those subjects. But it has at last given way to a more Christian view of the matter, and the rigid subscription has proved powerless against the increased appreciation of the blessed doctrine of Christ and His Apostles.

Or, again, the 6th Article "in the name of Holy "Scripture understands those Canonical Books of "the Old and New Testament of whose authority "was never any doubt in the Church." Taken literally, the subscription to these words would exclude from academical degrees and from the clerical profession all those who receive as Holy Scripture the Epistle to the Hebrews, the Apocalypse, the Second Epistle of St. Peter, the Epistles of St. James and St. Jude, and the Second and Third Epistles of St. John, of whose authority it is well known that there was doubt in the early Church. But this statement of the Article is not only overridden, but even forgotten. The distinction which it draws between those Books which it receives as Canonical, and those which alone it receives as Holy Scripture,

"of human nature and of Christianity I trust that not one lives "in our age who would deliberately aver that such was his "belief." Such was the uncontradicted statement of an eminent Prelate twenty years ago, and it is probably not less true now.

is actually set aside; and the vast majority of the clergy of the Church of England, in defiance of the Article and of their subscription to it, receive as Holy Scripture without scruple those books "of "whose authority there was doubt in the Church" for no less than three important centuries, and even attack as heretical those who adopt the language of the Article itself. These books, disputed and doubted as they were in the early Church, are, for the most part, so clearly marked with the essential characteristics of Holy Scripture, that the statement of the Article[g], even though fortified by the great cotemporary authority of Calvin and Luther, has broken down before the common sentiment of English Christians, both clergy and laity.

Or take the whole language of the Liturgy on the great doctrines of Justification, and of Regeneration, and of Inspiration. This language if regarded not from a controversial, but from a practical and devotional point of view, may be easily used by all good Christians; but nevertheless it is such as never could have been received as the expression of the dogmatical belief of the large section of the Church commonly called "Low "Church" or "Evangelical." And yet the views confining "Regeneration" to Conversion, "Inspi-"ration" to the verbal accuracy of the sacred writers of the Bible, Justification to the single act

[g] I give this, of course, as an extreme instance. The facts of the case are well stated by Mr. Westcott in his learned article on "Canon," in the "Dictionary of the Bible," p. 268.

of faith and renunciation of the believer's merits, are as firmly held by this section as though the Liturgy had on each of these points expressed itself for their views and not against them, and as though they had never subscribed to it at all.

Or take the Articles in the aspect which presents the most formidable difficulties to many of those who subscribe them — their antagonism to the Roman Catholic system of doctrine. This is the most formidable restraint which subscription might seem to impose, because this is (as it would seem) the purpose for which alone many of them must have been written. But this also has been successfully overcome by those who wished to overcome it. From the time of the re-action of High Church and Arminian principles under the Stuarts, many of the Articles must, as regards their first intention, have become a dead letter, and this deviation from their original meaning was openly claimed in our own time by the celebrated Tract XC, and has been recently acknowledged as the admissible, nay, the only legitimate interpretation of subscription by the leaders of the High Church party. The 22nd Article condemns "the Romish doctrine of Purgatory and Invocation of Saints," but not (so it is contended) a purifying process after death, or an *ora pro nobis*. The 21st Article, which asserts that "General Councils may err and have "erred," is understood as not applying to General Councils which are œcumenical. The 31st Article, which condemns "the Sacrifices of Masses," is understood not to condemn "the Sacrifice of the "Mass." When in the 37th Article the Bishop of Rome is said to have "no jurisdiction within "this realm," this is understood to apply to temporal jurisdiction only[b].

In this way, the Articles, usually supposed to be aimed against the Church of Rome, are reduced to mere truisms, which every one can subscribe; and a large mass of the doctrines laid down by the Council of Trent can be held, and has been held, by those who have subscribed the XXXIX Articles. It will be remembered that this mode of interpretation excited much opposition at the time, both in 1841 and in 1845. But since 1845 the question has not been stirred again, and under cover of this construction, the so-called Romanizing doctrines which generally excite most alarm, and the fear of which most effectually operates as a reason against relaxing subscription, have been received, and may hereafter be received, as fully as if subscription were entirely abolished. The very efforts which were made in 1841 and 1845 to restrain the latitude claimed by Tract XC., (as I ventured at the time, and still venture to think, without due regard to the general conditions of subscription in the Church of England,) have by their subsequent failure tended to render more conspicuous the inefficiency of these tests to oppose the maintenance of Roman Catholic opinions within the pale of our Church.

[b] See Tract XC. and Dr. Pusey's generous defence of its principles in his Letter to Dr. Jelf.

Other checks exist. But subscription has totally failed.

Or, if we turn from the apprehension of the inroad of the doctrines of Rome, which is the most serious alarm for the English religious public, to the apprehension of the inroad of the doctrines of Germany, then again, for a different but equally cogent reason, subscription has proved powerless. In the case of the Catholic doctrines, the barrier of the Articles has been overborne by the Liturgy, and by the strong current of religious opinion engendered under the Stuart divines. Against the German spirit of criticism there was no barrier raised at all in the Articles—partly because to a certain degree the English Reformers shared the continental doctrines already entertained on this subject by Luther, Calvin, and Zwingle; chiefly from the fact that the scientific, historical, and critical questions, which now so much agitate the mind of Europe, had not yet come into existence[1]. There has, no doubt, been a powerful restraint upon the advance of

[1] "The Liberty of Private Judgment within the Church of "England," on all these subjects; on all questions of "history "and geology," on "the genuineness and canonicity of the "sacred writings," on "the interpretation of texts of Scripture, "and on the translation of Scripture," has been set forth with characteristic caution, but with no less characteristic ability and force, by the Provost of Oriel, in a sermon bearing that title, and published only a month ago. "The Articles," as he well says, "cite only two texts of Holy Writ expressly; and quoting "two particular words from a third, what interpretation do they "assign to these words? They suggest four different readings, "and leave the choice to you."—(p. 21.)

Biblical criticism in England. But this restraint has been imposed not by subscription to the Articles, but by the determined resistance of public opinion in England to the reception or the appreciation of novelties, especially in theological matters.

And it is this public opinion which on the whole is, and will always be, the chief safeguard against eccentricities and extravagances of opinion in ecclesiastical or academical offices. There are many literary, some ecclesiastical institutions, where no subscription is required, and yet where the same harmony and the same general tenor of doctrine prevails as in the chairs of Oxford and in the pulpits of the English Church, simply because the audiences who hear, the congregations that attend the teachers and preachers, will not endure to hear anything else taught than that which, on the whole, falls in with the religious life and sentiment of the English people. And if, in late years, the influx of German theology and the advance of criticism has made itself more felt, this is not from any relaxation of subscription, but from the fact that the public itself has become more impregnated with the doctrines which made their appearance amongst the clergy in point of fact shortly after they had taken root amongst the educated classes. That there should have been no Articles against the speculations of Niebuhr, or Grote, or Ewald; that there should have been no precise definitions of Inspiration, of Miracles, of Prophecy; no determination of the authorship of the several books of the Old and

New Testament; no authorized exposition of the relation in which History, Geology, and Astronomy stand to the Bible; has been an immense assistance in preparing the way for the just consideration of these great questions. But I refer to this fact now, chiefly for the proof which it affords, that the safeguard for their reverent study, as it never did depend on subscription, so it will remain though subscription were removed; and that, as they have not been shut out by the existence of subscription, so they will not receive any additional legal facility by its abolition.

For the restraint of these speculations, if restraint be needed, there will still be the same that now exists. There will still be the natural indisposition both of the clergy and of their congregations to run into extremes[k]. There will still be the Or-

[k] As an instance of what I mean, I may mention the doctrine of the final restitution of all things. How widely the opinion that there may be forgiveness after death is spread amongst the clergy I know not. But the fact is certain, first, that such an opinion is very rarely preached, and, secondly, that this silence is not occasioned by subscription. There was an Article in the original edition of the Forty-two Articles in 1552, condemning those who teach that "All men "shall be saved at the length." This Article was deliberately struck out in 1562, together with another which condemned the doctrine of Millenarianism. Therefore, as far as subscription is concerned, the clergy of the Church of England are left as free to preach the general restoration of all men, as they are to preach the doctrine of the Millennium. But because religious opinion in England has set its face against the former, and (in some quarters at least) in favour of the latter, the former is virtually proscribed, whilst the latter is openly avowed. The entire freedom of the law on this question may be inferred from the fact that a recent work, of which the general object is the relaxation of subscription, contains a recommendation to re-enact the repealed 42nd Article in order to exclude the doctrine in question.

dination Service of Priests and Deacons, and the Consecration Service of Bishops. There will still be the power of prosecuting offenders. Prosecutions are no doubt remedies for the most part worse than the disease. Still, as the practice of subscription has not prevented the recourse to prosecutions, so the legal grounds on which ecclesiastical litigation proceeds are wholly irrespective of subscription. Every prosecution which has been instituted might have been carried on legally, though the defendants had never subscribed at all, and may be carried on legally, though subscription is entirely abolished.

Offenders against what?

But, after all, the best security for sound doctrine is in "the force of truth." The Bible has maintained its hold on the world, virtually, without subscription to its contents. No laymen, not even Oxford graduates or undergraduates, have ever been made to express their assent to its teaching beforehand. The Deacons of the Church have only done so in the modified form to which reference has been already made. The Articles, whilst protesting against the authority of Tradition, have still required no direct assent to the edification, the beauty, the Inspiration of the Bible. Yet the Bible has not given way. If in some points our views respecting it have to be altered,

it is more thought of, more talked of, more sought after than ever. It will retain its ground without the aid of subscription, as without such aid it has retained and does retain its ground to this present day. We have never been called to declare our belief in the grandeur of Isaiah, or the pathos of Jeremiah, or the wisdom of Paul, nor even in the Divine Pre-eminence of the Gospels. But we acknowledge this all the more readily, because we have not been entrapped into it by a legal snare in our early youth. And so of the Prayer-book also. That there are parts here and there which by an alteration, at least of the Rubrics, may be wisely amended, I do not deny. But as a whole it has commended itself to the affections of the English nation, not by reason of the "unfeigned assent and consent" of the clergy, or the Oxford declaration that "it contains nothing contrary to the Word of "God," but by that surpassing wisdom and charity which breathes through every portion of it; by that beauty and strength of language which soothes and cheers, even when we are unable fully to agree with all the turns of its expressions; by that just harmony of Christian doctrine which it presents to the philosophical no less than to the simple believer.

These are the two real bonds of religious life and teaching in England; these override all our differences; these promote that "avoiding of di-"versities of opinion and that consent in true "religion" which the Articles and subscriptions (whether to Articles or Liturgy) have been wholly unable to effect.

And, if to these we may add, by way of illustration, any ordinary writings, we might perhaps name two, which owe their prevailing and pervading influence, not to any subscription or assent of clergy or laity to their dogmatic truth, but to the genuine, genial, Apostolic spirit that inspires them both—Keble's "Christian "Year" and Bunyan's "Pilgrim's Progress." These are to English Christendom, Anglican and Nonconformist, what the *De Imitatione Christi* is to Christendom at large. Shortcomings, defects, errors of doctrine and of taste may be detected in each, but they nevertheless serve as proofs how mighty a fellowship may be created even by human compositions, without the slightest external support of the State, without the slightest requirement of assent on the part of the Church. Is it not certain that an attempt to enforce "the unfeigned assent and "consent to all and everything" contained in the "Pilgrim's Progress" and the "Christian Year," would, so far from increasing our appreciation and reverence of the graces of those two admirable works, incalculably pervert and lower it? Is it not equally certain that the Prayer-book would gain in proportion as it was relieved from the forced and unnatural laudation of it, which is thus thrust, as it were, into the mouths of those who, left to themselves, would honour and praise it as it deserves?

It was observed of the oracle of Delphi, that during all the ages when the oracle commanded the real reverence of Greece, the place in which it was en-

shrined needed no walls for its defence. The awful grandeur of its natural situation, the majesty of its Temple, were sufficient. Its fortifications—as useless as they were unseemly—were built only in that disastrous time when the ancient feeling of faith had decayed, and the oracle was forced to rely on the arm of flesh, on its bulwarks of brick and stone, not on its own intrinsic sanctity. May God avert this omen from us! It is only in these later ages of the Church, or chiefly in the Protestant portions of Christendom, that subscriptions have been piled up to circumscribe our oracle and our sanctuary. Let us shew that we, in these later days, are willing to free ourselves from these unsightly barriers which encumber, without defending, the truth which they enclose and hide. Let us shew that we, in our Reformed Church, are not afraid to dispense with those artificial restraints which the Catholic Church in ancient, and, as we think, less enlightened times, scorned to call to its aid.

What I have thus ventured to recommend is the removal of the existing subscriptions as mischievous and useless. Your Lordship has well observed on several occasions that the substitution of any new subscriptions instead of those which now exist would be only a revival of the old evil in new forms. Probably most of those who now complain of the system handed down to us would prefer it to any test imposed by the present generation. That on which after all we must rely is the willingness to join

in the Liturgy and worship, whether as expressed in the declarations now made in the Ordination Service, or in the general requirements of conformity prescribed in the Act of Uniformity[l], or in the tacit consent implied by becoming a clergyman at all. Those who were really averse to the profession, or out of sympathy with the system, on Puritan, or Roman Catholic, or sceptical grounds, would drop off of themselves, as they always have in former times, without compulsion from others. It was no enforcement of subscription or legal prosecution which drove away the Roman Catholic seceders of 1845, or the Positivist seceders of a later time. It was simply that other systems had greater attractions, and that those attractions at last became irresistible. Those, on the other hand, who heartily and humbly wished to serve God and instruct their brethren[m], not in any narrow sect but

[l] This last would be sufficient for the University, unless it were proposed (for the sake of admitting the Nonconformists) to substitute a declaration that they would not impugn the doctrine of the Established Church. See *Concluding Note*.

[m] I am aware that it is invidious to refer to single instances of sacrifice for the sake of religious scruples, yet I cannot forbear to refer to one remarkable instance which, though known to many, has come especially within my own experience. Of all the clergy whom I have known I can truly say that few have more exactly exemplified the best characteristics of an English clergyman than the Rev. Charles Wodehouse, late Canon of Norwich. He will forgive me if I go back to the days when I first knew him, now more than twenty years ago, when his kindly, Christian courtesy and good sense won from me and mine a gratitude which can never be discharged. There was nothing whatever in his opinions or his tendencies to divide him from the mass of

in the unpretending and comprehensive ranks of the National Church, ought to be retained, and often would be retained, if they were freed from the present system of early pledges which they either fear to undertake or at last from mere sensitiveness are led to repudiate. As it is, we keep many whom we would gladly spare, whilst we lose many whom we would most gladly keep.

It may be urged that if the subscriptions are useless, so also would be their removal; that other

his countrymen or his clerical brethren. His sermons were orthodox, gentle, persuasive, manly. His parochial and cathedral ministrations were such as would have made him acceptable in any parish or in any cathedral in the land. But after a long struggle, commenced almost from the time when he first became aware that he had subscribed to formularies with which, in three minute points, he could not heartily agree, he gave up, at severe cost to himself, the positions in which he had led a happy and useful life for nearly fifty years. I do not say that any exceptional cases of themselves justify an alteration of a law, but they deserve to be recorded, in order to remind those in authority what is the nature of the burden which the requirement of those subscriptions imposes on those who in the points at issue exactly agree with themselves. There is probably no Bishop on the bench who would interpret the damnatory clauses of the Athanasian Creed in any other sense than that required by Mr. Wodehouse. There are certainly very few Bishops who, if asked, would not explain their use of the words of the Ordination Service in a sense exactly similar to that desired by him. The difference between him and his brethren was simply that he had a scruple—as many thought—an excess of scruple—in making and continuing a subscription which the great bulk of the clergy accepted in the same sense as he was desirous of putting upon it. I trust that he may yet live to see that his blameless ministry and his conscientious, even though it may be thought unnecessary, sacrifice has not been in vain.

obstacles would be left, which would still render the entrance to graduation in the University and to the ministry of the Church too narrow for those whom we should wish to include.

Ordination Service.

It may be urged, first, that the candidates for Orders would still stumble at the questions put to them in the Ordination Service. No doubt some would. But any one who will read the seven questions addressed to Deacons, and the eight addressed to Priests, will see their wide difference from the present terms of subscription. They are almost entirely practical, bearing either on the moral or spiritual condition of the candidates themselves. The only questions which can be construed into a profession of intellectual belief are the third to Deacons and the second to Priests. Of these, the one addressed to Priests, if for a moment it might seem to press hard on any one who attached much importance to Tradition, yet is so generally expressed that it probably would not of itself even exclude a Roman Catholic or a Greek. The third question, addressed to Deacons, if taken in the sense which alone the words will bear when applied to the immense variety of books and styles contained in the Bible, and viewed in the light of Dr. Lushington's recent judgment, which is now the only legal interpretation of it, is such as most reasonable Christians would at once accept[n].

Conformity.

It is urged, secondly, that conformity would become a burden equal to that of subscription, and that

[n] See Appendix I.

there would be an inconsistency in reading or reciting that to which we have refused to express our assent. I do not deny that difficulties would arise. But they would be much less than they are at present. It is obvious that conformity must always be wider than exact belief. A single instance will suffice both as an illustration and as an argument. The whole ministry, not merely of the Church of England but of all English Churches and sects throughout the world, use the Authorized Version of the Scriptures. They use it, although they are aware that it contains innumerable errors. They use it, although they know that in many instances these errors are such as convey to their hearers a sense exactly the contrary of the original, and a belief in the genuineness of passages which they themselves know to be spurious[*]. In the minds of the most enlightened of the clergy these variations may be of trivial importance. But to many, perhaps to a majority, they are of the very highest importance, inasmuch as they give to our congregations a totally false impression of words, and lines, and sentences of that Sacred Book, concerning which at least one distinguished Prelate has hazarded the remarkable statement, openly condemned by none, that "the very foundation of our faith, the very basis of

Authorized Version.

[*] I allude of course, amongst others, to 1 John v. 7. It is said that this passage has even been used recently as a text for a sermon on the Trinity. This, undoubtedly, is pushing the use of the Authorized Version to an extreme which few would justify, but which forcibly illustrates the position which that Version holds amongst us.

"our hopes, the very nearest and dearest of our "consolations are taken from us *when one line in* "*that Sacred Volume* on which we base everything "is declared to be unfaithful or untrustworthy."

This Version we read in spite of its imperfections, in spite of its errors, because of its general excellence, because of its antiquity, because of the difficulty of changing it, because of its value as a bond of union with all English Protestants, because of the confusion which would ensue if each clergyman altered it at his own discretion. But all this we do, without subscribing to it. King James I. might have ordered a subscription of "unfeigned assent and consent to all and "every part of it," and a declaration that we believed it to contain "nothing contrary to the Word "of God," and "that all and every" chapter and verse "was agreeable" to the original. No doubt this subscription, like those which now exist, would have been explained away. But how greatly would it have increased our difficulties, what insinuations of dishonesty and bad faith would it have bred against every inquiry into the text, against every one who endeavoured to defend (as recently) the details of the Pentateuch by arguing that every word complained of was a mistranslation! What heart-burnings in students, what scruples in preachers! From these we are happily delivered. No subscription has ever been required to the Authorized Version; and yet it remains, as the Liturgy would remain, a lasting bond of our religious unity.

But even if the use of the Liturgy would still be a burden on some consciences, this can be no reason why the burden should be increased by subscription. The difficulties in the way of revising the Liturgy are very great; the difficulties in the way of removing subscription are very small. Let us, at all events, relieve the Church where we can and as we can.

State of the age.

It is also urged that the reluctance to enter Holy Orders is deeply rooted in the theological unsettlement of the age, combined with the narrowness of ecclesiastical parties. I acknowledge this fully. I acknowledge that, if the present ardour for theological inquiry on the one hand, and the present disposition to narrow the boundaries of the Church on the other hand, were to continue, the advantage gained by the abolition of subscription would be very slight. The willingness with which, as was noticed in your Lordship's Charge, the scruples of Arnold about the canonicity of the Epistle to the Hebrews were received by Archbishop Howley, would be now, if I mistake not, comparatively rare. The tenderness with which, thirty or forty years ago, the consciences of young men were soothed and encouraged in their difficulties at taking Orders, has (perhaps with the best intentions on the part of our rulers) not increased in proportion to the needs of the case, or the wants of the Church. This more stringent view which (in consequence, it may be, of the changed circumstances of the time) so many have felt it their duty to adopt,

I fully and mournfully acknowledge. Still the very gloom which this state of things casts over our prospects makes it the more necessary for the Legislature to do what it can to remove these (as they may be called) mechanical hindrances to the efficiency of the Church, the removal of which is within its own power. And the support given to such a relaxation, even by a single member of the Episcopal Bench, would be hailed by the rising generation at least as a sign that their case was not altogether overlooked by those whose office it is to "heal the sick, bind "up the broken, bring again the outcasts, seek the "lost."

May I conclude by repeating a well-known story, of which I will not vouch for the exact accuracy in detail, but which is sufficiently correct on the whole to justify the moral to be deduced from it.

There was, till within our own times, in the Turkish empire a law—of high importance in the eyes of the ecclesiastical and civil authorities—which guarded the established faith by inflicting capital punishment on any convert to Islamism who was found guilty of relapse to his former religion. An instance of such a relapse was detected in the person of an Armenian Christian. The Council of State considered his case, and he was sentenced to death. The great English Ambassador, whose name is still so renowned through the East as a terror to evil-doers and as a refuge of the oppressed, delivered his earnest remonstrance against the execution of the sentence. The Council

persisted,—and the headless trunk was that same day exposed in front of the Sublime Porte. The Ambassador heard of the disregard of his warning. He instantly sent to the Ministers of the Sultan the announcement that part of his effects were already on board the steamer moored beneath his palace, on the Golden Horn; and that, unless he received an assurance of the repeal of the obnoxious law, he and all his suite would instantly take their departure from Constantinople, and that the whole diplomatic body would rapidly follow.

The Council of State met. The terror of this great defection had at last awakened them to the gravity of the situation. Divided between the awe of the impending calamity, and the reluctance to part with a time-honoured bulwark of their ecclesiastical constitution, they knew not what to do. In this extremity they sent for a venerable ex-Minister, whom they were wont on great emergencies to consult as an oracle of wisdom. He came,—and they expounded to him their difficulty and entreated for a solution. The aged counsellor answered, "You have asked me a question. Allow "me to reply by asking you another. Do you "wish to lose the whole of your religion, or only "a part?" They replied, "A part." "Then," he continued, "I advise you without a moment's "hesitation to repeal this law, against which the "Ambassador of England has raised this formid- "able complaint. It is possible that our religion "may subsist without it; but it is certain that,

"unless you repeal it, our whole Empire and "Church will, by the alienation of this great power, "be brought to the ground." They listened—they were silent. The law was repealed. No relapsed Mussulman has ever since been executed. The Turkish empire and the Mussulman hierarchy and faith still remain, not weakened, but strengthened by the removal for ever of so terrible a scandal.

I do not press the application of this apologue in all its parts. We have no monstrous individual grievance to provoke the anger of powerful statesmen. The Church of England is, we may confidently trust, in spite of all its dangers, far more secure than the tottering empire and hierarchy of Turkey. But the danger which threatens us is analogous to that which threatened the Sublime Porte, the danger, namely, which the Bench of Bishops with one accordant voice has pointed out, in the gradual withdrawal of the highest and most cultivated minds in the country from the ministry of the Established Church. They have already begun to move; they are but waiting the signs of the times to withdraw in yet larger and larger numbers to a further and further distance.

In this crisis the advice of the aged counsellor at Constantinople is the best that we can follow. The question is constantly arising in ecclesiastical legislation, "Will you lose the whole of your reli- "gious system, or a part?" There is always a disposition in the first instance to say that, if we lose a part we shall lose the whole, and that the only

means of saving the whole is to keep every part. Yet it may truly be said, not only that all experience proves the futility of this alarm, but that the whole is best saved by abandoning those parts which can no longer safely be retained. What Paley says of the advantage afforded to the Christian Religion itself by the relief from any one Article which contradicts the experience or the reasoning of mankind, is no less true of the relief afforded to any particular branch of the Christian Church by the removal of any unnecessary burden which has been fastened upon it. "He who dismisses from the system" any such useless appendage, "does more towards "recommending the belief, and, with the belief, the "influence of Christianity to the understandings "and consciences of serious inquirers, and through "them to universal reception and authority, than "can be effected by a thousand contenders for "ordinances of human establishment."

My Lord,—I leave the matter in your hands and in the hands of the Legislature. Subscription and abolition of subscription are alike only means to ends. If the end can be accomplished in any other way, if the comprehensiveness, the influence, the truthfulness, and the faith of the Church of England, if the interests of learning and religion at Oxford can be better maintained by retaining subscription than by removing it, then by all means retain it. But, if on the other hand, it shall seem that the time is at last come when that which the great statesmen and divines of the Revolution so

nearly carried into effect may be safely accomplished, it will be one of the best signs which could be given that the Church of England is still alive, still able to meet the requirements of our age, still vigorous enough to bear the removal of an excrescence that drains instead of nourishing its strength.

One word in conclusion. It is my earnest hope that in nothing which I have said I shall appear to have been unmindful of the extraordinary anxieties and perplexities which beset the position of those who hold the high office of Bishop in this trying time. If I have ventured to address your Lordship at all on this subject, it is because I know what those difficulties are, and because I feel that the clergy, of whatever degree, have at least one object and one duty in common; that of lending any help, however humble, to guide the Church of this generation rightly through the present storms to the haven where it would be.

With true respect for your manifold labours in your great work, and with sincere gratitude for your many kindnesses,

I remain,

Your faithful friend and servant,

ARTHUR P. STANLEY.

APPENDIX I.

(1.) Tests of Membership with the Church of England, as recognised in the Formularies of the Church of England.

1562. (*a.*) Tests on admission into the Church at Baptism.

"*Question.* Dost thou renounce the devil and all his "works, the vain pomp and glory of the world, with all "covetous desires of the same, and the carnal desires of "the flesh, so that thou wilt not follow, nor be led by "them?

"*Answer.* I renounce them all.

"*Question.* Dost thou believe in God the Father Al- "mighty, Maker of heaven and earth?

"And in Jesus Christ His only-begotten Son our Lord? "And that He was conceived by the Holy Ghost; born of "the Virgin Mary; that He suffered under Pontius Pilate, "was crucified, dead, and buried; that He went down "into hell, and also did rise again the third day; that He "ascended into heaven, and sitteth at the right hand of "God the Father Almighty; and from thence shall come "again at the end of the world, to judge the quick and "the dead?

"And dost thou believe in the Holy Ghost; the holy "Catholick Church; the Communion of Saints; the Re- "mission of sins; the Resurrection of the flesh; and ever- "lasting life after death?

"*Answer.* All this I stedfastly believe.

"*Question.* Wilt thou be baptized in this faith?

"*Answer.* That is my desire.

"*Question.* Wilt thou then obediently keep God's holy

"will and commandments, and walk in the same all the "days of thy life?

"*Answer.* I will endeavour so to do, God being my "helper."—(*Office of Public Baptism.*)

(*b.*) Test of continuance in the Church. (Address to a Member of the Church on his death-bed.)

"*The Minister shall rehearse the Articles of the Faith,*
"*saying thus,*

"Dost thou believe in God the Father Almighty, Maker "of heaven and earth?

"And in Jesus Christ His only-begotten Son our Lord? "And that He was conceived by the Holy Ghost, born of "the Virgin Mary; that He suffered under Pontius Pilate, "was crucified, dead, and buried; that He went down "into hell, and also did rise again the third day; that "He ascended into heaven, and sitteth at the right hand "of God the Father Almighty; and from thence shall "come again at the end of the world, to judge the quick "and the dead?

"And dost thou believe in the Holy Ghost; the holy "Catholic Church; the Communion of Saints; the Re- "mission of sins; the Resurrection of the flesh; and ever- "lasting life after death?

"¶ *The sick person shall answer,*

"All this I stedfastly believe."—(*Office of the Visitation of the Sick.*)

(2.) Tests of Admission to Holy Orders, recognised in the Formularies of the Church of England.

For Deacons.

"¶ *The Bishop, sitting in his chair, shall cause the Oath of the* 1562.
"Queen's Supremacy, and against the power and authority
"of all foreign Potentates, to be ministered unto every one
"of them that are to be Ordered.
"*The Oath of the Queen's Sovereignty.*

"I *A. B.* do swear, that I do from my heart abhor, "detest, and abjure, as impious and heretical, that dam-

" nable Doctrine and Position, That Princes excommu-
" nicated or deprived by the Pope, or any Authority of
" the See of Rome, may be deposed or murdered by their
" Subjects, or any other whatsoever. And I do declare,
" that no foreign Prince, Person, Prelate, State, or Poten-
" tate, hath, or ought to have, any Jurisdiction, Power,
" Superiority, Pre-eminence, or Authority, Ecclesiastical
" or Spiritual, within this Realm. *So help me God.*

" ¶ *Then shall the Bishop examine every one of them that are to*
" *be Ordered, in the presence of the people, after this manner*
" *following.*

(1.) " Do you trust that you are inwardly moved by the
" Holy Ghost to take upon you this Office and Ministra-
" tion, to serve God for the promoting of His glory, and
" the edifying of His people?

" *Answer.* I trust so.

" *The Bishop.*

(2.) " Do you think that you are truly called, according
" to the will of our Lord Jesus Christ, and the due order
" of this Realm, to the Ministry of the Church?

" *Answer.* I think so.

" *The Bishop.*

(3.) " Do you unfeignedly believe all the Canonical
" Scriptures of the Old and New Testament?

" *Answer.* I do believe them. [See *Note*, p. 73.]

" *The Bishop.*

(4.) " Will you diligently read the same unto the people
" assembled in the Church where you shall be appointed
" to serve?

" *Answer.* I will.

" *The Bishop.*

(5.) " It appertaineth to the Office of a Deacon, in the
" Church where he shall be appointed to serve, to assist
" the Priest in Divine Service, and specially when he
" ministereth the holy Communion, and to help him in
" the distribution thereof, and to read holy Scriptures and

" Homilies in the Church; and to instruct the youth in
" the Catechism; in the absence of the Priest to baptize
" infants, and to preach, if he be admitted thereto by the
" Bishop. And furthermore, it is his Office, where pro-
" vision is so made, to search for the sick, poor, and im-
" potent people of the Parish, to intimate their estates,
" names, and places where they dwell, unto the Curate,
" that by his exhortation they may be relieved with the
" alms of the Parishioners, or others. Will you do this
" gladly and willingly?

" *Answer.* I will so do, by the help of God.

" *The Bishop.*

(6.) " Will you apply all your diligence to frame and
" fashion your own lives, and the lives of your families,
" according to the Doctrine of Christ; and to make both
" yourselves and them, as much as in you lieth, whole-
" some examples of the flock of Christ?

" *Answer.* I will so do, the Lord being my helper.

" *The Bishop.*

(7.) " Will you reverently obey your Ordinary, and other
" chief Ministers of the Church, and them to whom the
" charge and government over you is committed, following
" with a glad mind and will their godly admonitions?

" *Answer.* I will endeavour myself, the Lord being my
" helper."—(*Service for the Ordering of Deacons.*)

FOR PRIESTS.

The Oath of Supremacy, as for the Deacons.

" *The Bishop shall say,*

(1.) " Do you think in your heart, that you be truly
" called, according to the will of our Lord Jesus Christ,
" and the order of this United Church of *England* and
" *Ireland*, to the Order and Ministry of Priesthood?

" *Answer.* I think it.

" *The Bishop.*

(2.) " Are you persuaded that the Holy Scriptures con-
" tain sufficiently all Doctrine required of necessity for

" eternal salvation through faith in Jesus Christ? and are " you determined, out of the said Scriptures to instruct the " people committed to your charge, and to teach nothing, " as required of necessity to eternal salvation, but that " which you shall be persuaded may be concluded and " proved by the Scripture?

" *Answer.* I am so persuaded, and have so determined " by God's grace.

" *The Bishop.*

(3.) " Will you then give your faithful diligence always " so to minister the Doctrine and Sacraments, and the " Discipline of Christ, as the Lord hath commanded, and " as this Church and Realm hath received the same, ac- " cording to the Commandments of God; so that you may " teach the people committed to your Cure and Charge " with all diligence to keep and observe the same?

" *Answer.* I will so do, by the help of the Lord."

" *The Bishop.*

(4.) " Will you be ready, with all faithful diligence, to " banish and drive away all erroneous and strange doc- " trines contrary to God's word; and to use both publick " and private monitions and exhortations, as well to the " sick as to the whole, within your Cures, as need shall " require, and occasion shall be given?

" *Answer.* I will, the Lord being my helper.

" *The Bishop.*

(5.) " Will you be diligent in prayers, and in reading of " the Holy Scriptures, and in such studies as help to the " knowledge of the same, laying aside the study of the " world and the flesh?

" *Answer.* I will endeavour myself so to do, the Lord " being my helper.

" *The Bishop.*

(6.) " Will you be diligent to frame and fashion your " own selves, and your families, according to the doctrine " of Christ: and to make both yourselves and them, as

" much as in you lieth, wholesome examples and patterns " to the flock of Christ?

" *Answer.* I will apply myself thereto, the Lord being " my helper.

" *The Bishop.*

(7.) " Will you maintain and set forwards, as much " as lieth in you, quietness, peace, and love, among all " Christian people, and especially among them that are " or shall be committed to your charge?

" *Answer.* I will so do, the Lord being my helper.

" *The Bishop.*

(8.) " Will you reverently obey your Ordinary, and " other chief Ministers, unto whom is committed the " charge and government over you; following with a glad " mind and will their godly admonitions, and submitting " yourselves to their godly judgments?

" *Answer.* I will so do, the Lord being my helper."— (*Service for the Ordering of Priests.*)

For Bishops and Archbishops.

The Oath of Supremacy, as for Priests and Deacons.

" *And then shall also be ministered unto them the Oath of due Obe-* " *dience to the Archbishop, as followeth.*

" In the Name of God. Amen. I *N.* chosen Bishop " of the See and Church of *N.* do profess and promise all " due reverence and obedience to the Archbishop and to " the Metropolitical Church of *N.* and to their Succes- " sors: So help me God, through Jesus Christ. . . .

" *Then the Archbishop shall say,*

(1.) " Are you persuaded that you be truly called to this " Ministration, according to the will of our Lord Jesus " Christ, and the order of this Realm.

" *Answer.* I am so persuaded.

" *The Archbishop.*

(2.) " Are you persuaded that the Holy Scriptures con- " tain sufficiently all doctrine required of necessity for " eternal salvation through faith in Jesus Christ? And are

" you determined out of the same Holy Scriptures to in-
" struct the people committed to your charge; and to teach
" or maintain nothing as required of necessity to eternal
" salvation, but that which you shall be persuaded may be
" concluded and proved by the same?

" *Answer.* I am so persuaded, and determined, by God's
" grace.

" *The Archbishop.*

(3.) " Will you then faithfully exercise yourself in the
" same Holy Scriptures, and call upon God by prayer, for
" the true understanding of the same; so as you may be
" able by them to teach and exhort with wholesome doc-
" trine, and to withstand and convince the gainsayers?

" *Answer.* I will so do, by the help of God.

" *The Archbishop.*

(4.) " Are you ready, with all faithful diligence, to banish
" and drive away all erroneous and strange doctrine con-
" trary to God's Word; and both privately and openly to
" call upon and encourage others to the same?

" *Answer.* I am ready, the Lord being my helper.

" *The Archbishop.*

(5.) " Will you deny all ungodliness and worldly lusts,
" and live soberly, righteously, and godly, in this present
" world; that you may shew yourself in all things an ex-
" ample of good works unto others, that the adversary
" may be ashamed, having nothing to say against you.

" *Answer.* I will so do, the Lord being my helper.

" *The Archbishop.*

(6.) " Will you maintain and set forward, as much as
" shall lie in you, quietness, love, and peace among all
" men; and such as be unquiet, disobedient, and criminous,
" within your Diocese, correct and punish, according to
" such authority as you have by God's Word, and as to
" you shall be committed by the Ordinance of this Realm?

" *Answer.* I will so do, by the help of God.

" *The Archbishop.*

(7.) " Will you be faithful in Ordaining, sending, or
" laying hands upon others?

" *Answer.* I will so be, by the help of God.

" *The Archbishop.*

(8.) " Will you shew yourself gentle, and be merciful
" for Christ's sake to poor and needy people, and to all
" strangers destitute of help?

" *Answer.* I will so shew myself, by God's help."

NOTE ON P. 68.

JUDGMENT OF THE DEAN OF THE ARCHES COURT, DELIVERED JUNE 25, 1862, ON THE THIRD ANSWER OF THE DEACONS.

" WHAT is the meaning of the Deacon's declaration that
" he *unfeignedly believes* in the Canonical Scriptures? It
" is both difficult and dangerous to attempt any definition;
" but the necessity of the case, the manner in which the
" charges have been laid and the defence has been con-
" ducted, compel me to put some interpretation on these
" words. I shall do so, keeping before me the sole object
" of arriving at a judicial decision in a criminal case.

" I think that the declaration 'I do believe' must be
" considered with reference to the subject matter, and that
" is the whole Bible, the Old and New Testament. The
" great number of these Books; the extreme antiquity of
" some; that our Scriptures must necessarily consist of
" copies and translations; that they embrace almost every
" possible variety of subject, parts being all-important to
" the salvation of mankind, and parts being historical and
" of a less sacred character, certainly not without some
" element of allegory and figures,—all these circumstances,
" I say, must be borne in mind when the extent of the
" obligation imposed by the words 'I do believe' has to
" be determined.

" Influenced by these views, I, for the purpose of this
" cause, must hold that the generality of this expression,
" 'I do believe,' must be modified by the subject matter;
" that there must be a *bonâ fide* belief that the Holy Scrip-
" tures contain everything necessary to salvation, and that
" to that extent they have the *direct* sanction of the
" Almighty."

APPENDIX II.

THE SUBSCRIPTIONS REQUIRED BY PARLIAMENT AND BY THE CANONS FROM THE CLERGY AND FROM MEMBERS OF THE UNIVERSITY OF OXFORD.

I. The subscription to the Articles, enjoined by the
1571. Act 13 Eliz. c. 12, sec. 5, 1571, requires that at ordination the minister shall "declare his assent and sub-"scribe to all the Articles of Religion which only con-"cern the Confession of the true Faith and the doctrine "of the Sacraments, expressed in a book, entitled 'Articles "'whereupon it was agreed, &c.'" Two qualifications are implied in this form: 1. That the assent signified by subscription is made to those "Articles only which con-"cern the confession of the true Faith and the doctrine "of the Sacraments." Which these are has never been determined. The question was much debated at the time. See Hardwick's History of the Articles, p. 218. 2. That the book subscribed is that which contains not 39 but 38 Articles, [see *Note*, p. 83] omitting the 29th Article and the first clause of the 20th Article.

The same subscription is also enjoined by the same statute, at institution to a benefice, in this form: "No "person shall hereafter be admitted to any benefice with "cure, except he . . . shall first have subscribed the said "Articles in presence of the Ordinary, and publicly read "the same in the parish church of that benefice, with de-"claration of his unfeigned assent to the same."

1581. II. Subscription to the Articles was enjoined by the Earl of Leicester, as Chancellor of the University of Oxford, in 1581, to be required of all Undergraduates at their matriculation, and from all Graduates in all the degrees

of Bachelors of Arts, Masters of Arts, and Bachelors and Doctors of the other Faculties. The subscription was expressed by signature, without any precise form of words. That for Undergraduates and Bachelors was abolished by Act of Parliament in 1854. That for Masters and Doctors still continues. (See p. 98.)

III. Subscription to the three Articles of the 36th Canon, 1603.
relating (1) to the Queen's Supremacy, (2) to the Book of Common Prayer, (3) to the Thirty-nine Articles, upon the authority of the Canon itself, passed in 1603, was required from all the clergy, and in 1616 from all graduates in the University of Oxford. It was abolished for Bachelors 1616.
by Act of Parliament in 1854, but remains in force for Masters of Arts and Doctors, and for all clergy at their ordination. The form prescribed is as follows:—

"I do willingly and *ex animo* subscribe to the three Articles "above mentioned, and to all things that are contained in "them."

The common practice, however, is to put this together with the previous subscription to the Articles, thus:—

"I do willingly and from my heart subscribe to the Thirty-"nine Articles of Religion of the United Church of England and "Ireland, and to the three Articles of the Thirty-sixth Canon, "and to all things that are contained in them." [See *Note*, p. 83.]

The three Articles of the Canon are as follows:—

"1. That the Queen's Majesty, under God, is the only "supreme Governor of this Realm, and of all other Her High-"ness's Dominions and Countries, as well in all spiritual or "ecclesiastical things or causes as temporal; and that no "foreign Prince, Prelate, State, or Potentate, hath or ought to "have any jurisdiction, power, superiority, pre-eminence, or "authority, ecclesiastical or spiritual, within Her Majesty's said "Realms, Dominions, and Countries.

"2. That the Book of Common Prayer, and of Ordering of

" Bishops, Priests, and Deacons, containeth in it nothing con-
" trary to the Word of God, and that it may lawfully so be used,
" and that he himself will use the form in the said Book pre-
" scribed, in public Prayer and administration of the Sacra-
" ments, and none other.

" 3. That he alloweth the Book of Articles of Religion, agreed
" upon by the Archbishops and Bishops of both Provinces and
" the whole Clergy, in the Convocation holden at London in the
" Year of our Lord One Thousand Five Hundred and Sixty-two;
" and that he acknowledgeth all and every the Articles therein
" contained, being in number Nine and Thirty, besides the
" Ratification, to be agreeable to the Word of God."

IV. The Act of Uniformity (13 Car. II. c. 4. § 9), 1662, prescribes as follows:—

1662. " Be it further Enacted by the Authority aforesaid,
" That every Parson, Vicar, or other Minister whatsoever,
" who now hath, and enjoyeth any Ecclesiastical Benefice
" or Promotion, within this Realm of *England*, or places
" aforesaid, shall in the Church, Chapel or place of Publick
" Worship belonging to his said Benefice or Promotion,
" upon some Lord's day before the Feast of St. *Bartholo-*
" *mew*, which shall be in the Year of our Lord God One
" thousand six hundred sixty and two, openly, publickly
" and solemnly read the Morning and Evening Prayer
" appointed to be read by, and according to the said Book
" of Common Prayer, at the times thereby appointed; and
" after such reading thereof, shall openly and publickly,
" before the Congregation there assembled, declare his
" unfeigned assent and consent to the Use of all things
" in the said Book contained and prescribed, in these
" words and no other;

" I *A. B.* Do hereby declare my unfeigned assent and
" consent to all and every thing contained and pre-
" scribed in and by the Book intituled, *The Book of Com-*
" *mon Prayer, and Administration of the Sacraments, and*
" *other Rites and Ceremonies of the Church, according to*
" *the Use of the Church of* England: *together with the*

" *Psalter or Psalms of* David, *pointed as they are to be*
" *sung or said in Churches; and the Form or Manner*
" *of Making, Ordaining, and Consecrating of Bishops,*
" *Priests, and Deacons.*

" And that all and every such person, who shall (with-
" out some lawful Impediment, to be allowed and ap-
" proved of by the Ordinary of the place) neglect or refuse
" to do the same within the time aforesaid, or (in case of
" such Impediment) within one Month after such Impe-
" diment removed, shall, *ipso facto*, be deprived of all his
" Spiritual Promotions: And that from thenceforth it
" shall be lawful to and for all Patrons, and Donors of all
" and singular the said Spiritual Promotions, or of any of
" them, according to their respective Rights and Titles, to
" present or collate to the same, as though the person or
" persons so offending or neglecting were dead.

" And be it further Enacted by the Authority aforesaid,
" That every person who shall hereafter be presented or
" collated, or put into any Ecclesiastical Benefice or Pro-
" motion, within this Realm of *England*, and places afore-
" said, shall in the Church, Chapel or place of Publick
" Worship, belonging to his said Benefice or Promotion,
" within two months next after that he shall be in the
" actual possession of the said Ecclesiastical Benefice or
" Promotion, upon some Lord's Day, openly, publickly
" and solemnly, read the Morning and Evening Prayers,
" appointed to be read by, and according to the said Book
" of Common Prayer, at the times thereby appointed;
" and after such reading thereof, shall openly and pub-
" lickly, before the Congregation there assembled, declare
" his unfeigned assent and consent to the use of all things
" therein contained and prescribed, according to the form
" before appointed: And that all and every such person,
" who shall (without some lawful Impediment to be allowed
" and approved by the Ordinary of the Place) neglect or
" refuse to do the same within the time aforesaid, (or in
" case of such Impediment, within one Month after such

" Impediment removed) shall, *ipso facto*, be deprived of " all his said Ecclesiastical Benefices and Promotions: " And that from thenceforth it shall and may be lawful " to, and for all Patrons and Donors of all and singular " the said Ecclesiastical Benefices and Promotions, or any " of them, according to their respective Rights and Titles, " to present or collate to the same, as though the person " or persons, so offending or neglecting, were dead. . . .

" And be it further Enacted by the Authority aforesaid, " That every Dean, Canon, and Prebendary of every Ca- " thedral, or Collegiate Church, and all Masters, and other " Heads, Fellows, Chaplains, and Tutors of or in any Col- " lege, Hall, House of Learning, or Hospital, and every " publick Professor and Reader in either of the Universi- " ties, and in every College elsewhere, and every Parson, " Vicar, Curate, Lecturer, and every other person in holy " Orders, and every School-master keeping any publick or " private School, and every person instructing or teaching " any Youth in any House or private Family, as a Tutor " or School-master, who upon the first Day of *May*, which " shall be in the year of our Lord God One thousand six " hundred sixty-two, or at any time thereafter shall be " Incumbent, or have possession of any Deanry, Canonry, " Preband, Mastership, Headship, Fellowship, Professor's " place, or Reader's place, Parsonage, Vicarage, or any " other Ecclesiastical Dignity or Promotion, or if any " Curate's place, Lecture or School; or shall instruct or " teach any Youth, as Tutor or School-master, shall before " the Feast-day of Saint *Bartholomew*, which shall be in " the Year of our Lord One thousand six hundred sixty- " two, or at or before his, or their respective admission, to " be Incumbent, or have possession aforesaid, subscribe the " Declaration or Acknowledgement following, *scilicet*,

" 'I *A. B.* Do declare, That it is not lawful upon any " 'pretence whatsoever to take arms against the King; " 'and that I do abhor that traiterous Position of taking " 'Arms by his Authority against his Person, or against

" 'those that are commissioned by him; and that I will " 'conform to the Liturgy of the Church of *England*, as " 'it is now by Law established. And I do declare, That " 'I do hold there lies no obligation upon me, or on any " 'other person, from the Oath, commonly called *The* " '*Solemn League and Covenant*, to endeavour any charge, " 'or alteration of Government either in Church or State; " 'and that the same was in itself an unlawful Oath, and " 'imposed upon the Subjects of this Realm against the " 'known Laws and Liberties of this Kingdom.'

" Which said Declaration and Acknowledgement shall " be subscribed by every of the said Masters, and other " Heads, Fellows, Chaplains, and Tutors of or in any Col- " lege, Hall, or House of Learning, and by every publick " Professor and Reader in either of the Universities, be- " fore the Vice-Chancellor of the respective Universities " for the time being, or his Deputy: And the said De- " claration or Acknowledgement shall be subscribed be- " fore the respective Archbishop, Bishop, or Ordinary of " the Diocese by every other person hereby enjoined to " subscribe the same; upon pain, that all and every of " the persons aforesaid failing in such subscription, shall " lose and forfeit such respective Deanry, Canonry, Pre- " bend, Mastership, Headship, Fellowship, Professor's " place, Reader's place, Parsonage, Vicarage, Ecclesiasti- " cal Dignity or Promotion, Curate's place, Lecture and " School, and shall be utterly disabled, and *ipso facto* de- " prived of the same: And that every such respective " Deanry, Canonry, Prebend, Mastership, Headship, Fel- " lowship, Professor's place, Reader's place, Parsonage, " Vicarage, Ecclesiastical Dignity or Promotion, Curate's " place, Lecture and School, shall be void, as if such per- " son so failing were naturally dead.

" And if any School-master, or other person, instruct- " ing or teaching Youth in any private House or Family, " as a Tutor or School-master, shall instruct or teach any " Youth, as a Tutor or School-master, before Licence ob-

" tained from his respective Archbishop, Bishop, or Ordi-
" nary of the Diocese, according to the Laws and Statutes
" of this Realm (for which he shall pay twelve-pence only)
" and before such Subscription and Acknowledgement
" made, as aforesaid; Then every such School-master, and
" other, instructing and teaching, as aforesaid, shall for
" the first offence suffer three Months' Imprisonment with-
" out Bail or Mainprise; and for every second and other
" such offence, shall suffer three Months' Imprisonment
" without Bail or Mainprise, and also forfeit to His Ma-
" jesty the Sum of five pounds.

" And after such subscription made, every such Parson,
" Vicar, Curate, and Lecturer, shall procure a Certificate
" under the Hand and Seal of the respective Archbishop,
" Bishop or Ordinary of the Diocese (who are hereby en-
" joined and required upon demand to make and deliver
" the same) and shall publickly and openly read the same,
" together with the Declaration or Acknowledgement
" aforesaid, upon some Lord's Day within three Months
" then next following, in his Parish Church, where he is
" to officiate, in the presence of the Congregation there
" assembled, in the time of Divine Service; upon pain
" that every Person failing therein, shall lose such Parson-
" age, Vicarage or Benefice, Curate's place, or Lecturer's
" place respectively, and shall be utterly disabled, and
" *ipso facto* deprived of the same; and that the said
" Parsonage, Vicarage or Benefice, Curate's place, or Lec-
" turer's place, shall be void as if he was naturally dead.

" Provided always, That from and after the twenty-
" fifth Day of *March*, which shall be in the Year of our
" Lord God One thousand six hundred eighty-two, there
" shall be omitted in the said Declaration, or Acknow-
" ledgement so to be subscribed and read, these words
" following, *scilicet:*

" ' And I do declare, That I do hold there lies no Obli-
" ' gation upon me, or on any other person, from the Oath
" ' commonly called, *The Solemn League and Covenant*, to

" ' endeavour any change or alteration of Government
" ' either in Church or State; and that the same was in
" ' itself an unlawful Oath, and imposed upon the subjects
" ' of this Realm against the known Laws and Liberties
" ' of this Kingdom.'

" So as none of the Persons aforesaid, shall from thence-
" forth be at all obliged to subscribe or read that part of
" the said Declaration or Acknowledgement. . . . .

" And be it further Enacted by the Authority aforesaid,
" That no Person shall be, or be received as a Lecturer,
" or permitted, suffered, or allowed to preach as a Lec-
" turer, or to preach, or read any Sermon or Lecture in
" any Church, Chapel, or other Place of publick Worship,
" within this Realm of *England*, or the Dominion of *Wales*,
" and Town of *Berwick* upon *Tweed*, unless he be first ap-
" proved, and thereunto licensed by the Archbishop of
" the Province, or Bishop of the Diocese, or (in case the
" See be void) by the Guardian of the Spiritualities, under
" his Seal; and shall in the presence of the same Arch-
" bishop, or Bishop, or Guardian, read the Nine and
" thirty Articles of Religion mentioned in the Statute of
" the Thirteenth Year of the late Queen *Elizabeth*, with
" Declaration of his unfeigned Assent to the same; and
" that every Person and Persons, who now is, or hereafter
" shall be licensed, assigned, appointed, or received as
" a Lecturer, to preach upon any Day of the Week, in
" any Church, Chapel, or Place of Publick Worship within
" this Realm of *England*, or places aforesaid, the first time
" he preacheth (before his Sermon) shall openly, pub-
" lickly, and solemnly read the Common Prayers and
" Service in and by the said Book appointed to be read
" for that time of the day, and then and there publickly
" and openly declare his Assent unto, and Approbation of
" the said Book, and to the use of all the Prayers, Rites
" and Ceremonies, Forms and Orders therein contained
" and prescribed according to the Form before appointed
" in this Act; and also shall upon the first Lecture-day

" of every Month afterwards, so long as he continues " Lecturer, or Preacher there, at the place appointed for " his said Lecture or Sermon, before his said Lecture or " Sermon, openly, publickly, and solemnly read the Com- " mon Prayers and Service in and by the said Book ap- " pointed to be read for that time of the day, at which " the said Lecture or Sermon is to be preached, and after " such reading thereof, shall openly and publickly, before " the Congregation there assembled, declare his unfeigned " Assent and Consent unto, and Approbation of the said " Book, and to the Use of all the Prayers, Rites and " Ceremonies, Forms and Orders, therein contained and " prescribed, according to the Form aforesaid; and that " all and every such Person or Persons who shall neglect " or refuse to do the same, shall from thenceforth be dis- " abled to preach the said, or any other Lecture or Sermon " in the said, or any other Church, Chapel or place of " Publick Worship, until such time as he and they shall " openly, publickly and solemnly read the Common " Prayers and Service appointed by the said Book, and " conform in all points to the things therein appointed " and prescribed, according to the purport, true intent, " and meaning of this Act. . . . .

" Provided always, That whereas the Six and thirtieth " Article of the Nine and thirty Articles agreed upon by " the Archbishops and Bishops of both Provinces, and the " whole Clergy in the Convocation holden at *London*, in " the Year of our Lord One thousand five hundred sixty- " two, for the avoiding of diversities of Opinions, and for " establishing of consent touching true Religion, is in " these words following, viz. [See *Note*, p. 83.]

" *That the Book of Consecration of Archbishops and* " *Bishops, and Ordaining of Priests and Deacons, lately* " *set forth in the time of King* Edward *the Sixth, and con-* " *firmed at the same time by Authority of Parliament, doth* " *contain all things necessary to such Consecration and* " *Ordaining, neither hath it any thing that of itself is super-* " *stitious and ungodly: and therefore whosoever are Con-*

" *secrated or Ordered according to the Rites of that Book* " *since the second Year of the aforenamed King* Edward " *unto this time, or hereafter shall be Consecrated or* " *Ordered according to the same Rites; We decree all such* " *to be rightly, orderly, and lawfully Consecrated and* " *Ordered;*

" It be Enacted, and be it therefore Enacted by the " Authority aforesaid, That all Subscriptions hereafter to " be had or made unto the said Articles by any Deacon, " Priest, or Ecclesiastical person, or other person what- " soever, who by this Act, or any other Law now in force " is required to subscribe unto the said Articles, shall be " construed, and taken to extend, and shall be applied " (for and touching the said Six and thirtieth Article) " unto the Book containing the Form and Manner of " Making, Ordaining, and Consecrating of Bishops, Priests " and Deacons, in this Act mentioned, in such sort and " manner as the same did heretofore extend unto the " Book set forth in the time of King *Edward* the Sixth, " mentioned in the said Six and thirtieth Article; any " thing in the said Article or in any Statute, Act or " Canon heretofore had or made, to the contrary thereof " in any wise notwithstanding."

NOTE.—It should be observed,—1. That the mention, under King James I. and King Charles II., of the *Thirty-nine* Articles (pp. 75, 81, 82,) supersedes the allusion to the *Thirty-eight* Articles (p. 74) under Queen Elizabeth.

2. That the transfer (p. 82) of the meaning of the 36th Article, under King Charles II., from its original meaning under King Edward VI. and Queen Elizabeth, renders null any subscriptions to that original meaning.

APPENDIX III.

(1.) Subscriptions required from Ministers of the Established Church of Scotland, and others.

"Questions put to Presentee before his Ordination, (according to Act X. of Assembly in 1711).

"1. Do you believe the Scriptures of the Old and New "Testaments to be the Word of God, and the only rule "of faith and manners?

"2. Do you sincerely own and believe the whole doc- "trines contained in the Confession of Faith, approven by "the General Assemblies of this Church, and ratified by "law in the year 1690, to be founded upon the Word of "God; and do you acknowledge the same as the con- "fession of your faith; and will you firmly and constantly "adhere thereto, and to the utmost of your power assert, "maintain, and defend the same, and the purity of the "worship as presently practised in this National Church, "and asserted in Act XV., Assembly 1707, entitled, *Act "against Innovations in the Worship of God?*

"3. Do you disown all Popish, Arian, Socinian, Armi- "nian, Bourignian, and all other doctrines, tenets, and "opinions whatsoever, contrary to and inconsistent with "the foresaid Confession of Faith?

"4. Are you persuaded that the Presbyterian govern- "ment and discipline of this Church are founded upon "the Word of God and agreeable thereto; and do you "promise to submit to the said government and discipline, "and to concur with the same, and never to endeavour, "directly or indirectly, the prejudice or subversion thereof, "but to the utmost of your power, in your station, to "maintain, support, and defend the said discipline and "Presbyterian government by kirk-sessions, presbyteries,

"provincial synods, and general assemblies, during all the "days of your life?

"5. Do you promise to submit yourself willingly and "humbly, in the spirit of meekness, unto the admonitions "of the brethren of this presbytery, and to be subject "to them, and all other presbyteries, and superior judi- "catories of this Church, where God in His providence "shall cast your lot; and that, according to your power, "you shall maintain the unity and peace of this Church "against error and schism, notwithstanding of whatsoever "trouble or persecution may arise, and that you shall "follow no divisive courses from the present established "doctrine, worship, discipline, and government of this "Church?

"6. Are not zeal for the honour of God, love to Jesus "Christ, and desire of saving souls, your great motives "and chief inducements to enter into the function of the "holy ministry, and not worldly designs and interest?

"7. Have you used any undue methods, either by your- "self or others, in procuring this call?

"8. Do you engage, in the strength and grace of Jesus "Christ, our Lord and Master, to rule well your own "family, to live a holy and circumspect life, and faithfully, "diligently, and cheerfully, to discharge all the parts of "the ministerial work, to the edification of the Body of "Christ?

"9. Do you accept of and close with the call to be "pastor of this parish, and promise, through grace, to "perform all the duties of a faithful minister of the "Gospel among this people?"

"Formula to be subscribed by the Person ordained, or licensed to "preach the Gospel, according to Act X., Assembly 1711.

"I, —— ——, do hereby declare that I do sincerely "own and believe the whole doctrine contained in the "Confession of Faith, approven by the General Assem- "blies of this National Church, and ratified by law in the

" year 1690, and frequently confirmed by divers Acts of " Parliament since that time, to be the truths of God; " and I do own the same as the confession of my faith: " As likewise, I do own the purity of worship presently " authorized and practised in this Church, and also the " Presbyterian government and discipline, now so happily " established therein; which doctrine, worship, and Church " government, I am persuaded, are founded upon the " Word of God, and agreeable thereto: And I promise " that, through the grace of God, I shall firmly and con- " stantly adhere to the same; and, to the utmost of my " power, shall, in my station, assert, maintain, and defend " the said doctrine, worship, discipline, and government " of this Church by kirk-sessions, presbyteries, provincial " synods, and General Assemblies; and that I shall, in " my practice, conform myself to the said worship, and " submit to the said discipline and government, and never " endeavour, directly or indirectly, the prejudice or sub- " version of the same: And I promise that I shall follow " no divisive course from the present establishment in " this Church; Renouncing all doctrines, tenets, and " opinions whatsoever, contrary to or inconsistent with " the said doctrine, worship, discipline, or government of " this Church."

" *Formula prescribed for Ordination in* 1694 *and* 1700 *in terms* " *of the Statute of* 1693, *and now required of Lay-Elders.*

" I, —— ——, do sincerely own and declare the above " Confession of Faith, approven by former General Assem- " blies of this Church and ratified by law in the year " 1690, to be the Confession of my faith, and that I own " the doctrine therein contained to be the true doctrine " which I will constantly adhere to. As likewise that I " own and acknowledge Presbyterian Church-government " of this Church now settled by law by kirk-sessions, " presbyteries, provincial synods, and General Assemblies " to be the only government of this Church; and that I

" will submit thereto, concur therewith, and never en- " deavour directly or indirectly the prejudice or subversion " thereof; and that I shall observe uniformity of worship " and of the administration of all public ordinances within " this Church as the same are at present performed and " allowed."

THE FORMULA TO BE SUBSCRIBED AT ORDINATION IS ALTERED AS FOLLOWS FOR MINISTERS OF THE FREE CHURCH OF SCOTLAND.

" I SUBSCRIBING this with my own hand, do hereby " declare, that I do sincerely own and believe the whole " doctrine contained in the Westminster Confession of " Faith, as approved by the General Assembly of the " Church of Scotland, in the year 1647, to be the truths " of God; and I do own the same as the confession of my " faith. As likewise I do own the purity of worship pre- " sently authorized and practised in this Church, and also " the Presbyterian government and discipline thereof; " which doctrine, worship, and Church government I am " persuaded are founded upon the Word of God, and " agreeable thereto. And I promise that through the " grace of God I shall firmly and constantly adhere to " the same; and to the utmost of my power shall in my " station assert, maintain, and defend the said doctrine, " worship, discipline, and government of this Church by " Kirk-Sessions, Presbyteries, and provincial or general " synods; and that I shall in my practice conform myself " to the said worship, and submit to the said discipline " and government, and never endeavour, directly or in- " directly, the prejudice or subversion of the same. And " I promise that I shall follow no divisive course from the " doctrine, worship, discipline, and government of this " Church: renouncing all doctrines, tenets, and opinions, " whatsoever contrary to, or inconsistent with, the said " doctrine, worship, discipline, and government of this " Church."

With the United Presbyterians, the candidate is re-

quired to answer in the affirmative to the following two questions, both when licensed, and also when ordained as pastor over a congregation :—

"1. Do you believe the Scriptures of the Old and New "Testaments to be the Word of God, and the only rule of "faith and practice?

"2. Do you acknowledge the Westminster Confession "of Faith, and the Larger and Shorter Catechisms, as ex- "hibiting the sense in which you understand the Holy "Scriptures; and do you resolve through Divine grace to "adhere to the doctrine contained in said Confession and "Catechism, and to teach and to defend it, it being "understood that in doing so, you express no approba- "tion of anything in these documents, which teaches or "may be supposed to teach, compulsory or persecuting "and intolerant principles in religion."

(2.) Baptists and Independents.

With neither Baptists nor Independents is subscription in any form required, nor is even verbal assent demanded to any recognised standard of faith. At Ordination the candidate makes a confession of his faith in his own words. In ordinary cases the ordaining ministers have a personal knowledge of the candidate, and have had opportunities of satisfying themselves of his substantial agreement with what may be understood as orthodox sentiments. In any special cases the ordaining ministers would seek a private interview with the candidate, and by conversation with him learn his opinions on important points of doctrine. Beyond this no measures are adopted or felt to be either desirable or necessary for preserving uniformity of doctrine, excepting only that the trust deeds of most of their places of worship contain a reference to leading points of doctrine to which the minister *may* be required to express his assent. In practice this is merely

a provision against any decided departure from the faith as commonly received amongst us, the trustees of the property having it in their power to refuse the use of the building to any minister whose teaching was contrary to the doctrines contained in the deed. Such cases, however, are extremely rare. Notwithstanding this absence of tests, there is amongst Independents a marked uniformity of opinion on all important points, with of course some diversity in minor matters. The following is a declaration of faith and order adopted at a meeting of the Congregational Union of England and Wales, as shewing what are the doctrines, &c., which are commonly maintained therein :—

"The Congregational Churches in England and Wales, "frequently called Independent, hold the following doc- "trines, as of Divine authority, and as the foundation of "Christian faith and practice.

"They are also formed and governed according to the "principles hereinafter stated.

"*Preliminary Notes.*

"1. It is not designed, in the following summary, to do "more than to state the leading doctrines of faith and "order maintained by Congregational Churches in general.

"2. It is not proposed to offer any *proofs, reasons,* or "*arguments,* in support of the doctrines herein stated, but "simply to *declare* what the denomination believes to be "taught by the pen of inspiration.

"3. It is not intended to present a *scholastic* or *critical* "confession of faith, but merely such a statement as any "intelligent member of the body might offer, as contain- "ing its leading principles.

"4. It is not intended that the following statement "should be put forth with any authority, or as a standard "to which assent should be required.

"5. Disallowing the utility of Creeds and Articles of

" religion as a bond of union, and protesting against sub-
" scription to any human formularies, as a term of com-
" munion, Congregationalists are yet willing to declare,
" for general information, what is commonly believed
" among them; reserving to every one the most perfect
" liberty of conscience.

" 6. Upon some minor points of doctrine and practice,
" they, differing among themselves, allow to each other
" the right to form an unbiassed judgment of the Word
" of God.

" 7. They wish it to be observed, that, notwithstanding
" their jealousy of subscription to Creeds and Articles,
" and their disapproval of the imposition of any human
" standard, whether of faith or discipline, they are far
" more agreed in their doctrines and practices, than any
" Church which enjoins subscription, and enforces a human
" standard of orthodoxy; and they believe that there is
" no minister and no Church among them, that would
" deny the substance of any one of the following doctrines
" of religion, though each might prefer to state his senti-
" ments in his own way.

" *Principles of Religion.*

" I. The Scriptures of the Old Testament, as received
" by the Jews, and the books of the New Testament, as
" received by the Primitive Christians from the Evange-
" lists and Apostles, Congregational Churches believe to
" be divinely inspired, and of supreme authority. These
" writings, in the languages in which they were originally
" composed, are to be consulted, by the aids of sound
" criticism, as a final appeal in all controversies; but the
" common version they consider to be adequate to the or-
" dinary purposes of Christian instruction and edification.

" II. They believe in one God, essentially wise, holy,
" just, and good; eternal, infinite, and immutable, in all
" natural and moral perfections; the Creator, Supporter,
" and Governor of all beings, and of all things.

" III. They believe that God is revealed in the Scrip-
" tures, as the Father, the Son, and the Holy Spirit, and
" that to each are attributed the same Divine properties
" and perfections. The doctrine of the Divine existence,
" as above stated, they cordially believe, without attempt-
" ing fully to explain.

" IV. They believe that the first man was created after
" the Divine image, sinless, and in His kind perfect.

" V. They believe that the first man disobeyed the
" Divine command, fell from his state of innocence and
" purity, and involved all his posterity in the conse-
" quences of that fall.

" VI. They believe that therefore all mankind are born
" in sin, and that a fatal inclination to moral evil, utterly
" incurable by human means, is inherent in every de-
" scendant of Adam.

" VII. They believe that God having, before the foun-
" dation of the world, designed to redeem fallen man,
" made disclosures of His mercy, which were the grounds
" of faith and hope from the earliest ages.

" VIII. They believe that God revealed more fully to
" Abraham the covenant of His grace; and, having pro-
" mised that from his descendants should arise the De-
" liverer and Redeemer of mankind, set that patriarch
" and his posterity apart, as a race specially favoured and
" separated to His service; a peculiar Church, formed
" and carefully preserved, under the divine sanction and
" government, until the birth of the promised Messiah.

" IX. They believe that, in the fulness of the time, the
" Son of God was manifested in the flesh, being born of
" the Virgin Mary, but conceived by the power of the
" Holy Spirit; and that our Lord Jesus Christ was both
" the Son of man, and the Son of God;—partaking fully
" and truly of human nature, though without sin,—equal
" with the Father, and 'the express image of His person.'

" X. They believe that Jesus Christ, the Son of God,
" revealed, either personally in His own ministry, or by

" the Holy Spirit in the ministry of His apostles, the " whole mind of God, for our salvation; and that by His " obedience to the Divine law while He lived, and by His " sufferings unto death, He meritoriously 'obtained eter- " nal redemption for us;' having thereby vindicated and " illustrated Divine justice, 'magnified the law,' and " 'brought in everlasting righteousness.'

" XI. They believe that, after His death and resurrec- " tion, He ascended up into heaven, where, as the Medi- " ator, He 'ever liveth' to rule over all, and to 'make " 'intercession for them that come unto God by Him.'

" XII. They believe that the Holy Spirit is given in " consequence of Christ's mediation, to quicken and re- " new the hearts of men; and that His influence is indis- " pensably necessary to bring a sinner to true repentance, " to produce saving faith, to regenerate the heart, and to " perfect our sanctification.

" XIII. They believe that we are justified through faith " in Christ, as 'the Lord our righteousness;' and not 'by " the works of the Law.'

" XIV. They believe that all who will be saved were " the objects of God's eternal and electing love, and were " given by an act of Divine sovereignty to the Son of " God; which in no way interferes with the system of " means, nor with the grounds of human responsibility, " being wholly unrevealed as to its objects, and not a rule " of human duty.

" XV. They believe that the Scriptures teach the final " perseverance of all true believers to a state of eternal " blessedness, which they are appointed to obtain through " constant faith in Christ, and uniform obedience to His " commands.

" XVI. They believe that a holy life will be the neces- " sary effect of a true faith, and that good works are the " certain fruits of a vital union to Christ.

" XVII. They believe that the sanctification of true " Christians, or their growth in the graces of the Spirit,

" and in meetness for heaven, is gradually carried on " through the whole period during which it pleases God " to continue them in the present life; and that, at death, " their souls, perfectly freed from all remains of evil, are " immediately received into the presence of Christ.

" XVIII. They believe in the perpetual obligation of " Baptism and the Lord's Supper: the former to be ad- " ministered to all converts to Christianity and their chil- " dren, by the application of water to the subject, 'in the " 'name of the Father, and of the Son, and of the Holy " 'Ghost;' and the latter to be celebrated by Christian " Churches as a token of faith in the Saviour, and of " brotherly love.

" XIX. They believe that Christ will finally come to " judge the whole human race, according to their works; " that the bodies of the dead will be raised again; and " that, as the Supreme Judge, He will divide the righteous " from the wicked, will receive the righteous into 'life " 'everlasting,' but send away the wicked into 'everlasting " 'punishment.'

" XX. They believe that Jesus Christ directed His fol- " lowers to live together in Christian fellowship, and to " maintain the communion of saints; and that, for this " purpose, they are jointly to observe all Divine ordi- " nances, and maintain that Church order and discipline, " which is either expressly enjoined by inspired institu- " tion, or sanctioned by the undoubted example of the " apostles and of apostolic Churches.

" *Principles of Church Order and Discipline.*

" I. The Congregational Churches hold it to be the " will of Christ that true believers should voluntarily " assemble together to observe religious ordinances, to " promote mutual edification and holiness, to perpetuate " and propagate the Gospel in the world, and to advance " the glory and worship of God, through Jesus Christ; " and that each society of believers, having these objects " in view in its formation, is properly a Christian Church.

" II. They believe that the New Testament contains, " either in the form of express statute, or in the example " and practice of apostles and apostolic Churches, all the " articles of faith necessary to be believed, and all the " principles of order and discipline requisite for consti- " tuting and governing Christian societies; and that " human traditions, fathers, and councils, canons and " creeds, possess no authority over the faith and practice " of Christians.

" III. They acknowledge Christ as the only Head of " the Church, and the officers of each Church under Him, " as ordained to administer His laws impartially to all; " and their only appeal, in all questions touching their " religious faith and practice, is to the Sacred Scriptures.

" IV. They believe that the New Testament authorizes " every Christian Church to elect its own officers, to " manage all its own affairs, and to stand independent " of, and irresponsible to, all authority, saving that only " of the Supreme and Divine Head of the Church, the " Lord Jesus Christ.

" V. They believe that the only officers placed by the " apostles over individual Churches, are the bishops or " pastors, and the deacons; the number of these being " dependent upon the numbers of the Church; and that " to these, as the officers of the Church, is committed " respectively the administration of its spiritual and tem- " poral concerns—subject, however, to the approbation of " the Church.

" VI. They believe that no persons should be received " as members of Christian Churches, but such as make " a credible profession of Christianity, are living according " to its precepts, and attest a willingness to be subject to " its discipline; and that none should be excluded from " the fellowship of the Church, but such as deny the faith " of Christ, violate His laws, or refuse to submit them- " selves to the discipline which the Word of God enforces.

" VII. The power of admission into any Christian

" Church, and rejection from it, they believe to be vested " in the Church itself, and to be exercised only through " the medium of its own officers.

" VIII. They believe that Christian Churches should " statedly meet for the celebration of public worship, for " the observance of the Lord's Supper, and for the sanc- " tification of the first day of the week.

" IX. They believe that the power of a Christian " Church is purely spiritual, and should in no way be " corrupted by union with temporal or civil power.

" X. They believe that it is the duty of Christian " Churches to hold communion with each other, to enter- " tain an enlarged affection for each other, as members " of the same body, and to co-operate for the promotion " of the Christian cause: but that no Church, nor union " of Churches, has any right or power to interfere with " the faith or discipline of any other Church, further than " to separate from such as, in faith or practice, depart " from the Gospel of Christ.

" XI. They believe that it is the privilege and duty of " every Church to call forth such of its members as may " appear to be qualified, by the Holy Spirit, to sustain " the office of the ministry: and that Christian Churches " unitedly ought to consider the maintenance of the " Christian ministry in an adequate degree of learning, " as one of its especial cares; that the cause of the Gos- " pel may be both honourably sustained, and constantly " promoted.

" XII. They believe that Church officers, whether " bishops or deacons, should be chosen by the free voice " of the Church, but that their dedication to the duties of " their office should take place with special prayer, and by " solemn designation, to which most of the Churches add " the imposition of hands by those already in office.

" XIII. They believe that the fellowship of every Chris- " tian Church should be so liberal as to admit to commu- " nion in the Lord's Supper, all whose faith and godliness

"are, on the whole, undoubted, though conscientiously "differing in points of minor importance: and that this "outward sign of fraternity in Christ should be co-exten- "sive with the fraternity itself, though without involving "any compliances which conscience would deem to be "sinful."

(3.) Wesleyans.

Amongst the Wesleyans, previously to Ordination, subscription is required to a declaration expressing the candidate's assent to the system of doctrine contained in Mr. Wesley's Sermons, Fletcher's "Checks to Antinomianism," and the Larger Minutes, the last mentioned being a sort of explanatory notes in the form of conversations between Mr. Wesley and some of his ministers. There is possibly some slight variation in the stringency of the declaration in the case of some of the bodies which have separated from the older Wesleyan Methodists, but with all the theology of Mr. Wesley's Sermons is the standard.

Note.—(1.) The short subscription now required from the Elders of the Church of Scotland was the only one originally required from Ministers. The long subscription was added in 1711. It will be observed how in Scotland as in England, the tendency has been to increase the stringency of subscription.

(2.) For the statement respecting the Baptists and Independents I am indebted to the kindness of a respected Congregationalist Minister. It is remarkable as illustrating the possibility of maintaining unity of doctrine without any subscriptions.

(3.) I owe the statement respecting the Wesleyans to the same source. It will be observed how far more extensive is this subscription than any other in the United Kingdom.

CONCLUDING NOTE.

As my object in the previous pages was rather to call general consideration to the subject, than to make statements of specific remedies, I have thought it best not to incorporate any such statements in the Letter itself.

But for the sake of convenience, it may be well, in conclusion, to lay down, as briefly as possible, what seems the legitimate result of the foregoing argument.

I. For the Clergy it would (if the arguments above urged have any weight) be desirable to repeal those clauses of the Acts 13 Eliz. cap. 12 (see p. 74), and 13 Car. II. cap. 4 (see pp. 76, 77, 81, 82), and of the 36th Canon (see p. 75), which enjoin subscription and declaration of assent to the XXXIX Articles and the Book of Common Prayer. There would then remain for the Clergy

1. The Questions and Answers in the Ordination Service, (see pp. 67—73).

2. The Declaration of Conformity in 1662, (see p. 79): "I will conform to the Liturgy of the Church of England "as it is now by law established." And if anything further were needed,

(3) There might be added one of the two forms proposed and agreed to in the House of Lords in 1689, (see p. 8):—

"I do approve of the doctrine and worship and govern- "ment of the Church of England by law established, as "containing all things necessary to salvation; and I pro- "mise in the exercise of my ministry to preach and prac- "tise thereto."

Or,

"I do submit to the doctrine, discipline and worship o

"the Church of England as it is or shall be established "by law, and promise to teach and practise accordingly." —(p. 8.)

These two forms are in fact almost coincident with the third question to Priests, and the sixth to Archbishops and Bishops, (see pp. 70—72.)

II. For members of the University of Oxford it would be desirable (if the arguments above stated have weight here also) to repeal, either by an act of the Legislature or by an act of the University itself, those portions of the Oxford University Statutes (Stat. VI. 4, § 1. 3.) which require from Masters of Arts, Doctors in Medicine, and Civil Law, and Bachelors and Doctors in Divinity, subscription to the XXXIX Articles, (p. 75,) and to the three Articles of the 36th Canon, (p. 75). There would still remain for all Heads, Professors, Fellows, and Tutors the Declaration of Conformity imposed (though at present rarely enforced) by the Act of Uniformity, (p. 79): "I will conform to the Liturgy of the Church of Eng- "land as it is now by law established."

It may be said that there are objections of various kinds to the enforcement of this clause at Oxford, as a substitute for the existing subscriptions.

It is urged that this clause does not reach all Masters of Arts, and might therefore enable a Roman Catholic or a Nonconformist to have a vote in the governing body, or a seat in the governing Council, of the University; and that this would tend to discord and confusion. To meet this objection it has been sometimes proposed to adopt the declaration (to a certain extent) in force at Cambridge, viz. "I declare that I am a *bonâ fide* member of the "Church of England." This would doubtless be a great improvement on the present subscription. But it labours under two difficulties. First, that, as it might still be

understood to be a declaration of belief, the very ambiguity of it would lead to scruples and misconstructions similar to those which have bred so much mischief out of the existing subscriptions. Secondly, it would actually exclude some Nonconformists who are at present included by subscription to the Articles, (see p. 26,) and would effectually preclude any relaxation in favour of others.

For, whilst deprecating any change in the general discipline or religious instruction of the University, many would regard it as inexpedient in itself, and hard upon those Colleges who would wish to elect a Roman Catholic or a Nonconformist as Fellow, or upon those electors who would wish to appoint such an one as Professor, (such, for example, as Mr. Faraday, or the late Dr. Dalton, as Professor of Chemistry,) that they should be entirely barred from doing so. Unquestionably from time to time (though probably at long intervals) such cases might occur: and, whilst the exceptional character of the occurrence would prevent any disturbance of the Academical harmony, the University or the Colleges in question (not to speak of the Church and nation at large) would suffer by the loss of such opportunities.

For these reasons it might be desirable that if any supplement or substitute were sought for the Declaration of Conformity, it should be a declaration to the effect either that "I will not teach anything repugnant to the "teaching of the Church of England as by law esta- "blished," or, "I will not make use of my position as "a Master of Arts to injure the Church of England as by "law established;" or, if the Declaration of Conformity were retained, Colleges and Electors to Professorial Chairs might, by a permissive clause, be empowered to make such exceptions as those to which I have referred.

The existing means of enforcing the discipline, religious instruction, and teaching of the Established Faith

within the University would not be affected by this change. Whether any alterations in this respect would be desirable or not, is a question resting on wholly different grounds, and in no way connected with the subject of the foregoing pages.

III. Although any relaxation of the existing subscriptions might be regarded as an improvement on the present system, yet there would be a manifest unfairness to one or other of the two great sections of the Church of England, if, on the one hand, the subscription to the Book of Common Prayer were abolished, retaining the subscription to the Articles; or if, on the other hand, the subscription to the Articles were abolished, retaining the subscription to the Prayer-book. Each at present (see p. 20) tends to check, neutralise, and explain the other, and to maintain the fundamental compromise of the Church of England, which, (supposing that we cannot have true liberty and comprehension,) is the next best thing to be secured, if only the fact of the compromise and the latitude of construction for all parties in the Church, necessarily flowing from it, be openly avowed by our ecclesiastical rulers.

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Sir James McGregor's Bart
from the Author

AN ESSAY

ON

THE ORIGIN AND NATURE

OF

TUBERCULOUS

AND

CANCEROUS DISEASES.

READ TO THE MEDICAL SECTION OF THE BRITISH ASSOCIATION, ON THE 23RD OF AUGUST, 1836,

BY

RICHARD CARMICHAEL, M.R.I.A.,

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DUBLIN:

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M.DCCC.XXXVI.

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ADVERTISEMENT.

The following paper contains topics of sufficient importance to occupy volumes, and the Author might have thus extended it, had he made use of the various facts within his knowledge capable of illustrating one of the most important subjects which can engage the attention of medical men—namely, the true nature of tuberculous diseases. But it was necessary to compress the statement of the facts and views he had to adduce within the narrow compass of a communication fitted for the small space of time allowed for the reading of a paper to the Medical section of the British Association. It is his intention to follow up this interesting subject, by availing himself of every opportunity which offers of post mortem examinations in the extensive hospitals of the House of Industry of this city, which contain between two and three hundred patients; of examining animals which die of tuberculous diseases; and of extending his ex-

periments upon living animals, in order to ascertain how far unhealthy regimen is capable of producing tubercles, and of learning if possible whether they are capable of absorption by a change to a healthy regimen, which engages the important question, whether or no tuberculous diseases admit of a cure; and he hopes that others, unbiassed by pre-conceived notions, will favour those views by pursuing the same interesting investigation. It will, of course, be necessary to recur to the use of the microscope, and to adopt the most minute injections.

This paper is given to the Public as it was read at the British Association, with a Postscript, however, containing such objections as were made at the time to the Author's views, and his replies to those objections.

Rutland-square, Dublin,
October 20, 1836.

AN ESSAY

ON

THE ORIGIN AND NATURE

OF

TUBERCULOUS AND CANCEROUS DISEASES.

When we consider the mortality that arises from tuberculous diseases, which, on a rough calculation, may be estimated, in these countries, where so many, from various causes, lead unnatural sedentary lives, at a fourth of the entire population, the vast importance of the subject ought surely to demand above all others the attention of the medical section of this Association.

I shall not make any farther preliminary observations, but rush at once *in medias res*, and endeavour to condense, as closely as I can, a subject upon which so much has been written, but which, in my mind, has failed to afford any satisfactory explanation of the true nature and origin of those bodies termed tubercles; for, without a true

knowledge of both, we are not likely either to cure or prevent this, the greatest pest of mankind. Our present knowledge respecting tuberculous diseases is chiefly derived from the writings of Bayle, Laennec, Andral, Chomel, Louis, and Lombard amongst the French, and from Stark, Baron, Carswell, Todd, and Clarke amongst our own countrymen.

With respect to the appearance and structure of tubercle, I shall first give, as briefly as possible, Laennec's description, and afterwards that of Doctor Carswell. The celebrated Laennec observes, that the matter of tubercle may be developed in the lungs under two principal forms, that of insulated bodies and infiltration; and that whatever be the form under which the tuberculous matter is developed it presents at *first* the appearance of a grey *semi-transparent* substance, which gradually becomes yellow, opaque, and very dense, so much so, that Bayle regarded tubercles in that state as accidental cartilages. Afterwards the tubercular substance gradually acquires a fluidity nearly equal to that of pus; it being then expelled through the bronchi, cavities are left, vulgarly known under the name of *ulcers of the lungs* and vomicæ, but which Laennec designates *tuberculous excavations*.

He then proceeds to describe, with the accuracy of the most assiduous and patient observer of nature, the various forms of tubercle. Two of them present themselves under the form of *compact, rounded, insulated bodies;* two others he terms tuberculous infiltration, in which the tuberculous mass presents no regular form, and is of a consistence between jelly and cartilage.*

"Tuberculous matter," says Doctor Carswell, "is a pale yellow, or yellowish grey, opaque, *unorganized* substance, the form, consistence, and composition of which vary with the nature of the part in which it is formed, and the period at which it is examined."† It is to be found most frequently in the mucous system of the respiratory, digestive, biliary, urinary, and generative organs. It is also met with, though not so frequently, on the surfaces of serous membranes. But in fact there is no tissue or organ, not even bone, exempt from the formation of tubercle. The external configuration or form of tuberculous matter, according to the same author, is purely *accidental*, depending upon the form of the part, in which it is as it were moulded into the shape it assumes. As to its consistence and colour, he compares it to a mixture of soft cheese and water, but in another part states, "that tubercles often present the form of detached tubes or globular membranes, rolled up and mixed with tuberculous matter, like layers of boiled albumen or dead hydatids;" a circumstance which, he adds, "has been taken advantage of to support the theory of the hydatic origin of tubercle." Doctor Clarke's description of tuber-

* Forbes's Laennec, 254. † Encyc. of Medicine, iv. 253.

cle is borrowed altogether from that of Doctor Carswell.

This last author, as well as Andral, differ from Laennec in the opinion that it is always at first deposited in the form of grey semi-transparent bodies which afterwards become yellow or opaque. They assert that it as often presents the latter appearance when first deposited. He also differs from Laennec in the statement that the softening process always commences in the centre of each tubercle. With respect to the locality of tuberculous bodies, the lungs, and particularly at their upper and back part, is their most favoured resort. This is so much the case that M. Louis lays it down as a rule that tubercles are always found in the lungs when they exist in any other organ of the body. Next to the lungs, tuberculous formations are found most commonly on the surface of the small intestines; then in succession, the liver, spleen, organs of reproduction, brain, and cerebellum may be esteemed most liable to them. It is rare, however, to find the tuberculous matter confined to one organ in the same individual; it is generally present in two or three organs, as the lungs, intestines, and bronchial or mesenteric glands.

Those who consider tubercle as organizable, have esteemed the process of softening as a consequence of the death of this substance; and Laennec states that it always commences at the centre, and proceeds towards the circumference. This is denied by Doctor Carswell. But in our researches to ascertain the true nature of tubercle, I do not consider it of much consequence whether the softening process begins in the centre or at the circumference. From my own observation, I should be inclined to consider it as, in general, commencing in the centre; for on examination of those who have died of tubercular phthisis, I have constantly found cysts of cartilaginous hardness containing the softened tuberculous matter. These cells often contain a "substance of a soft, chalky, or cretaceous character,"* and sometimes there remains only a nucleus of cretaceous or osseous matter, which states may be considered the last transmutation which the tubercle is capable of undergoing. As to their chemical composition, they consist of albumen, gelatin, fibrine, muriate of soda, phosphate of lime, and carbonate of lime. It is now universally acknowledged by practitioners, that although tubercles are the frequent cause of inflammation, yet this process has nothing to do with their formation.

Doctor Jenner and Doctor Baron threw considerable light upon their remote cause, for by feeding rabbits on unhealthy aliment, depriving them at the same time of exercise, and confining them in cold, dark, damp places, they induced the growth of tubercles, which, as Doctor Baron asserts, had at their first appearance the hydatid or

* Encyc. of Medicine, vol. iv. p. 266, and Pl. iv. Fig. 4 of Carswell's Delineations of Organic Diseases.

vesicular character, but *that* in their transmutations they became solid tubercles.

Last September I repeated the experiment by confining three rabbits in a small, damp place, and gave them no other food than common garden garbage; in about two months they died. On opening them no hydatids were found, but both liver and lungs were studded with diminutive white tubercles about the size of small shot, and which had an appearance of medullary matter or hardened curd. Doctor Collin Arrott of Philadelphia happened to call on me the 4th of last November, whilst examining one of these rabbits, and witnessed the appearances detailed. They exactly resembled those delineated by Carswell in the substance of the liver of a rabbit, in Plate II. Fig. 6 of his Illustrations of Tubercle.

This experiment, when coupled with those of Doctor Jenner and Baron, prove that diet of a quality unfitted for due nourishment, when conjoined with a damp, vitiated atmosphere, and privation of exercise, are capable of producing in an animal either hydatids or tubercles; and I should therefore infer from this circumstance, as well as from *post mortem* observations on human subjects, that the same causes are capable of producing *either the one or the other*, and that we are not called upon to conclude with Doctor Baron, for whose opinions, however, I feel the greatest deference, that tubercles are nothing more than hydatids that have undergone transmutation, or, in other

words, that the first appearance of tubercle is always vesicular or hydatid.

The prevailing and most general doctrine respecting tubercles is that they are caused by that undefined, multiform, or Protean state of the constitution termed scrofulous, which I cannot but look upon as a most convenient term, calculated to cloak our ignorance whenever we meet with chronic sub-inflamed tumours or ulcers to which we cannot apply any more definite appellation. Thus, for instance, we apply indifferently the same name to the chronic enlargement of the cervical glands which occur in children born either of healthy or unhealthy parents, or who may themselves either evince every appearance of robust health, or that want of it which is indicated by a wan, bloated countenance, deranged digestion, and tumid abdomen. We call also those chronic enlargements of the same glands scrofulous, which arise immediately after the eruptions of measles, scarlatina, small-pox, or the papular eruption of venereal complaints; and we endeavour to satisfy ourselves that in such cases scrofula must have been lying latent in the constitution, and was only *then* brought into action by the debilitating effects of the exanthemata mentioned, although the subjects of this supposed scrofula might have previously enjoyed the most perfect state of health.

If a patient has a foul ulceration of the throat or of the nares, with or without exfoliation of the bones, and if we cannot, in consequence of the in-

fancy of the patient or other objection, call it venereal, we instantly make use of this most convenient cognomen, always at hand for service, and without hesitation christen the disease scrofula.

It is chiefly owing to this indiscriminate classification of local complaints under one denomination, which bear some similarity to each other, but arise from most dissimilar causes or morbid states of the constitution, that has induced many to question the claim of the *ars medica* to the rank of a science. But it must be acknowledged, that the present generation have taken the right path to remove this stigma from medicine, by endeavouring to place its doctrines on the solid foundation of morbid anatomy, and a more accurate nomenclature.

These observations, which may be considered trite and unnecessary, I am forced to make when I find the acute and laborious industry of Doctor Carswell and others has only led them to the conclusion, that tubercles in the lungs and elsewhere are depositions of unhealthy, coagulable lymph incapable of becoming organized, and similar in every respect to that found in scrofulous enlargements of the cervical or mesenteric glands. Such, in a few words, as we shall see by and by, are, I believe, also the opinions of Doctors Clarke and Todd, and is the general doctrine of the day concerning tuberculous diseases.

As an illustration that such is the governing opinion, we find Doctor Carswell insisting upon

the curability of tuberculous disease of the lungs, because we so frequently witness the disappearance of scrofulous swellings near the surface of the body. His words are, "when, therefore, enlarged glands in a scrofulous patient ultimately disappear, we almost with certainty conclude that we have witnessed the cure of a tuberculous disease. Tabes mesenterica, which consists in a similar diseased state of the mesenteric glands, has also been known to terminate favourably."*

This observation sufficiently proves, that in Doctor Carswell's mind scrofulous swellings of the glands and tubercles of the lungs are identically the same disease.

Doctor Clarke's entire work on scrofula and consumption is grounded on the supposition of this identity, for in a note at page 11 we find the following passage:—"The terms *scrofulous* and *strumous*, when strictly applied, have the same import as tuberculous," and are used in this sense throughout his work. And in another place he observes, "whatever may be the site, consistence, or form of tuberculous matter, it is to be regarded as a morbid inorganizable product, and consequently unsusceptible of any change that is not effected by the living tissue in which it is deposited."†

Doctor Todd also in his article on strumous dyspepsia,‡ observes, "that the ordinary termina-

* Encyc. of Medicine, vol. iv. p. 265.
† Clarke, p. 122. ‡ Encyc. vol. ii. p. 155.

tion of the disease is the formation of that morbid growth or deposit well known under the name of *tubercle*, which, most usually seated in the lymphatic glands, has almost exclusively received the name of scrofula." In what manner the strumous state of constitution produces tubercles we are referred to his account of it in Doctor Clarke's work on climate.

This explanation is too long to read; it will suffice here to say that Doctor Todd considers tubercles to be depositions from the arteries, which, instead of secreting healthy, coagulable lymph, capable of becoming an organized tissue, deposit, in consequence of the morbid condition of the system, a matter or lymph "which, from deficient vitality or some other condition, is below the standard of organization, and in this state the nutritive molecules, instead of tissue, may be converted into tubercles."* I have here given sufficient authorities to show the prevailing doctrines of the present time respecting the identity of tubercle and scrofula.

Now, Mr. President, those who theorize ought at least to take good and especial care that all the parts of their hypothesis may harmonize, and that one part may not be in direct contradiction to another. In the quotations I have given from these three influential authorities, the identity of scrofulous tumours near the surface of the body,

* Encyc. p. 655.

and tubercles of the lungs and other deep-seated parts, is insisted upon. We also find in every part of their writings on the subject another assumption equally urged, (justly, I allow,) viz.: that inflammation has nothing to do with the production of tubercles, and that when inflammation does occur, it is a consequence, not a cause, of tuberculous deposits.

How will Doctor Carswell reconcile the two following passages:* at page 267 we read as follows—"under such circumstances it would be absurd to ascribe the origin of tuberculous matter to inflammation." And after arguing the identity of scrofula and tuberculous diseases, we find, at page 259, the following observations:—"inflammation of any organ may be followed by the deposition of tuberculous matter in that organ in the manner in which we have already explained. We have frequent examples of the sub-cutaneous glands of the neck and sub-maxillary glands becoming tuberculous, after an acute attack of inflammation, although previously they were neither enlarged, indurated, nor otherwise diseased."

If an hypothesis be true, it will be found capable of accounting for all the phenomena of a disease. Now here is a stumbling block which I leave to the advocates of the identity of scrofulous and tuberculous diseases to get over; for it must be admitted that scrofulous swelling of the sub-

* Encyc. vol. iv.

maxillary, cervical, or other glands, is at their commencement, in ninety-nine cases out of a hundred, attended with increase of heat, and more or less tenderness upon pressure on the part, symptoms which obviously indicate inflammation, although in a minor degree to that which occurs in common phlegmon; and yet inflammation, it is admitted, is not necessary for the production of tubercles of the lungs, although it is argued that the two diseases are identical.

One proof that there is no identity between scrofula and tubercles is, that the most minute injection cannot be made to penetrate the latter, but no one will be so hardy as to say that a scrofulous gland of the neck or groin cannot be injected; and this fact is in itself sufficient to prove that the two diseases are totally dissimilar, and that there is no identity between them. If tubercles, then, are not preceded or caused by inflammation, as is allowed by those whose doctrines I oppose, I should be glad to inquire what is the cause of those depositions of coagulable lymph of which they are *thus* supposed to be formed. Lymph is not deposited by vessels in their ordinary quiescent state, but by the vessels of parts in which inflammation exists; and although Doctor Todd supposes this lymph to be, from the morbid state of the system, unfit, like healthy lymph, to become organized, it may be asked, why he supposes that lymph, healthy or unhealthy, should be deposited at all, without its usual precursor or concomitant inflammation.

Again, how does this theory explain the formation of those regular, insulated, miliary or granular semi-transparent or opaque tubercles with which we see the surface of the pleura pulmonalis and peritoneum dotted. When coagulable lymph is deposited, it is always in an unshapen, irregular mass, moulded by the form of the parts into which it is poured out. But tubercles, until they spread into each other, in general shew individual shape, form, and regularity.*

It may also be justly urged against this theory, of the inorganic lifeless state of tubercles, that it is contrary to all we know of the nature of animal life, that such masses could remain in living tissues without exciting them to those actions (inflammation and suppuration) calculated to cause their expulsion. Now it is well known that tuberculous masses may remain for years without exciting any action in the parts in which they are imbedded; and so much is this the case, that tubercles in the lungs and other organs are often found after death in those who gave no indications of their presence during life.

It may possibly be urged that extraneous bodies, as for instance leaden bullets, may remain in the body for years without exciting

* On reading this passage some fine preparations of pulmonary tubercles were shown to the section, which exhibited the appearance of small, *white*, round, compact bodies into which no injection had penetrated, although the surrounding tissues were perfectly red with it.

those actions which would cause their expulsion. To this I reply, that all such bodies as are allowed thus to lie quiescent in living tissues are found to be surrounded by a cartilaginous formation, which, it seems, the living tissues in which they are imbedded produce, in order as it were to insulate them from the system. Now, except it were found that tubercles were surrounded by a similar barrier, analogy is strongly against the doctrine that they are insensible lifeless masses.

Although the above considerations induce me to reject the doctrine that tubercles, such as they were first accurately described by Stark, and afterwards by Bayle, Laennec, and many modern pathologists, are identical with glandular scrofulous tumours, yet I do not deny that the scrofulous constitution is the most prone to tuberculous consumption.

I have constantly observed that those persons who suffered from scrofula in infancy and youth, are the most liable in mature and advanced age to cancerous complaints; but surely this circumstance does not prove the identity of scrofula and cancer.

In 1810 I published a small essay, in which I undertook to prove the connexion which existed between indigestion and scrofula; and showed that either the want of powers to assimilate our food, or that aliment unfit to replenish the waste of the body and to supply its wants (the one the most common disease of the rich, the other of the poor) were the most usual causes of scrofula. I con-

sidered hereditary weakness, transmitted from debilitated, old, or diseased parents, as a frequent cause of scrofula, particularly amongst the upper classes; and I afterwards considered want of due exercise, cold moist air, improper diet of an ascescent tendency, deficient clothing, and the exanthematous fevers as equally exciting causes of the same disease.

At the time this essay was published, scrofula was universally considered to be a disease arising from an hereditary taint or acrimony in the blood; and the derangement of the digestive organs, with the other causes just enumerated, were totally overlooked as the remote or immediate causes of the disease. The only treatment in use before this publication was sea bathing and a farrago of specifics, thought to be capable of obviating the supposed acrimony or virus to which it was attributed. It is, however, gratifying to me to find that principles, which I was the first to promulgate, are now firmly established; and that, amongst others, even Doctor Clarke has considered the exciting causes of the disease under precisely the same heads which I have given in the small work now on the table before you.

These headings are to be found in his work on Pulmonary Diseases and Scrofula, in the section which treats of the "Causes of Tuberculous Cachexia in Individuals not hereditarily predisposed to Pulmonary Consumption," and are, 1st, improper diet; 2nd, impure air; 3rd, deficient ex-

ercise; 4th, imperfect clothing and inattention to cleanliness. Now all these are the precise headings of sections in the work before you, and considered by Doctor Clarke as exciting causes of tuberculous cachexia, or in common language, scrofula. Even he considers the exanthemata as exciting causes of the disease, but not under a distinct heading as I have done. He doubts, however, that syphilis, which in my opinion possesses all the characters of the exanthemata, is an exciting cause. But that the papular venereal eruption, or syphilitic lichen, as it is called, produces obstinate swellings of the lymphatic glands of the neck, I have witnessed in many thousand instances.

It would certainly have been more gratifying to me had Doctor Clarke honoured me by noticing this work; but as it was so small a one probably it escaped his observation, and that his sagacity led him in 1835 to consider this subject, in all its minutiæ under the same views which I happened to entertain in 1810.

Doctor Todd has given an excellent article in the Encyclopædia of Medicine on Strumous Dyspepsia, in which he has *enlarged* upon the precise principles laid down in this same work; and in treating of the deranged functions of the biliary system, he points out, as I had done before him, in what manner all the consequences may follow which produce scrofula. Neither has *he* condescended to notice my priority of claim to these views and principles, which were esteemed, by the

orthodox, at the time of the publication of this work, novel and dangerous heresies against long established doctrines.

If tubercles then are not depositions of unhealthy lymph, capable of becoming organized by an extension of the vessels of the tissues in which they are placed, what are they? In one word, it is my opinion that they are beings possessing a vitality independent of the animal in which they are lodged, except so far as that animal affords them; 1st, the organic particles of which they are formed, and 2dly, the nutriment which they imbibe by their own innate powers; and thus, that they form the last link in the chain of the last class of animals, the entozoa. The shock which the mind must receive on first hearing the proposition, that an apparently disorganized mass of animal matter shall enjoy the possession of an independent vitality and state of separate existence, will be considerably lessened by a consideration of the gradual steps by which animal and vegetable life is found to descend, so that at length we have no other mode of distinguishing between dead and living matter, except by a power in the latter of resisting the influence of those external agents, which cause dead animal and vegetable matter to run into fermentable changes.

It was under these views that John Hunter submitted eggs to a freezing temperature destructive of life, and demonstrated by these well-known experiments, that in their ordinary state they have

a power of self-preservation, and are not obedient to the same laws which affect dead animal matter; and thus he proved that an egg possesses independent vitality. Hunter goes still farther than I have ventured, in ascribing the principle of life to an apparently disorganized mass of animal matter. He infers that blood possesses life, from its power of coagulation, and adds in illustration of his argument, that if an animal is deprived of life by lightning, or is hunted to death, its blood loses the property of coagulation, and is always found in a state of fluidity.

When we consider the gradual and imperceptible steps in the scale of animal life, and the low degree to which they descend, particularly in the entozoa, or those parasites with which animals are infested, it will not then be found so very startling a proposition to attribute an independent existence to these masses of matter termed tuberculous, which have no connexion by vessels with the parts in which they are imbedded, and yet preserve themselves from those changes to which all dead or inanimate animal matter immediately enters when subjected to moisture and a temperature above the freezing point.

I shall not notice the different species of intestinal worms, but shall call the attention of my hearers to the variety of worms with which the solid tissues of all animals are infested. These have engaged the attention of modern pathologists and naturalists in no slight degree; but we are indebted

chiefly to the labours of Brera, Rudolphi, Bremser, Laennec, and Cruveilhier for most interesting information on this subject.

The most simple form of animal matter, as yet acknowledged to be in possession of independent existence, is the hydatid. It is a vesicle filled with a fluid as clear, but of more consistence than water. This vesicle is inclosed in a capsule or cyst, which varies from the consistence of a serous membrane to the firmness of cartilage or even of bone. Bremser justly considers this cyst as the product of the tissue in which the parasite is embedded.

There are only two kinds of hydatids discovered in man: the one most frequently found is termed by Laennec, acephalocystis, because it is simply a vesicle not furnished with either head, mouth, or suckers. By Rudolphi, Bremser, and others it is called echinicoccus. The other furnished with a head, neck, and suckers, by which last it is thought to imbibe its proper nourishment, is a step above the first in the scale of animal life, and is called from its form cysto-circus. It chiefly infests the lower animals of the mammalia class, being comparatively but seldom found in man. However, instances of its presence in human beings are detailed by Werner, Ficher, Treutler, Brera, and Rudolphi.* It was discovered and described by Pallas and Goeze. But the acephalocystis is that form of hydatid which is to be met with most ge-

* Bremser, 286.

nerally in man. In the Leçons Orales of M. Dupuytren, we find a most interesting article on hydatid tumours developed in the muscles and in the viscera. These were chiefly acephalocystis, but he mentions some instances also of the cysto-circus species.

The hydatid multiplies its kind by the production of diminutive hydatids within its cavity. By the growth of these the parent hydatid is pressed against the cyst. The cyst increases in size from distention, so that if an hydatid tumour be punctured a multitude of these vesicles will escape. The hydatid, like any other living creature, will of course die a natural death. Those who have watched the progress of dissolution, observe that the first appearance of decline is, that the fluid it contains, from being limpid becomes turbid and opaque, and gradually thickens to the consistence and appearance of softened cheese. The hydatid itself or vesicle becomes wrinkled and contracted, and finally it becomes transformed into a calcareous mass. This final termination of the hydatid is mentioned by John Hunter, Rudolphi, Bremser, Cruveilhier, and all who have treated on the subject. By some the appearance is compared to moistened chalk or putty. The celebrated Ruych* was well acquainted with those transmutations of the hydatid, and makes the shrewd conjecture that those melicerous and atheromatous tumours,

* Opera Omnia, vol. i. p. 225, Anat. Med. et Chir.

such as we meet with every day on the scalp, are nothing more than transformed hydatids; and Cruveilhier was of a similar opinion, viz. that encysted tumours, whether containing serum or melicerous matter are of hydatid growth and origin.

Acephalocyste hydatids are often connected together like bunches of grapes, the stalk of which is attached to part of the human body, and yet in this state they are admitted to be a collection of animals each possessing an independent state of existence. These bunches of hydatids attached to something analogous to a placenta, are often found to be the component parts of false conceptions. They are termed by Wiessmantel, hydrometra hydatica. Bremser* has no doubt that they are distinct animals, though tied together and fixed to the substance of the body; for he justly observes that a great number of aquatic animals are thus attached, of the individual animality of which no person entertains a doubt. Are we to conclude that hydatids (which, though known from the earliest periods, have been only acknowledged in modern times to be distinct animals) form the last link in the chain of animal life, and that there are not still simpler forms also in possession of a separate existence?

Tubercles, I have stated already, have no connexion by means of vessels with the surrounding tissues in which they are imbedded, as is apparent

* Bremser, p. 313.

from the preparations before you; they are commonly found in small regular circumscribed masses. They at first, generally before they undergo any transmutation, have the appearance of semi-transparent vesicles; even those that are opaque, on a close examination, I have often found to be hollow; in fact they are thickened vesicles or cysts. But even should they not present the vesicular form, but appear as solid masses without connexion of vessels with the surrounding parts, I do not see why their solidity should be an objection to their possession of an independent vitality. They may continue in this state for months, nay years, without their presence being suspected. As long as they themselves retain life, they do not occasion any stimulus or disturbance in the parts in which they have their nidus, to throw them off; but when they die, they act like extraneous bodies (as we know from the facts respecting the guinea-worm) and occasion local inflammation and general disturbance of the system. They soften afterwards, and if situated in the lungs may be expectorated, and the expectorated matter, as was proved long ago by Stark, is neither pus nor mucus, but is the dead substance of the dead and softened tubercle.

The present prevailing doctrine concerning tubercles, viz. that they are lifeless masses of unhealthy or vitiated coagulable lymph, incapable of becoming organized, is contrary to the laws which govern animal bodies. No lifeless mass can remain in the tissue of a living body without exciting inflammation and suppuration, by which it may be expelled. Besides, the hypothesis is over strained. Who ever saw coagulable lymph deposited in the form of semi-transparent grey vesicles, or even in these regular compact masses like grains of shot? which we see in the preparations before us, and into which no vessels appear, although all the surrounding tissues are red with injection; and who ever witnessed depositions of lymph first softening and then changing into calcareous masses? But in this, the last transmutation of tubercle, we must be struck with the close resemblance which it bears to the acknowledged animal, hydatid.

Before I proceed farther in my argument, I should wish to call your attention to the following facts, concerning the filea medinensis or guinea worm, of which I have spoken. We know that this worm, which Rudolphi considers peculiar to the body of man, may remain for months, nay, whole years, without producing any sensible uneasiness or accident; that it is only when it approaches the skin, when it pierces it, that pain and other troublesome symptoms are produced. The treatment consists, when the worm thus exposes itself, in seizing the part exposed and rolling it with much caution round a small stick, which is turned very gently every day for fear of breaking the body of the animal; for should this take place the remaining part of the animal would die, and giving, only when dead, the stimulus of an ex-

traneous body, causes inflammation along its entire extent, which is sometimes considerable, the worm having been seen varying in length from one to three feet.

I mention this fact, as throwing much light upon the effects of parasites on man and other animals. As long as the parasite retains the principle of life, it causes comparatively little uneasiness; but as soon as it becomes dead matter, it occasions inflammation in the surrounding parts, the first step to that process by which it is removed from the system. If we apply this fact to tuberculous diseases, it will explain many of their symptoms in a satisfactory manner.

But to return to our argument: let us look to tubercular formations in other parts; they are not caused by inflammation, and how will the doctrine of the deposition of vitiated coagulable lymph account for the presence of those enormous accumulations of regular compact masses of various consistence which are found in the abdomen, to which Doctor Baron has given the name of tuberculated accretions? Medical Journals and Transactions afford an ample supply of these instances. I shall glance at one or two. Doctor Simmins* relates a case which during life was thought to be dropsy, and therefore a fruitless attempt was made by tapping to draw off the water; but after death it was found that the enormous distention of the

* Medical Communications, vol. i.

abdomen was owing to a collection of hydatid tumours of various sizes and consistence.

I have myself given to the public a similar case, which was attended by my friend Doctor Jackson of Dublin, and the late Doctor Joseph Clarke. The swelling of the abdomen was supposed to be pregnancy until the time of parturition had passed. On examination after death we found globular masses, varying from the size of a pea to that of a large orange, each filled with gelatinous fluid or substance which compressed all the viscera. When these masses were removed, the enormous growth may be estimated, when I assure my hearers that nearly a large washin gtub was filled by them. How life could be preserved during the accumulation of such a mass, which seemed only to occasion death by its pressure on the surrounding viscera, surprised us not a little.

Doctor Pulteney relates a case of an extraordinary enlargement of the abdomen owing to a fleshy encysted tomour.*—"It was one of those tuberculated accretions so well known, and weighed, when removed, fifty-six pounds. It was made up," Doctor Pulteney observes, "of a congeries of smaller tumours from the size of a nutmeg to that of an egg, and many were much larger. These were closely compacted and intimately united to each other, each, however, being a separate cell or cyst, with an extremely thick, fleshy coat, containing in

* Mem. Medical Society, vol. ii. p. 265.

its cavity a small quantity of fluid," &c. &c. But enough of this case is detailed to show its nature; that it was a collection of hydatids which had gone through many of their transmutations from the vesicular towards the solid form.*

I shall not take up your time by the detail of cases familiar to every practitioner of experience, and with which all the medical periodicals are amply furnished. Enough has been stated, to evince how insufficient is the doctrine of depositions of unhealthy lymph to account for a class of diseases which are not preceded by inflammation, the general precursor of the deposition of lymph, and if they are at all attended with inflammation, it is either the consequence of the death and softening of those masses, or of their increase to such a degree as to press upon and injure the viscera in their neighbourhood. On the contrary, the doctrine I venture to advocate, that of their possession of independent vitality, and of their faculty of increasing from their inherent powers, satisfactorily accounts for all the symptoms and phenomena which they occasion.

Do acknowledged entozoa arise from the seed or eggs of parent animals of the same description, or are they the product of what is called equivocal or spontaneous generation? I am decidedly of

* A large collection of hydatids, taken from the abdomen of a fœtus belonging to the Museum of the Infirmary of Bristol, was shown to the section to illustrate this subject.

the latter opinion respecting the lowest grade both of animals and vegetables, in which no sexual organs have been discovered. Twenty-five years ago, with the view of explaining the origin of cancer, I advocated this doctrine in my work upon that disease; and since, I find, that it has every day become more and more generally adopted, and among others, by those distinguished naturalists, Bremser, Blainville, and Cruveilhier, who have given the energies of their powerful minds to ascertain the origin, growth, and decline of the entozoa. It is well known to all naturalists, that whenever a slow decomposition of animal or vegetable matter is going forward, assisted by heat and moisture, immediately new forms of organized beings arise; thus the mucor or mouldiness which grows in all damp places, fungi, mushrooms, and lichens take place under similar circumstances. It may be said that the seeds of those vegetable productions are floating in the air; but how account, on the necessity of seminal or oviparous generation, for the green vegetable matter of Priestly? How account for those numerous species of entozoa which are found in the most hidden tissues or organs of the body? How account for the presence of worms in the intestines of an unborn fœtus? But I shall not draw any farther argument from intestinal worms, because many will argue that their eggs are admitted with the food, although it is more rational to suppose that they come from within, and not from without the body, no such worms being

ever seen elsewhere, and they can only live for a very short time out of their proper nidus, the intestines. Besides, not only every animal, but each division of its intestinal canal, has its own peculiar species of worm. Thus the lumbricus teres does not reside in the rectum, nor the ascaris in the small intestines.

"Some light," Cruveilhier says,* "may be thrown on the obscure subject of spontaneous generation, from the fact of the production of the infusoria in every liquid in which we macerate a vegetable or animal substance. It at first becomes charged with organic globules, which move in every direction by their own *innate powers, totally independent of the force of gravitation.* These globules are more or less active, and resemble a good deal the globules of the blood, which move with so great a rapidity; desiccation alone arrests the movement of those globules, and humidity again restores it to them. If the maceration is continued, the animals of infusion succeed those organic particles, which, like the spawn of the frog, enjoy great powers of locomotion as well as those of the will, so as to be able to avoid an obstacle, for in their movements they are not observed to strike against each other; in a word, they appear to be gifted with a high degree of vitality." From these facts and views we can no longer admit the axiom of Harvey, "omne vivum ex ovo," but ra-

* Dictionnaire, tome vii.

ther in its place substitute that of O'Kerr, "omne vivum e vivo."*

Although "*omne vivum ex ovo*" originated, I believe, with the immortal Harvey, yet his clear-sighted mind could not overlook the fact, that new forms of existence are always arising in humid places where decomposition of course was going forward. In the twenty-seventh section of his work, on the generation of animals, in which he argues that the fœtus, like the chick *in ovo*, draws its nourishment by its own innate powers, he illustrates this fact by the following passage: "What shall we say of those animals produced within our own bodies? No one can doubt but that they grow and are governed by their own independent life (*propria anima*); such as the lumbrici, ascarides pediculi, &c. &c. *For an animal can be produced in almost all dry places which have become moist, or in those humid places which have become dry.*"†—In fact, in the situations best adapted for the process of putrefaction or decomposition, without im-

* Dictionnaire, tome vii. 329.

† Quid dicimus de animalculis in corpore nostro natis, quæ propria anima gubernari, et vegetari nemo dubitat? Hujus generis sunt lumbrici, ascarides, pediculi, lendes, syrones, acari, &c. &c. Aut quid statuemus de vermiculis, qui è plantis, earumque fructibus oriuntur? Quales in gallis nucibus: cocco baphico, cynorrhodo, plurimisque aliis reperias. *Quippe in omnibus fere vel siccis humiscentibus, vel humidis sicciscentibus, creari animal potest.*—HARVIE, *Op. De Generatione Animalium*, Ed. Lugduni, 1737, p. 112.

plying the necessity of the agency of eggs or seeds. In another part of the same section he supports the same argument, and as I have lately found to my great surprise, by the admission of the very facts which I am now endeavouring to establish, viz.: the independent vitality of cancer and other fungous parasites. These are his remarks:—"In the same manner the parasitic plants and fungi of trees exist: but even in our own bodies we have cancers, sarcomatous, melicerous, and other malignant tumours, which grow and are nourished as if by their *own innate vegetative life*, (*quasi propriâ animâ vegetativa*,) whilst the parts in which they grow become extenuated and wasted, in consequence of their defrauding the body of its nutritious juices."*

If worms of the intestines do not arise from seed or eggs, from what cause do they spring? Bremser, who spent twelve years in close application to the disgusting but useful subject of studying the entozoa, advocates the doctrine of their spontaneous generation by facts which cannot be rebutted; and he is of opinion, that worms arise in those who either take in nourishment of an indigestible

* Ad hunc pariter modum vivunt fungi arborum, et plantæ supercrescentes. Quin etiam experimur sæpius in corporibus nostris cancros, sarcoses, melicerides, aliosque id genus tumores, *quasi propria anima vegetativa nutriri, et crescere:* dum interea genuinæ partes extenuantur, et marcescunt. Idque ideo, quia tumores isti nutrimentum omne ad se arripiunt, reliquumque corpus nutritio succo (ceu genio suo) defraudant.—*Idem*, p. 113.

quality, or who swallow more food than they have powers to digest. In either case materials are furnished for their production in the way we have just considered.

Are not hydatids and tuberculous masses formed in the solid tissues of animals, from the precise same causes? Either improper nourishment is taken, incapable of being assimilated, which vitiates the whole mass of fluids, and is unfit to replenish the waste of the system, or else more is admitted than can be assimilated; for we ought to recollect that the last act of assimilation takes place in the lungs, where the blood is submitted to the influence of the air; and this circumstance may tend, in some degree, to explain the greater frequency of tuberculous diseases in the lungs than in any other part of the body.

Dr. Clarke, in his treatise on pulmonary consumption, truly observes, "that what is usually considered the early is in reality an advanced stage of the disease, (tubercular phthisis,) and that tubercle is a secondary affection originating in a peculiar morbid condition of the general system." What is this morbid condition which Doctor Clarke contends for? Is it not a vitiated state, first, of the fluids, and afterwards of the solids, in consequence of imperfect assimilation?

It is many years since I first advocated the doctrine that carcinoma ought to be classed amongst the entozoa, and I am every day more attached to that opinion. There is in every carcinomatous

structure two distinct substances. One is a hard cartilaginous mass which admits of being injected, the other is of the consistence of brain, or a medullary substance, which does *not* admit of being injected. The latter I esteem the true entozoa or parasite, the former, *i. e.* the cartilaginous part, I look upon as the barrier which the surrounding tissues throw up to insulate the parasite. This liver of a sheep before you, which contains the animals termed "facciola hepatica," and by the victuallers in Ireland "flukes," will serve to illustrate the subject. Groups of these animals, which, when alive, move with a brisk motion in warm water, are contained, as you see, in cysts of a cartilaginous hardness, or in the biliary ducts themselves. Now the walls of these cysts are capable of receiving injection, as you may perceive by the preparation before you. We must infer, therefore, that those cysts have been formed, not by the parasites, but by the parts in which they are imbedded; and thus a barrier is placed between them and the organs in which they are lodged. When they are produced in a biliary duct there appears to be no necessity for the formation of a cyst; the duct answers the purpose, but the duct becomes enlarged and cartilaginous, as you may see in this preparation. A similar occurrence takes place in the bronchial tubes when tuberculous matter is formed in them. This is finely delineated in Plate I. Fig. 4 of Doctor Carswell's Illustrations of Tubercle. In the one instance we cannot deny the animality of

the contents of the duct; but in the other it is inferred from the various facts and arguments contained in this paper. I do not conceive that any argument is afforded against the opinions I advocate on the grounds that tuberculous matter may take the form of the part in which it grows. The same occurrence is observed when vegetable fungi sprout in narrow and confined places, and consequently will take their form and shape from those *external* causes, and yet no one doubts but that they grow by their own internal powers. Now, in order to see the medullary portions of a carcinomatous mass, make a section of it in any direction, and you will perceive, on pressure, the medullary ramification to ooze out at each of its divided branches.

Fungus medullaris or medullary sarcoma, and fungus hæmatodes belong to the same family of disorders, but is chiefly composed of the medullary substance, there being but a very small proportion of the cartilaginous structure. The great distinction between these two last species of the same family is, that in fungus medullaris the medullary mass is contained in a cyst. In the latter there is no distinct cyst, but the medullary mass seems to be subdivided by membranous or semi-cartilaginous bands into separate spheroidal masses; each of these is probably a distinct fungus, the aggregate constituting the diseased structure, or parasitic tumour.

Now, these maladies are much more rapid and destructive than carcinoma, because there is no

sufficient barrier thrown up by the neighbouring parts to obstruct their progress. Besides, there is scarcely an instance met with of fungous medullaris or fungus hæmatodes, in which the disorder has been confined to one organ. If we see it in any one part, we may with great certainty infer that it exists in others, and, therefore, conclude that it is owing to some fault in the constitution.

In vol. viii. of the Medico-Chirurgical Transactions, are several interesting cases detailed by Mr. Langstaff, exemplifying the nature and universality of the attacks of fungus medullaris on almost every organ of the body. In the second edition of my work on Cancer, published in 1809, is an account of the symptoms of this same disease in a gentleman* who had those tumours on almost every part of his body. I regret that there was no post mortem examination; but have no doubt but that similar tumours would have been found universally disseminated on the internal organs. Now, although the disposition to carcinoma is also often constitutional or general, yet it is not always so; it is sometimes merely local, and I shall explain under what circumstances it is so.

1st. By a local disposition to cancer I mean that change in a part, from a healthy, sound structure, to a morbid one, which has been occasioned in an otherwise healthy person, either by a direct and

* Case XL. p. 197.

immediate violence, or by a continuous application of some irritating cause or agent. For example—the organization of a part may be injured by a severe bruise, and after the lapse of some months, a hardness of a carcinomatous character is found to have arisen in the part injured. Sir Everard Home, in his work upon Cancer, relates two cases, in one of which the disease arose upon the glans penis, in consequence of a violent contusion of that part; and in the other, in the foot from severe pressure and pain occasioned by wearing a tight shoe. In both instances the patients were young and had been previously healthy. In the same manner an ulcer not originally cancerous, such as a venereal bubo in the groin, may, by neglect, bad treatment, or constant irritation, assume, after the lapse of many months, the cancerous character. Or it may happen that frequent irritation of a part, such as the peasantry of Ireland are in the habit of inflicting on their under lips in the act of smoking, from the habit of constantly using short and heated tobacco pipes, may occasion carcinoma in the most healthy, young, and robust persons. Or, as it often happens, the frequent irritation of a pimple or wart, such as occurs in the daily act of shaving, may cause them to assume at length the carcinomatous character.

2dly. A local disposition to carcinoma may also occur in organs, when they first cease to perform their allotted functions, without any constitutional disposition to the disease. Thus carci-

noma chiefly affects the uterus and breasts of women at that period of life in which they cease to be capable of bearing children, *i. e.* from the 40th to the 50th year. These organs may then be considered useless appendages to the system; and a diminution of vitality or some morbid changes, we may infer, take place at this period in their structure, which render them particularly liable to carcinoma. Dionis observes, that out of twenty cases of cancer in women, fifteen will be found to occur between the 40th and 45th years.

But independently of these local dispositions to carcinoma, a strong constitutional disposition exists in others, which is chiefly indicated by a peculiar depressed expression of the countenance, and a pale leaden colour of the skin. In the constitution thus disposed, the disease arises spontaneously and makes rapid progress without shewing any disposition to ulcerate or produce those sloughs of the carcinomatous mass which are analogous to the softening of pulmonary tubercles. It also, in general, assails more organs than one at the same time. The lungs become unsound, and in all subjects of this description, in which I have had the opportunity of making post mortem examinations, these organs were found tuberculated. In such constitutions the experienced practical surgeon never thinks of being able to remove the disease by operation. I trust, however, I have sufficiently pointed out under what circumstances carcinoma may be esteemed merely a local disease, and therefore admitting of operation, or other means pointed out in my work upon Cancer, calculated to cure or alleviate it.

Some modern pathologists have been at great pains to determine the nature of tuberculous formations by the shape and form in which they present themselves; but they might as well attempt to form just conceptions of the nature of those fungi which grow on the decaying surfaces of timber in damp wine vaults, or on the mouldering bark of the more ancient oaks and other forest trees, by a consideration of the shapes they assume, which vary according to the situations in which they happen to arise, as they are moulded and turned from their natural course by every barrier that happens to come into contact with them during their growth. An examination into their internal structure, on which the aid of the microscope may afford much light, is more likely to lead to an accurate knowledge of their true nature.

A consideration of the elementary principles of vegetables, carbon, oxygen, and hydrogen, when compared with those of animals which are the same, with the addition of azot,* should induce us *a priori* to suppose that animal matter, whenever the vital principle is weakened or nearly extinguished, is more prone to fermentable changes, and

* I do not here notice other primary principles which enter into the composition of living beings, such as sulphur, phosphorus, iron, lime, magnesia, soda, &c. &c.

consequently to the production of parasitic beings than vegetables, which arise in both kingdoms whenever a diminution of vitality loosens the bonds which tie together the component organic particles of which they are composed, and permits them to assume new shapes of existence. It is thus that the simplest forms of organic life are to be met with, as parasitic plants in the vegetable, and the entozoa in the animal kingdom, where every circumstance seems prepared and favourable for their production. The mischievous effects of parasitic plants in the vegetable world has long engaged the attention of the botanist and agriculturalist; and to those of the animal kingdom, which are still more general and destructive, I urgently call the attention of the profession and the public.

The analogous disposition to the production of parasites in both vegetables and animals has been long apparent to me, perhaps chiefly in consequence of the vast number of malignant cases, which during a long course of public and private practice have come under my observation. The most remarkable instance amongst them which excited my attention to this analogy was that of an old gentleman, whom I saw many years since, in consultation with Mr. Macklin. There were few parts of his body to be seen that did not betray the growth of cancerous formations. The forehead, nose, prominent parts of his cheeks, lower lip, breasts, testes, &c. &c. exhibited the schirrous, cartilaginous, or horny masses which cancer universally exhibits;

and such was the general prevalence of the disease that I could not avoid remarking to Mr. Macklin, at the time, that this old man strongly reminded me of an ancient oak overspread and exhausted by fungi.

Carcinoma is in general a disease of the middle or advanced periods of life; but in some the predisposition is so strong that it may occur even before the age of puberty. Some years ago I examined, in conjunction with Mr. Peile, the body of a young woman twenty-one years of age, who died of cancer of the womb; and I lately had an opportunity of observing extensive carcinomatous accretions in a girl of fourteen, whom I attended for nearly a year on account of a variety of complaints which evinced disease of nearly all the viscera of the different cavities. In making a post mortem examination, in which I was assisted by my friend and former pupil, Mr. Belton, we found tubercles or carcinomatous tumours in all the cavities. In the anterior lobes of the brain there were encysted fungous tumours about the size of wall-nuts. There was a large mass of a semi-cartilaginous substance in the anterior mediastinum. The lungs were tuberculated. Both mammæ were enlarged, and presented the usual cartilaginous appearance of carcinoma, and the mesenteric glands were also in a tuberculated state.

I might adduce numerous other instances of carcinoma occurring at an early period of life, but the above are sufficient examples. In these two persons, who thus died its early victims, the coun-

tenance had the remarkably pale hue, with a tendency to lividness, called a leaden colour, to which I have before alluded.

It is to be remarked that Andral has made very similar observations respecting the colour of the skin in those predisposed to tubercular phthisis; he says, "observation has provod, that it (tubercle) has an especial tendency to grow in those individuals whose skin is very fair, and as it were *blanched and without any trace of colouring matter* in its capillaries. The colouring matter thus deficient in their skin is likewise so in their eyes, which retain the blue tint of infancy, and in their hair, which is light coloured, and also small in quantity. Their muscles are soft and slender, and shew little contractile power; their blood is serous, and deficient in fibrine and *colouring matter*."*

In chapter viii. of the 2nd edition of my work upon Cancer, published in 1809, I have particularly noticed this peculiar character and colour of the countenance of those disposed to carcinoma and tubercular phthisis, and ascribed it to want of colouring matter in the blood. I have also in the same chapter related some post mortem examinations of those who died of external cancer, having at the same time tubercles in the lungs, and that on comparing the structure of one with the other (the cancerous mass with the tubercles) little or no perceptible difference was apparent. These facts, coupled with the various circumstances and ana-

* Townsend and West's Andral, vol. ii. p. 535.

logical reasonings stated in this paper, afford, to say the least, a strong presumption, that pulmonary tubercles are more nearly allied to carcinoma than to scrofula.

One remarkable circumstance attending the transmutations of pulmonary tubercle and hydatids is, that in the last change of both one and the other the same identical appearances are presented. Thus in both we find a matter of a cheesy or putty-like appearance, with calcareous matter. I have already given sufficient proof that such is the last transmutation of hydatids; now I shall adduce one or two esteemed authorities, that tubercles in the lungs and elsewhere have a similar termination.

Carswell, speaking of the last transmutation of tubercles, at that period at which he infers that the disease had undergone a natural cure, says, "the tuberculous matter, whether contained in a bronchial tube, the air cells, or cellular tissue of the lungs, assumes a dry *putty-looking*, *chalky*, or *cretaceous* character;" and he has beautifully illustrated this fact in Plate iv. Fig 4, of his Pathological Anatomy.

Monsieur Regnaud, in his accurate memoir on the Obliteration of the Bronchi, inserted in the Memoirs of the Royal Academy of Medicine, enumerates tubercles as one of the most influential causes. "In phthisical patients," he remarks, "it is not uncommon to meet in different points of the lung, particularly near the top of it, encysted or free masses, resembling tubercle, soft plaister, or

dry chalk, varying from the bulk of a pea to that of a walnut. These chalky masses, or those resembling dried tubercles, are contained in pouches more or less thick. The contents of these pouches are different: sometimes they are like tuberculous matter, oftentimes it is like wet plaister, at other times so dry as to crumble between the fingers; again it is found like chalk, resisting the edge of the scalpel, and it is not unusual to find small portions of a matter as hard as silex in their centre."

Andral observes, "we sometimes find tubercle acquires an unusual hardness and becomes transformed into a gritty mass, in which chemical analysis shows a notable quantity of phosphate and carbonate of lime; these salts are also found, but in much less quantity in ordinary tubercles, so that their cretaceous transformation is merely a withdrawing, a re-absorption of the animal matter." He then gives the analysis, by Thenard, of tubercles in their natural state, before they had undergone any softening transmutation. He adds their analysis after they had undergone their last or cretaceous change. In both states it appears that carbonate and phosphate of lime enter largely into their composition. We may then infer that when hydatids and tubercles, like the animal which they infest, die, and undergo their last transmutation, their soft parts disappear, leaving only the earthy particles behind, which bid defiance to the process of putrefactive fermentation or absorption to remove. Now, as it does not appear from any known analysis that coagulable lymph contains phosphate and carbonate of lime, the inference is obvious that the prevailing theory respecting tubercles is wrong; and on the contrary, as we find cretaceous matter containing both phosphate and carbonate of lime is always found in hydatids, the lowest order of entozoa at present acknowledged, a strong additional inference is afforded, that tubercle constitutes another and the last link of this class.

In the presence of those earths, even in the lowest animals, we cannot help observing something of that type upon which the Creator formed the entire animal kingdom. For as the nervous system is not, in zoophytes, or the lowerst grade of animals, collected into distinct cords, but is universally diffused through their substance, so we find those earthly particles which form the basis of the skeleton of higher classes, diffused also through the system of these, the last link in the chain of animal life.

At the last meeting of the Association, my friend Doctor Houston read an interesting account of cysto-circi hydatids, found in the abdomen of an Axis deer. Bunches of soft tumours, varying from the size of a pea to that of an orange, were attached to the omentum and peritoneal folds of the different viscera. These were found to be the capsules of those hydatids. Now, although this animal's lungs were found to be filled with tubercles of which he died, yet Doctor Houston cannot see that there was any connexion between the one mor-

bid appearance and the other. To my simple apprehension there appears to be a very close connexion, indicating a disposition in the creature to the production of parasitical animals, which in the abdomen appeared in the form of hydatids, and in the lungs in that of tubercles, an opinion which is supported by a fact mentioned incidentally by Andral, who found, in conjunction with M. Dupuy, tubercles intermixed with hydatids of cysto-circus species in the lungs, heart, and muscles of a hog.*

I have been informed from undoubted authority, that hydatids and tubercles have been very generally found in the bodies of dairy cows in Paris; and in fact we have sufficient data to conclude that tubercles and hydatids are produced in the tissues of all animals confined in menageries, or which, deprived of their natural exercise, are exposed to an unwholesome and vitiated atmosphere.

I have for some time been anxious to ascertain if tuberculous matter, before ramollissement commences, possessed a power of preserving its life at the temperature of the body from which it has been taken, and of resisting those fermentable changes to which all dead animal matter is subject. I was also desirous of trying an analogous experiment to that of Hunter, by which he ascertained that an egg is in possession of life. But since these ideas suggested themselves to my mind, I have not been

* West and Townsend's Andral, vol. i. p. 533.

able to procure any undecomposed tuberculous substance, fresh and sufficiently insulated from that of the animal matter in which it was imbedded, to admit of experiment.

The prevailing doctrine respecting tuberculous diseases has derived its chief support from Doctor Carswell's indefatigable labours in the field of pathological anatomy; and although I dissent from his views, there is not amongst his friends an individual who feels more disposed to give him the credit he so amply merits for his accurate descriptions and most satisfactory illustrations of tuberculous diseases. It is with reluctance, therefore, that I differ so materially in opinion from one who has done so much to advance the science of medicine: *that* reluctance is, however, in some degree diminished by the recollection that the doctrine I espouse has been supported by pathologists of the highest eminence; amongst others, Laennec, as we must infer from the following passage: his words are, "tubercles are accidental productions, that is *real foreign bodies which spring up* in the substance of the lungs, and may be developed in any other texture of the body." His translator and commentator, Doctor Forbes, incidentally acknowledges in a note that Laennec believed in the independent vitality of tubercle, and observes, "that Laennec's views were called in question by Majendie, Cruveilhier, Andral, Lombard, and Boullard, whose researches, he says, "all tend to establish the proposition that tubercle, instead of being

an accidental production, possessing a proper vitality, and developing itself by *intus-susception*, like organized tissues, is in fact the result of a morbid secretion, a peculiar species of pus, an inorganic product formed by juxta-position." I trust, however, that I have adduced some strong facts and considerations respecting the parenchymatous substance of which tubercle is composed, and the laws of the animal economy, to evince that the views of this celebrated philosopher and physician were not erroneous.

The experiments of Doctors Jenner and Baron strongly support the doctrine of the parasitic nature of tubercle. These pathologists seem, however, to be of opinion, that independent life can only be attached, in the instances under consideration, to a substance which at first has the vesicular or hydatid form. In this I differ from them, as I have already sufficiently stated my reasons for concluding that tubercles composed of a medullary parenchyma may also be endowed with individual life; and thus I extend the possession of a proper vitality to an animal mass even apparently less organized than the acephalocyste hydatid.*

Doctor Farre, in his work upon Organic Diseases of the Liver, states his opinion also, that a

* Andral, who is opposed to the opinions of those who advocate the independent vitality of tubercle, admits that "there are some entozoa that consist of nothing but a parenchymatous mass, without any distinct cavity or perceptible organ."—Townsend and West's *Andral*, vol. ii. p. 616.

fungous or medullary form of tubercle of that viscus was in possession of a proper vitality, and developed itself by its own innate powers. Doctor Adams, the author of the work on Morbid Poisons, long since advocated the same principle respecting carcinoma, but ascribed it to the hydatid form of existence. But as it is only *occasionally* that we observe in cancer any thing approaching the hydatid form, it is probable on this account that his opinions did not meet with that attention from medical men to which they had undoubted claims. The first edition of my work on Cancer was published in 1806, in which I avowed, without hesitation, my belief in his doctrine, differing from him, however, in this respect, that he placed the vitality in the hydatid structure, whereas, I supposed it to exist in the cartilaginous substance. In this I was manifestly wrong, as the cartilaginous portion is capable of being injected, a fact not then ascertained. But to the medullary portion I now attribute individual life, not only because it cannot be injected, but because it resembles in structure medullary sarcoma and tuberculous formations in other parts. In the same work, as already mentioned, I afforded some striking facts to induce us to suppose that carcinoma and pulmonary tubercles belong to the same family of diseases; and I understand that the doctrine of the independent vitality of tuberculous diseases is making considerable progress amongst the physicians of Germany.

From the authority of those writers who have favoured, and even espoused the doctrine of the independent vitality of apparently disorganized masses of animal matter, amongst whom are men remarkable for high intellectual powers and deep medical research, you have *a priori* testimony that the doctrine, or if you prefer to call it so, the hypothesis, ought not to be esteemed beneath the attention of this Association; and I flatter myself that I have made out a strong case in its favour, and added some important facts and views towards its support, which will, I trust, awaken your attention to a class of diseases that, under the old established doctrines, have justly been considered as the *opprobrium medicorum*.

If my views of these diseases are correct, and founded in nature, another, but a lower link will be added to the entozoa, which, according to Cuvier, belongs to the second class of zoophytes. The following species may at present be enumerated:—

1st. Tubercle of the lungs and other parts, whether commencing in the form of a grey semi-transparent vesicle, or of a whitish medullary substance.

2ndly. Masses of tuberculous matter in the abdomen, which either commence in the hydatid form or in that of medullary tubercle. These are called, by Doctor Baron, tuberculated accretions.

3rdly. Fungus medullaris and fungus hæmatodes.

4thly. Carcinoma.

Under these views, it is therefore obvious that the business of our profession is rather to point out the means by which these diseases may be prevented, than in endeavouring by vain efforts to cure them. This observation, however, demands a slight qualification. When a tuberculous disease is merely local or inconsiderable, it may admit of a cure, and the remedial measures upon which I would place most reliance, in addition to the improvement of the general habit by due attention to diet, air, and exercise, are the gradual introduction into the system of iron and iodine. The first, because it furnishes to the blood not only an ingredient necessary to red-blooded animals, but is a powerful antidote against the inroads of entozoa of every description; and the second, because it is the most powerful agent with which we are acquainted in promoting the absorption of all morbid productions. But when tuberculous formations are general and constitutional, it is irrational to expect that any human measures can prevent the fatal result. What then are the most likely means of protecting mankind from the attacks of those dreadful maladies? The answer is simple and easy. All that is required is *wholesome nourishment, pure air, temperance, and exercise*.

Amongst the lower order of society, those employed in sedentary occupations in crowded manufacturing towns, are by many degrees more prone

to them than those who, living by agriculture, labour in the open air, and are not obliged to breathe the impure atmosphere of crowded cities. The former, besides, being prevented by sedentary occupations from taking that wholesome degree of exercise in the open air necessary for the due enjoyment of health, constantly commit great errors in diet, and to these combined causes we may justly attribute their greater liability to tuberculous diseases than their more fortunate fellows whose occupations are in the open country.

"The comparative exemption of those who follow agricultural pursuits is, no doubt, owing to their simple and restricted diet, coupled with habits of laborious or active exercise, which occasions a rapid expenditure of the materials of the body, and an immediate demand for more, owing to the acuteness of the sensation of hunger. The high state of activity of their digestive organs at the same time enables them to supply a healthy chyme to replace the exhausted materials, provided that their nourishment be wholesome. The consequence is, that the entire frame is in the most healthy state, every organ performs with energy its allotted function, for every portion of the body is endued with its due portion of vitality. No accumulation of half animalyzed particles is found in the system fitted to afford a nidus for the growth of parasitic fungi, such as we may presume to occur in the bodies of the indolent, the voluptuous, and the intemperate, who gorge their stomachs to ex-

cess with a variety of the most nutritious diet, without possessing the powers to digest it."*

But multitudes, it will be urged, come into the world with the very seeds of tuberculous disease so deeply sown in their constitutions, that without any fault of their own, those maladies make their appearance immediately after birth, and even in many instances before it. This is true; but it is equally true, that this apparent injustice of Providence is manifestly the natural and inevitable punishment of a breach of the organic and moral laws committed by their parents; who, in despite of disease, of feebleness, of the exhaustion attendant upon old age, and of the deterioration of progeny consequent upon close relationship, without compunction marry, and produce a puny, wretched, and diseased offspring, whose organs are incapable of performing their allotted functions.

The punishment inflicted thus upon the children, and reflected back again upon the parents in anxiety and sorrow, explains and justifies that apparently harsh, but natural and necessary law, that "the sins of the parents are visited upon the children, even to the third and fourth generation." THEN, fortunately, perhaps, a degenerated race may cease to possess the power of propagating its kind.

* See my Introductory Lecture for 1827.

POSTSCRIPT.

On reading the foregoing paper, which, although it occupied one hour and a half, was listened to with the most flattering attention, the President, Doctor Roget, gave his opinion, that notwithstanding other papers were nominated for a hearing on that day, yet as the subject of the one just read opened a very wide field for discussion, the remainder of the day would be more advantageously occupied in its consideration. Upon which, Doctor Macartney, Professor of Anatomy of Trinity College, Dublin, made, as well as I can recollect, the following objections.

1st. That the vesicular or hydatid-like appearance of tubercles is owing to the circumstance, that they are penetrated by the air cells or bronchial tubes of the lungs, and, therefore, cannot be considered hydatids.

2ndly. That tubercles can be injected, and that he himself had succeeded in injecting them.

3rdly. That the substance of tubercles could be taken up by the absorbents; from which it is obvious that they are not living bodies, for the absorbents of one animal have not the power of absorbing any portion of the living substance of another.

4thly. That the offensiveness of the breath of a consumptive patient militated against the principle I advocated respecting the nature of tubercles.

5thly. That hemorrhage from the lungs in tubercular phthisis, when it arises from a vomica or tuberculous excavation, is owing to an inflammatory state of the vessels of the lungs, a circumstance not likely to take place on the principle I advocated.

To the first objection, I replied, that tubercles frequently arose on the pleura pulmonalis, or even on the peritoneum in the cavity of the abdomen, and that in either instance it was obvious that the vesicular appearance of tubercle to which Dr. M. alluded, could not possibly be owing to its being permeated by a bronchial tube or air cell. I added, that I did not conceive that tubercles must necessarily exhibit the hydatid or vesicular form at their commencement; on the contrary, I had expressly stated in my paper, that they as often commenced in the form of compact, solid, round, white medullary bodies.

To the second objection, I replied, that if Dr. Macartney had succeeded in injecting tubercles, he had accomplished that which no other person had been able to perform. That our countryman, Stark, was the first to announce that tubercles

could not be injected, in which assertion he had been subsequently supported by the united testimony of every pathologist, foreign and domestic, who had treated on the subject. In support of this assertion I pointed to the several fine preparations of tuberculated lungs which lay on the table; in which were displayed compact, rounded, *white* tubercles, into which not a particle of injection had penetrated, while the parenchymatous substance of the lungs surrounding them was rendered perfectly vermilion with injection.

To the third objection, I replied, that the substance of tubercle, while endued with the principle of life, did not admit of being absorbed; but that when it lost this principle and became decomposed and softened, it was then liable to absorption. That the absorbents were not, however, capable of taking up the earthy particles, carbonate and phosphate of lime, which entered into the composition of tubercle, that consequently these particles remained behind, and blending with some moist animal matter assumed the consistence and appearance of putty, or chalk and water, contained in a shrivelled cartilaginous cyst, which is the last transmutation (resembling that of hydatids) of such tubercles as do not open into a bronchial tube. The cartilaginous cyst, as I observed in my paper, being the barrier which the surrounding tissues throw up to insulate and check the progress of the increasing entozoa.

To the fourth objection, I replied, that when

the tuberculous substance, in a softened and decomposed state, is exposed to the air, in consequence of ulceration of one or more of the bronchial tubes in its neighbourhood, of course it undergoes the same fermentable changes to which all dead animal matter is subject when exposed to air, heat, and moisture; and consequently that the breath becomes, as it often does in phthisis, intolerably offensive.

To the fifth objection, I replied, that there is no necessity to infer, that hemorrhage from the lungs must be occasioned by inflammation of these organs, when it does not take place from tuberculous excavations; because hemorrhage may be occasioned by the increase and growth of tubercles to so great an extent as to compress the vessels of the lungs, and impede the circulation through them, and from this cause is satisfactorily explained the frequent occurrence of hemoptysis in cases of tubercular phthisis, where no excavations have been found on a post mortem examination.

Doctor O'Beirne inquired of Dr. Macartney, whether he had ever found cellular membrane in tuberculous matter, because it was generally acknowledged, that, whenever blood-vessels ramified, cellular membrane existed to connect them with the surrounding tissues. To this question Doctor Macartney replied, that he *had* found cellular membrane in tuberculous matter. On which Doctor O'Beirne observed, that Doctor Macartney's experience was contrary to that of Doctor O'Beirne, and he believed of all other pathologists.

The only other objection that was urged against the parasitical nature of tubercles was by Doctor Houston; who said, that as I alluded to the post mortem appearances of an axis deer, which he had communicated to the Association at a former meeting, he was induced to state his dissent from my conclusion, that because the animal had hydatids in its abdomen and tubercles in its lungs, I had reason to infer that the latter, like the former, were parasitic beings; that he, on the contrary, considered the tubercles, in this animal, to be the consequence of inflammation. To this observation I merely replied, that I placed more reliance on his facts than on his opinions, and that I would leave others to judge whether his or mine on this point (as detailed in p. 44) were most to be relied upon.

Doctor Symonds then objected to the manner in which the views of Doctor Carswell, Clarke, and others had been stated, respecting the identity of scrofula and tuberculous disease, and denied that they supported this identity.

To this objection, I merely replied by referring to the passages from their respective works, as quoted in pp. 9 and 10 of this paper, which prove decidedly that I had not dealt unfairly with them, or misrepresented their opinions.

THE END.

LEPROSY.

(RE-PRINTED FROM THE INDIAN MEDICAL GAZETTE.)

BY

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LEPROSY.

(Reprinted from the "Indian Medical Gazette.")

THE following remarks on leprosy have been suggested by a perusal of "A Medical Report upon the character and progress of Leprosy in the East Indies, being answers to interrogatories drawn up by the Royal College of Physicians, London." This volume has been recently published by the Indian Government, and contains no less than 107 reports from medical officers located between Peshawur and Calcutta, and the Himalayas and Central India, together with Burmah and the Straits.

I propose to analyze the contents of this work, and endeavour to solve the following questions regarding this terrible disease :—

I. What are the distinguishing characters of leprosy? Is it a specific disease, or does it depend on syphilis or any other affection?

II. Is leprosy common among the natives of the East Indies? Is it on the increase or not?

III. Is leprosy confined to any particular class of natives? Are any exempt from its influence?

IV. What circumstances favour its spread among the natives? Is it hereditary, is it contagious, is it transmitted by sexual intercourse?

V. Has any provision been made for the cure or treatment of leprous patients in this country.

VI. Is the disease curable? or are there any known means in existence for curtailing the spread of leprosy?

There is evidently considerable confusion in the minds of some medical men as to what leprosy is. In many of the reports before us, leucoderma is described as a form of leprosy, and so is the Barbadoes leg. The idea regarding the former affection has arisen from the expression used in the Bible, "as white as a leper;" persons therefore affected with an absence of pigment occurring in spots over the surface of the body (leucoderma), are supposed by some to be suffering from leprosy. With regard to the Barbadoes leg, the notion that it was connected with leprosy has arisen from a strange jumbling up of names. In the Sydenham Society's translation of Paulus Aegineta, book fourth, Section IV., 1, he says:—"For if cancer, which is, as it were, an elephantiasis in a particular part, is ranked among the incurable diseases by Hippocrates himself, how much more is elephantiasis incurable, which, as it were, is a cancer of the whole body? Wherefore, those who are already overpowered by the disease must be abandoned; but, when the affection is in its commencement, so as that none of the extremities have fallen off, nor the surface of the body become ulcerated, nor the hard swellings appeared, and the face merely appears foul, but not altogether unseemly, we must attempt a cure." Now, this disease which Paulus Aegineta calls elephantiasis, is evidently the leprosy of the present day. Isidorus tells us they called it elephantiasis, because it was a mighty disease; sometimes leontium or morbus leoninus, from the supposed resemblance of the eyebrows to those of a lion.

Dr. Adams, in his commentary on the above-named work, says, the Greek translators of the Arabian physician Avicenna rendered the Arabic word *juzum* or *judam* by lepra, but unfortunately they called quite a different affection, the Barbadoes leg, "elephantia," from its resemblance to the leg of an elephant; and the Greeks, who had been accustomed to designate leprosy as elephantiasis, came to mix up the idea of elephantia with elephantiasis, and thus the Barbadoes leg gradually came to be considered as a species of leprosy: this is evidently the origin of the terrible confusion which has occurred upon this point. To make matters worse, of late years, lepra, a species of skin disease classed by Willan under the order Squamæ, has been described as leprosy, with which it has no more relation, however, than leprosy has with scabies.

The question, therefore, arises as to what leprosy is, and we may decide this point by referring to the report before us. We are compelled to discard 17 of these reports as practically useless, and of the remaining 90 medical officers, 64 affirm that the various forms of leprosy described by European and Native practitioners are simply varieties of one specific form of disease, which has no relation to syphilis or any other known affection. Thirty-nine of these officers further remark, that there are only two varieties of leprosy, the anæsthetic and tubercular; they frequently run into one another; in fact, in the same case, there is no positive or even apparent line of demarcation between them. From a careful perusal of this report, it appears not only that the supporters of this idea are numerically stronger than any other class, but they are the most careful set of observers, and their evidence is, on the whole, conclusive. It may therefore be affirmed that the anæsthetic and tubercular are the only two forms of leprosy. At one time the disease may assume more marked symptoms of the anæsthetic variety, at another time of the tubercular; but whatever form it takes, it arises from the same abnormal condition of the system.

In by far the majority of these reports, leprosy is described as commencing with well marked premonitory symptoms. Dr. B.N. Bose, of Furreedpore, remarks (page 96) that—"Long ante-

cedent to the actual appearance of the eruption, or other obvious and unmistakeable signs of the disease, a variety of symptoms generally present themselves, which, although singly, that is, one by one, would be of little or no value in a pathological point of view, are of the highest importance when taken collectively, as being the precursors, or, as it were, the gathering elements of the formidable attack which is impending. Leprosy, indeed, seldom commences abruptly, and a certain initiatory or previous state in relation to the breaking out of its peculiar eruptions, may be observed in almost every case. The precursory symptoms are generally traceable to a kind of cachexy or dyscrasy, arising from a certain constitution peculiar to the disease, and which is either imbibed from parents by hereditary transmission, or acquired after birth from causes exterior to the individual."

Dr. Sutherland, of Patna, observes (page 188) that—"The characters of this taint are as follows:—A rough, harsh, and scurfy condition of the skin, chiefly of the hands and feet; it is rigid, wrinkled, dry, and harsh, and a hard-pointed substance drawn over it will leave a white line, like a pencil drawn over a slate; the heels are horny, cracked, and the soles of the feet are thickened and fissured, but in a less degree; the toe-nails are uneven, tubercular, much thickened, or almost wanting, their ends being thin, uneven, and ragged; persons affected to the above extent may remain in that state for years, the diseased condition not extending; but if subjected to privations, such as bad food, or food in insufficient quantity, defective clothing, impure air, laborious and exhausting occupation while the person is badly nourished, leprosy of the anæsthetic form will frequently be the result.

"I have invariably found that patients in hospital, in whom a leprous taint exists, recover more slowly from malarious fever or dysentery than persons who were previously healthy."

These premonitory symptoms having lasted for a longer or shorter period,—it may be for months, but more commonly for five or ten years,—the anæsthetic or tubercular varieties of the disease become manifest, though, as I have before stated, they are frequently so blended, the one with the other, that it is difficult to define which form predominates. If the anæsthetic, the patient suffers as described by Dr. Wise (page 116),—"It commences, I am told, generally by a burning sensation of the part; occasionally no uneasiness is felt. Portions of the skin are suddenly affected with loss of sensibility, and the dark colour of the skin is altered; the pigment appears to be gradually absorbed, in some entirely, in others only partially; the colour of the skin varies from a dusky olive to an almost pure white. These patches generally lose their hairs, are free from perspiration, and of a lower temperature than the surrounding surface; their shape is sometimes very irregular, at other times circular; in size they vary from the size of a rupee to that embracing the whole limb. I have never seen a case in which it extended over more than the half of a limb. When it attacks the hands or feet, it is generally confined to them. I have seen this form appear on the fingers, the toes, the navel, the eyebrows, the arms, and the sternum, while the rest of the body was quite healthy; its progress is very slow, and, as a rule, does not advance beyond this stage. It spares no rank,—the rich and the poor, the sailor and the banker, the well-fed and the half-starved, are all liable to its attacks. When the disease advances a stage further, the skin becomes hard and shrivelled, cracks appear, which degenerate into ulcers, and follow the same course as those in the tubercular form."

If the tubercular form predominates, Dr. Durant observes (page 24),—"The most obvious and distinguishing character of this form, and that which gives to it its name and at once diagnoses it from any other disease, is to be found in the pecu-

liar hypertrophy of the skin which attends it; the enlargement sometimes occurs in the shape of small tumours, or tubercles, situated most usually on the ake of the nose, lobes of the ears, skin of the forehead and cheeks, and the ends or joints of the fingers and toes; at other times the skin covering these parts is irregularly hypertrophied; it is always of an unhealthy appearance, and of a dusky colour, being generally darker than the unaffected portions. In more aggravated cases, the skin of the lips and eyelids is similarly affected, when the unfortunate victims present a most revolting and hideous aspect. The mind, to a certain extent, sympathises with the bodily affection, misery and a state of deep despondency being strongly pourtrayed in the features. In process of time, as the disease goes on increasing, the organic functions are also deranged, when, from failing nourishment and the already unhealthy condition of the blood, the tumours, or hypertrophied portions of the skin, begin to ulcerate and discharge an offensive and ichorous sanies, which state gradually leads on to the implication of the deeper structures, and the more ulterior consequences to be described under the head of the third and last form of the disease. In some cases, though, this last change does not take place for years; while, sometimes, the disease is so rapid in its destructive effects, as to almost appear as if it set in with mortification, producing ablation of the fingers and toes, without going through any of its preliminary stages."

Either of those forms or varieties of leprosy may lead to the last stage of the disease described by Dr. Durant as lepra mutilans. It would, however, be better to consider this as the last stage of leprosy. He remarks that,—"Nothing could be more revolting and pitiful to human nature, than the objects presented by this stage or form of it. No description could convey a full and accurate idea of its effects: to realise its horrors, the objects must be seen. The most obvious features of this

form are, the mutilations it causes of the fingers and toes, and, in some cases of the whole of the hands from the wrist-joints, and feet from the ankles, the latter being exactly what would be the case were Chopart's or Syme's operation performed on the individual. It is usually the result or sequence of the second or tubercular form, as has been already stated under that head. After the ulceration has commenced in the tubercular enlargements of the fingers and toes, caries, with mortification of the bones and other structures, soon follow; the lower or outermost joints, being first attacked, are the first to drop off, the others following in due succession. I have never seen this mortification or ablative action of the disease, if I may so call it, attack the face and body; it seems to confine its action to the ends of the extremities, or those parts most removed from the centre of the circulation, and so may possibly depend, in some measure, on a failure of the blood supply, as takes place in senile gangrene, or from a diseased action set up in the arteries supplying these parts, which, clogging them up, cuts off the blood supply, the part dying from a loss of nutrition. The nervous supply is also no doubt much impaired, as would appear from the loss of all sensibility in the parts, no pain ever being complained of throughout the whole destructive process. The ulcerative action usually commences with vesication, *i. e.*, a large bleb filled with serum makes its appearance on the part, which on breaking discloses the ulceration below; this vesicatory action is very easily produced in these cases, for the heat of the sun, or any other ordinary heated body, is sufficient for the purpose.

"In another class of cases, or phase of this form of the disease, instead of the direct ablation of the fingers and toes, a wasting or atrophy of the extremities takes place, with a shortening or contraction of the flexors of the fingers and toes, causing them to be bent on the palms of the hands and soles of the feet

respectively, or otherwise distorted, while a slow destructive process goes on in and about the nails and the last joints, eventually causing some of them to drop off: there is no doubt an atrophy of the nervous system also, in these cases, for the patient usually walks with a tottering or paralytic gait, and loses all power in the upper extremities, and sensibility in the fingers and of the skin in general; his mind in likewise much impaired, a state bordering on fatuity soon appearing, while the other senses, becoming obtuse also, combine to render the unfortunate sufferer unfit both for society or work of any kind, and a burden and misery to himself, and, may be, to his family or friends, should he happen to have any."

The above is an accurate description of the symptoms and course which leprosy runs among the natives of India. Its progress is slow, for it seldom destroys life before the patient is fifty-five years of age, and it usually manifests itself about the adult period of life. Instances are related in which it has appeared in childhood, but by far the majority of the reports under notice affirm that leprosy seldom comes on before the patient has reached his twentieth year. The disease reaches its maximum usually ten years after it has become fully developed, and although it seldom kills the patient before he is fifty years of age, still the greater number of those suffering from it die of want, starvation, or diarrhœa long before they have gained this period of life.

From the above account it is evident that leprosy is a distinct and specific disease. The affection nearest allied to it is syphilis, but in by far the majority of these reports the medical officers express themselves distinctly and positively on this point. Syphilis, they say, may, especially if combined with mercury, aggravate leprosy; but that leprosy has any other connexion with syphilis is denied most distinctly, and I quite concur in this opinion. Leprosy was known in India and

described by the Hindoo and Arabian physicians for centuries before syphilis was ever heard of. How far a leprous taint may, under certain circumstances engender syphilis, I am not prepared to state, nor is it the object of this paper to discuss the point; but it may be declared very positively that leprosy is a specific disease, having no connexion with syphilis or any known affection.

The symptoms of leprosy have been clearly defined; they usually commence when the patient is about twenty years of age, with certain well marked premonitory symptoms; it runs a slow course (though this may be subject to variation); and it may perhaps be checked in its early stages; but if the taint of the disease has become developed in the system, it is never eradicated.

II. I may now proceed to enquire if leprosy is a disease of common occurrence among the natives of India. On looking over the volume before me, it appears that, with few exceptions, the various Medical Officers of this Presidency assert that leprosy is frequently met with among the natives of their respective districts; the only exceptions to this are in the following instances:—Dr. Pyster, of Sandoway, Burmah, remarks:—"I have sought for information from all the Burmese physicians in this district, and find that there is not a single individual who could give me any on the subject, apparently none being acquainted with the history of the disease." He states that he never saw a case in Sandoway. Dr. Nisbet, of Akyab, observes—"Though leprosy is well known in the town of Akyab, it seems to be confined for the most part to natives of Bengal, who have emigrated thither." And from other reports it is evident that leprosy is almost unknown among the Burmese. Dr. Thornton, of Cherra Poonjee, remarks "that no case of leprosy has come under his observation; and it appears

the disease is very rare among the Cossyahs." Dr. A. J. Meyers, of Singbhoom, observes that "leprosy is not known among the aborigines of the district, but now and then it is seen among pilgrims and travellers." With these four exceptions, every other medical officer throughout the Bengal Presidency assures us that leprosy is of frequent occurrence among the natives.

The prevalence of the disease varies in different localities, but I may quote Dr. Sutherland's opinion on this subject, page 194—"That a leprous taint is very common among the rural populations of the district of Patna is proved by the following facts:—Within the last six months I have had to examine 2,348 men intended for the new police of the city and district of Patna; these men appear before me in a state of nudity, with the exception of a cloth about the loins; traces of leprosy are thus easily observed: the average age of the men examined was 23 years. I found a leprous taint or diathesis to exist in one out of every ten, and this proportion was rejected as unfit for service.

"When serving with the native army, I found repeatedly that men who had in early life the character which I regard as a proof of the existence of a leprous taint, and which I have already described, frequently had to be invalided in after years for leprosy, and subsequent observation and enquiry have led me to the conclusion that the opinion I have formed regarding what I have named a leprous taint was correct, and that this condition precedes the appearance of the disease in its aggravated form; and, I think, I am warranted in concluding, from the data given above, that this leprous taint exists in one out of every ten of the adult rural population of this district. In stating this, I am aware that my views will probably astonish persons who have not given the subject the attention I have.

"Another test of the prevalence of leprosy in this district was to ascertain the proportion of leprous persons in the Patna jail.

"Present strength of prisoners 368; of this number

"Males	Hindoos	292
	Mussulmans	56
"Females	Hindoos	16
	Mussulmans	4
	Total	368

"Among the Hindoos there were 17 persons affected with leprosy, or 1 in every 16.

"Among Mussulmans 2 were affected, or 1 in 28; only one woman was affected—a Mussulmani. It thus appears that the disease is less prevalent among the Mussulmans, who approach nearer to European races, as regards their dietary, than the Hindoos.

"While writing this report, 32 watchmen, belonging to the city of Patna, were sent to me to be passed, if efficient, into the new police; the average age of the men was 36. I found among the persons examined two cases of leprosy, advanced to the ulcerative stage, and one case of incipient leprosy; the affected mixed freely with the other men. The proportion of leprous to healthy persons was thus found to be nearly the same, as I had before observed to exist among the young candidates for the police; but in this last instance, the men being old, the disease was found fully developed in two out of three affected."

This is certainly a startling assertion; one person in every sixteen affected with the taint of leprosy, and yet it comes from the pen of a most careful observer, who commences his report by the following statement:—"I have lately devoted considerable time and attention to the subject, and personally examined all the worst cases of leprosy to be found in the city of Patna; and I may add that my description of the disease is taken from nature and not from books." Every word of Dr. Sutherland's report fully bears out this observation. I men-

tion this fact because it is almost conclusive testimony as to the fearful extent to which leprosy prevails in some parts of India; and my own experience is in complete accordance with Dr. Sutherland's. From general consideration, it would appear the disease is on the increase, although, from want of statistics, it might be difficult to prove this assertion; definite information, on the subject of leprosy, is very difficult to collect; the natives shun even the mention of the disease, and will invariably, if possible, mislead us as to the facts of the case; it is only by close observation and casual remarks, such as those elicited by Dr. Sutherland from numerous leprous patients, that it is possible to arrive at even an approximate conclusion on the subject.

We are, however, undoubtedly in a position to answer the question now under consideration in the affirmative. Leprosy is very common among the natives throughout the whole of this Presidency and the Straits, though, from want of statistical data, it is impossible for us to determine absolutely if it is on the increase or not; from its tendency to spread by hereditary taint, we may assume that it must be on the increase; and many of the reports before me contain statements which confirm me in this idea.

III. Is leprosy more common among any particular races in this country, or are any classes exempt from the disease?

It has been shown that, in some few races, leprosy appears to be unknown; but these exceptions are rare, for not only does the disease exist throughout the length and breadth of this Presidency, but in the Straits and Borneo it is equally prevalent, and appears to be on the increase. Dr. Rose reports, page 492—"It makes its appearance insidiously, generally preceded by more or less pyrexia and uneasy sensation about the parts; a dark coppery spot appears, sensibly raised above the skin, is shining, and spreads rapidly; first, generally, on the face; the ala nasi becomes much enlarged; the lobes of the ears, also, and the nipples, all presenting the same livid appearance; sometimes it attacks the fingers and toes; these ulcerate, and, in nearly every case, drop off. It frequently becomes arrested at the metacarpus and metatarsus. Leprosy is very common in the three stations of Penang, Malacca, and Singapore." And so also Dr. McDougall, Bishop of Labuan, writes, page 493—"In Sarawak, I think, the Chinese are more affected than either Dyaks or Malays. I have seen at least 50 or 60 cases in males of these races, but the greater number have been Chinese."

With regard to class, Dr. Delpratt, of Hazarcebaugh, remarks—"There can be no doubt that the disease is more frequent in the male than in the female sex, though it is impossible, from want of statistics, to say what is the proportion between the two sexes in this district. The Mussulman and Hindoo are, numerically, nearly equally affected by the disease; all my remarks have reference to the coloured population only; if there be any difference, I believe the former race have the greater number of cases. The disease is far from being confined to the lower orders—rich and poor are alike victims to it; but it is most common amongst what may be called the middle classes of native society." This statement expresses the general opinion of the various contributors to the report before me. There are evidently a few favoured races which appear to be exempt from the disease, but, with these exceptions, all classes of natives—high and low, rich and poor—are subject to its inroads; probably each class suffers in direct proportion to its numerical strength.

From Dr. J. Simpson's admirable article on leprosy in the LVIth No. of the *Edinburgh Medical Journal*, we find that, in

the middle ages, even Royalty itself was no bar against the disease. He says:—

"These observations are certainly by no means sufficient, either decidedly to confirm or controvert the opinion, that Henry IV. was affected with leprosy; but they serve at least to show that, at the time at which he lived, rank of the highest kind was not considered as any adequate barrier against an attack of the disease.

"In none of these alleged cases of lepsosy in the royal family of England, is the proof of the actual existence of the disease at all indubitable and complete. The evidence is more certain and satisfactory in regard to the occurrence of the malady, in its genuine form, in other scions of the House of Anjou, than those who ascended the throne of England. I allude especially to the case of Baldwin IV., King of Jerusalem, a direct descendant, like the Royal Plantagenets of England, from Fulk, Count of Anjou and Tourraine. All historians seem to agree in stating Baldwin IV. to have laboured for some years under elephantiasis, and to have ultimately resigned his sceptre in consequence of disability from that disease." "He was," says Fuller, when speaking of him in the year 1174, "inclined to the leprosie called elephantiasis." By the year 1183, "the leprosie had arrested him prisoner and kept him at home." "Long" (adds the same historian) "had the king's spirit endured this infirmity, swallowing many a bitter pang with a smiling face, and going upright with patient shoulders under the weight of his disease. It made him put all his might to it, because, when he yielded to his sickness, he must leave off the managing of the State; and he was loth to put off his royal robes before he went to bed—a crown being too good a companion for one to part with willinglie. But at last he was made to stoop, and retired himself to a private life."

The disease, as has been above observed, did not spare the

royal family of Scotland. At least two cases of leprosy are alleged to have occurred among the members of it. It may not be generally known that King Robert the Bruce died of leprosy.*

However, to return to this report, it appears that persons of mixed blood (European and Native) are also afflicted with leprosy, but in these instances it is very doubtful if it is not induced through the native stock. A particularly interesting exemplification of this fact is reported by Dr. Wise, p. 118:—

"I have never seen or heard of a case of leprosy in a pure European.

"At Chittagong there are about 850 Roman Catholics of Portuguese descent, who have become almost natives in their colour and habits. The natives distinguish them from pure Europeans by the opprobrious term 'Feringhees'. Their ancestors were the old Portuguese colonists of India. These married with natives, and a race of half-casts was the offspring. I cannot discover whether any new emigration has taken place since Chittagong came under British rule, but from the effeminacy and smallness of stature of the present race, I should imagine that breeding in and in has caused them to degenerate. Now-a-days they never marry with natives, and only occasionally is fresh blood introduced from some Portuguese colony. Their habits approximate very much to those of the Hindoos and Mussulmans; they live in the same badly ventilated thatched houses, surrounded by the same jungle, and in the same bazaars; they, however, dress more in the European fashion, but their food is, with few exceptions, similar to that of the natives; they eat beef, generally young and very lean; very fat pork, improperly fed, is their favourite animal food; they use a considerable quantity of country spirits of very inferior quality. Mr. J. E. Bruce, Salt Agent

* *Vide* Dr. J. Simpson's report on Leprosy.

at Chittagong, informs me that during his residence of 20 years there, he has only known two severe cases of leprosy, and one slight one among these people. Monsieur Fonimond, their priest, says that leprosy is a very rare disease among them. In addition to the 850 above-mentioned, there are about 50 Native Christians who have no Portuguese blood. Leprosy is quite as rare among them as among the Feringhees; their habits and mode of living are similar. Leprosy is therefore much more common among the pure native population than in either of the others."

The external influences had in this instance been withdrawn, no fresh leprous taint was introduced into the colony, and hence the individuals constituting it were kept free from the disease.

And so with regard to other classes, with one or two exceptions, no instances are recorded of leprosy having been met with among Europeans. Dr. Cheke, of Benares, remarks, "that it is seen most frequently among natives of this country, though I have seen cases among the Eurasians, and Europeans;" but, with a few exceptions, the report contains no instances of leprosy occurring among Europeans in this country, and it may therefore be assumed that the disease is not often met with among them. I have lately had an opportunity of seeing a case in the instance of a European, one of Dr. Francis' patients, in the Medical College Hospital. The man, however, was a Swede, and being a sailor, was probably affected with what is called "spedalshed" by the Norwegians, and which is identical with leprosy as seen in India at the present day, and in the middle ages, was well known throughout Europe.

IV. What circumstances appear to induce leprosy? Is the disease hereditary or contagious? Is it transmissible by sexual intercourse?

No less than sixty-nine of the medical officers writing in this report assert that leprosy is hereditary, nine are doubtful, and only eight deny that leprosy is hereditary. It will be distinctly understood that these reports have been written by medical officers living in the midst of a population, many of whom are affected with leprosy; the probability is that no one medical man was aware of the ideas entertained on this subject by his brother-medico in the next district; each officer, therefore, has had ample opportunities of studying the nature of the disease from leprous patients, and his report is a perfectly independent one, being the unbiassed opinion of the writer. With evidence of this kind before us, eighty per cent. of the reporters asserting that leprosy is hereditary, is certainly a very strong proof of the fact. Dr. Garden, of Ghazeepore, expresses his opinion as follows:—

"The disease is undoubtedly hereditary in many instances: in 155 cases of lepra tuberculosa, in 16 of lepra anæsthetica ———, it is stated by the patient to be such".

"The general feeling, too, of the population is that it is hereditary, and on that account its existence is a bar to intermarriages.

"On the other hand, nothing is commoner than to find one member alone of a family affected, as will be seen in the short notes of cases in the Appendix."

Remarks to this effect are to be found in almost every report throughout this work, and the same idea is the universal belief of almost all the natives in this part of India. Ancient authors, as also those of the middle ages, never doubted the hereditary nature of the disease. Dr. Simpson observes in his article on the subject, in the XLVIth Volume of the *Edinburgh Medical Journal*, that "These and other similar data show that the predisposition to leprosy, like the predisposition to other hereditary diseases, may occasionally

show itself in one or two individual members of a family, and may sometimes lie dormant for one or two generations, to re-appear in a subsequent one." "In some of the few districts of Europe, in which cases of the disease have continued to linger down to a late period, the malady seems to be transmitted through an old hereditary taint in particular families, rather than generated by existing external circumstances acting on the bodies of those who now become its victims. The tubercular leprosy exists still, or at least existed lately, in the districts of Martignes and Vitrolles, in the south of France. The cases, though very few, have still been well marked. M. Vidal, who, towards the end of the last century, described several instances of the disease which he saw at Martignes, states that, with one problematical exception, the malady was in every case hereditary." "May we not," he adds, "conclude from this, that if the local causes which are generally assigned for leprosy be true, they have not, at least in our country, sufficient power to originate the disease (*la faire naître*), but generally only to develope and perpetuate it in the descendants of ancient lepers. The same family predisposition probably perpetuated the malady for some generations in the few cases that occurred in Shetland, in the latter part of the last century. The case of the Shetlander Berns, as mentioned in a preceding part, was an instance in which the disease was apparently the result of hereditary transmission from his ancestry."

The predisposition from hereditary constitution to leprosy, and some other diseases, was well known to our forefathers. For, to quote the words of Boece: "He that was trublit with the falling evil (epilepsy) or fallin daft or wod (insane), or having sic infirmitie as succedis be heritage fra the fader to the son, was geldit (castratus), that his infeket blude suld spreid na forthir. The woman that was fallin lipper, or had

any other infection of blude, was banist fra the company of men, and gif sche consavit barne under sic infirmitie, baith sche and hir barne war buryit quik, (if she conceived a child under such infirmity, both she and her child were buried alive.")

Dr. Hjort, a high authority on the subject, doubts the hereditary nature of leprosy as seen among the Norwegians; but, on the other hand, Dr. Danielssen, writing from the same locality, observes (*Medico-Chirurgical Review* for April 1858):—

"When the spedalskhed has once found its way into a family it spreads itself on every side, and that in so fearful a mode, that no member of the family is secure from it. True it is that occasionally the disease appears to have died out in a family, since two generations in succession are occasionally seen to escape the disease, but this cessation is only apparent, and not real; it is but a calm followed by a storm, which breaks out with tenfold fury, attacking the third and fourth generations with great intensity; for leprosy, when left to itself, never dies out; it follows its prey through successive generations, even to the last scion of the race. This hereditary character is to be regarded as the internal cause of spedalskhed; it is the cause the most to be feared of all; for the disease often steals unnoticed into a family, and then it never leaves them."

Drs. Simpson and Danielssen assert that leprosy is an hereditary disease, although it may not appear among the members of even one or two generations; but if it re-appears in the third, we are bound to consider that an hereditary taint is at the root of the evil. This fact is overlooked in several of the reports before us, and because the parents of the leprous patients have not suffered from leprosy, it has been argued that the disease is not hereditary; before, however, arriving at

this conclusion, it must be ascertained if the patient's grandfather or even his great-grandfather, was affected with the disease. Another argument put forward as a proof of the non-hereditary nature of leprosy is, that we sometimes find only one member of a family suffering from it; it would be necessary, however, in any such case to consider the probabilities of the relations of the diseased person subsequently becoming leprous, and all chance of the patients having been inoculated from a leprous sore must have been carefully excluded, before we can venture to give an opinion as to its origin.

These are the principal arguments insisted on by the disbelievers in the hereditary nature of leprosy; but in opposition to them stands the formidable array of facts above noticed, which may be briefly summed up as follows. From the report before me, I find that eighty per cent. of the Civil Surgeons in this Presidency agree in thinking that leprosy is hereditary. The prevailing belief of both ancient and modern authors confirms this opinion. The natives of India believe the disease to be hereditary; and a man and his wife are separated usually by mutual consent when the complaint has become fully developed, because they are aware their children will, under these circumstances, inherit the leprous taint.

From numerous statements scattered throughout this report, it appears that the disease is at the present day mainly propagated by an heredetary taint from parent to child. The case before quoted of the Chittagong colony is much to the point; these Portuguese being placed under percisely similar circumstances, both as regards climate, sanitation, and diet, as their native neighbours; the only difference between them is that the latter intermarry, but the Portuguese keep to themselves, and the leprous taint is thus excluded from their colony; were they to marry natives, no doubt the seeds of the disease

would soon be introduced among them, and as surely spread, as it does throughout the native population.

From these facts, it appears without doubt that leprosy is an hereditary disease.

It is a most difficult matter to arrive at a definite conclusion as to the contagiousness of leprosy. From these reports, it appears that thirty-six medical officers are of opinion that the disease is contagious, twenty-six are doubtful on this point, and twenty-four deny that leprosy can be communicated from one person to another. The majority, therefore, are in favor of contagion; but it is expressly stated in several of the reports that "leprosy is only contagious in the ulcerative stages." If this point had been strictly attended to in the inquiries made on the subject, it is more than probable that much of the conflicting testimony found in this report would have been harmonized*. It will be well, however, to quote some of the cases scattered throughout the volume before me, bearing upon the question now under consideration.

Dr. Rose remarks:—"H. DeSouza lived with my apothecary, Mr. Sneider (whose nephew he was), for some years, Mr. S. labouring under confirmed leprosy at the time, of which he died in 1861. Some time before death, extensive ulceration set in, attended with a profuse offensive discharge, but the lad contracted the disease before this appeared; Mr. DeSouza died last year with leprosy fully developed.

"Sheikh Hussain, a convict from the Madras Presidency, whilst acting as hospital orderly to Mr. Sneider above-mentioned, contracted leprosy from him, and died in less than

* Throughout this report, in mentioning the fact that leprosy is contagious, I mean, it may be propagated by the matter from a leprous sore being inoculated into the blood of a healthy person, but not by simple proximity, or through the medium of the air.

twelve months from the time the disease first became manifest; prior to death, ulceration of the hands and feet set in."

Dr. Hatchell remarks that "leprosy is not thought to be contagious among the people of this district; but I have been credibly informed of the case of a woman who had manifested the first symptoms of it; her husband had long been a martyr to it, and for three years previously the ulcerative stage had been fully developed."

Dr. N. Jackson gives the following case:—

"A woman, aged about 30, was attacked by leprosy. She had at the time of the attack a daughter, aged 16, who lived in the same house; in five years' time this daughter was also a leper, and subsequently, in four years more, her husband became affected; the disease now took a less direct line, and the next person who suffered was the last leper's eldest brother's wife! who is no blood-relation to any one of these persons, but lived in the same house with them; lastly, her husband became a leper after about two years. Whether this points to infection by sexual connection or not, it is impossible to determine, but it seems to me to point very directly to infection by prolonged contiguity; and none of these people's ancestors were lepers, as far as they knew, for two generations back."

Dr. Thompson states:—"I know of one instance of the disease being communicated to a healthy person by direct and repeated contact while in its sloughing stage.

"A healthy child was in the habit of purchasing pet pigeons, much handled by a leper who had sloughing ulcers, and the disease after a short lapse of time broke out in its worst form; the child died."

In Dr. Durant's list of cases:—

No.	Causes of the disease as stated by the patient.
5	By association with a bunia and eating food from him, who had the disease in an advanced form.
8	Caused by playing with children who had the disease.
27	Associating with a friend, who lived next door to him, who had the disease.
59	One of the school-boys of his school had the disease.

The Sub-Assistant Surgeon lately in charge of the Almorah Leper Asylum states that, during the year 1852, the chowkedar and mehter of the hospital were healthy men; in 1856, both of them were inmates of the Asylum, suffering from the worst form of leprosy. The following case is to be found at page 145 of this report:—

"A Hindoo of the name of Nuttoo came to the dispensary yesterday; he was accompanied by a lad about 14 years of age; they were both suffering from leprosy, and the man gave me the following details of their case. He lives in the village of Herdaspore, pergunnah Balegunge, of this district; he has had leprosy for the last twelve years; prior to this he had been perfectly healthy, and had six children, all of whom are alive and well; he says his father and mother were not lepers; as soon as he discovered he was suffering from leprosy, he ceased of his own accord to cohabit with his wife, and he lives entirely away from her and his family: none of them have become lepers. The boy he has brought with him is betrothed to one of his daughters; his name is Botha; Nuttoo and the lad's father were great friends, and as they were both lepers, were likely to have known the history of one another's cases, and he (Nuttoo) says that he cannot be sure if the boy's father's parents were healthy or not, but he knows that his

friend was attacked with leprosy fifteen years ago; at this time he had been married for some years, and his wife was perfectly free from leprosy, and also their first three children, born prior to the development of the disease in the father. When the man discovered he was a leper, he pretended to absent himself from his wife, and Nuttoo says they never met except when the father visited her on the sly at night, and they cohabited with one another; the mother, however, got the disease within three years of her husband, and this lad, Botha, was the first child born after the disease had made its appearance in the case of the mother; he had two younger sisters, who both died young.

Case No. 2.—"Durbungee Chowdrie, village Hussar, pergunnah Paro, applied to me this morning at the dispensary for medicine; he had leprosy, as also his wife, who came with him to the hospital; they have been married for ten years, but have no family; he says his father had leprosy, but died from fever many years ago. The wife declares none of her family ever had the disease, nor had she the slightest symptom of it until two years after her husband got it; when she discovered he was a leper, she ran away from him, but he followed her and brought her home again,—and, as she expected, she is now a leper."

The above are some of the cases to be found in this report, which directly bear upon the point under consideration. Dr. Simpson, in his article before referred to, page 412, remarks that the older medical authors—both Hindoos, Arabians, and Greeks—never appear to doubt the contagious character of the disease. These authors express a unanimous opinion on its contagious propagation, and it is not till we come down to the professional writers of the seventeenth century that we find this doctrine ventured to be called in question. To remove all doubt as to the identity of the leprosy of the

middle ages with that noticed in India at the present day, it may be well to quote the following passage from Barnhard Gordon's work on Medicine, written during the year 1309. He says:—"The occult premonitory signs of leprosy are a reddish colour of the face, verging to duskiness; the expiration begins to be changed, the voice grows rhoncous, the hairs become thinned and weaker, and the perspiration and breath incline to fœtidity; the mind is melancholic, with frightful dreams and nightmare; in some cases scales, pustules, and eruptions break out over the whole body; the disposition of the body begins to become loathsome;—but still, while the form and figure are not corrupted, the patient is not to be adjudged for separation, but is to be most strictly watched.

"The infallible signs are enlargement of the eyebrows, with loss of their hair; rotundity of the eyes; swelling of the nostrils externally, and contraction of them within; voice nasal; colour of the face glossy, verging to a darkish hue; aspect of the face terrible, with a fixed look, and with rotundity of the pulps of the ears. And there are many other signs, as pustules and excrescences, atrophy of the muscles, and particularly of those between the thumb and forefinger; insensibility of the extremities, fissures, and infections of the skin; the blood, when drawn and washed, containing black, earthy, rough, sandy matters, and other marks which authors prominently mention, but for me, those suffice which are to be found in the face. The above are those evident and manifest signs which, when they do appear, the patient ought to be separated from the people, or, in other words, secluded in a leper-house.

"The signs of the last stage, and breaking up of the disease, are corrosion and falling in of the cartilage forming the septum of the nose; fissure and division of the feet and

hands; enlargement of the lips, and a disposition to glandular swelling; dyspnœa and difficulty of breathing; the voice hoarse and barking; the aspect of the face frightful, and of a dark colour; and the pulse small and imperceptible.

"No one ought to be adjudged as a leper, unless there manifestly appear a corruption of the figure. And I repeat to you this, because, as it appears to me, lepers are at the present day very injudiciously adjudged. Whoever, therefore, has ears, let him attend to this, if he will."*

We find that some of the earliest records of medicine in England refer to leprosy. Dr. Meade, in his *History of Physic*, informs us that one Gilbert, called Anglicus, who lived in the reign of King John, wrote a treatise on Leprosy. It is true, as Meade remarks, he wrote as well as any of his contemporaries in other nations, and did no more than they if he took the bulk of what he compiled from the writings of the Arabians; still Gilbert was a traveller, and had, no doubt, seen much of the disease he describes. We have, however, even stronger evidence than his of the rapid spread of leprosy in our own country and Europe about the twelfth century, for the date of the foundation of the first Leper Hospital in England is 1110; it was established at York; and between that date and the year 1472, there were no less than one hundred and twelve richly endowed Leper Hospitals erected in our own island. Michaud, in his *History of the Crusades*, observes, Vol. II., page 308:—"The historians we have followed are silent as to the ravages of the leprosy among the nations of the West; but the testament of Louis VIII., an historical monument of that period, attests the existence of two thousand hospitals for lepers in the Kingdom of France alone." And this leads us to a very important question—how did leprosy find its way into Europe about this time? Michaud whose authority probably stands

* Dr. Simpson on Leprosy.

higher than any other writer on matters connected with the Crusades, has settled this point for us; he evidently takes it for granted that the disease was imported into Europe by the Crusaders and pilgrims who flocked to the holy places from all parts of Europe, during the eleventh and twelfth centuries. He remarks of the lepers to be seen in France:—"This horrible sight must have been a subject of terror to the most fervent Christians, and was sufficient to disenchant, in their eyes, those regions of the East where, till that time, their imaginations had seen nothing but prodigies and marvels." Writing of the experience, as regards medicine, gained by those who travelled with the Crusaders to the East (the School of Medicine), Michaud observes:—"It may be safely said that, during the Crusades, we received from the East many more serious diseases than true instruction in medicine. We know that there were numerous lazar-houses established in Europe in the time of the Crusades, but we know nothing of the remedies employed for the cure of leprosy. Isolation appears to have been the only curative or preservative means known for this malady, which many learned physicians now look upon as mere prejudice. The spirit of devotion richly endowed lepers, without doing anything for their cure. Leprosy in the end disappeared without the assistance of medicine, and the property belonging to the lazar-hospitals was transferred to the hospitals." The truth was, these old Crusaders were far wiser in their generation than the learned physicians above referred to; they took the only really practical means for eradicating the disease from society,—that of enforcing absolute and strict segregation of the leper. Now, unless leprosy were contagious, how could the Crusaders have brought it into Europe, and why should it have spread in the way it did among the population of the West? And, still further, I would ask how it is, that at the end of the sixteenth century, with the exception of isolated cases, it

had entirely disappeared? I have already given it as my opinion that the disease is hereditary; and supposing it also to have been contagious, must it not evidently have disappeared, as we know very well it did, under existing circumstances? On the other hand, had the disease been anything but hereditary and contagious, would the treatment applied have stopped it in one part of the world, whereas, in another, where no such precautions have been taken, it still exists? I shall presently show that neither climatic influences, nor any other known causes, excepts segregation, could *alone* have produced this effect. Dr. Simpson observes, according to the record of Edward III., that that king sent, in 1346, "a commandment under his Great Seal to the Mayor and Sheriffs of London, willing them to make proclamation in every ward of the city and suburbs, that all leprous persons within the said city and suburbs should avoid within fifteen days, and that no man suffer any such leprous person to abide within his house, upon pain to forfeit his said house, and to incur the King's further displeasure. And that they should cause the said lepers to be removed into some outplaces of the fields, from the haunt and company of all sound people." At page 425 of the same article, we find the following remarks:—

"According to the tenor of various old civil codes and local enactments, when a person became affected with leprosy, he was looked upon as legally and politically dead, and lost the privileges belong to his right of citizenship.

"Rothris, King of Lombardy, as early as the eleventh century, decreed that, when any one became affected with leprosy, and the fact was known to the judge or people, so that the leper was expelled from society, and dwelt in seclusion, he had no power to alienate his effects, or dispose of them to any one. For, it is added, from the very day on which he is expelled from his home, he is to be regarded as dead. The same was the law of Normandy, according to Dufresne and Declamarre; and Lobineau, in his *History of Brittany*, speaks of it being formerly in accordance with the rituals of various churches.

"The leper was not looked upon in the eye of the law alone as defunct, for the Church also took the same view and performed the solemn ceremonials of the burial of the dead over him on the day on which he was separated from his fellow creatures, and consigned to a lazar-house. He was from that moment regarded as a man dead amongst the living, and legally buried, though still breathing and alive. The ritual of the French Church retained till a late period the various forms and ceremonies to which the leper was subjected on the day of his living funeral. Ogee and Pluquet have both described them.

"A priest robed with surplice and stole went with the cross to the house of the doomed leper. The Minister of the Church began the necessary ceremonies by exorting him to suffer, with a patient and penitent spirit, the incurable plague with which God had stricken him. He then sprinkled the unfortunate leper with holy water, and afterwards conducted him to the Church, the usual burial verses being sung during their march thither. In the Church the ordinary habiliments of the leper were removed; he was clothed in a funeral pall; and while placed before the altar between two trestles, the *Libera* was sung, and the mass for the dead celebrated over him. After this service, he was again sprinkled with holy water, and led from the Church to the house or hospital destined for his future abode. A pair of clappers, a barrel, a stick, cowl, and dress, &c., &c., were given to him. Before leaving the leper, the priest solemnly interdicted him from appearing in public without his leper's garb; from entering inns, churches, mills, and bake-houses; from touching children, or given them ought he had touched; from washing his

hands, or anything pertaining to him, in the common fountains and streams; from touching in the markets the goods he wisked to buy with anything except his stick; from eating or drinking with any others than lepers; and he especially forbade him from walking in narrow paths, or from answering those who spoke to him in the roads and streets, unless in a whisper, that they might not be annoyed with a pestilent breath, and with the infectious odour which exhaled from his body; and last of all, before taking his departure and leaving the leper for ever to the seclusion of the lazar-house, the official of the Church terminated the ceremony of his separation from his living fellow-creatures, by throwing upon the body of the poor outcast a shovelful of earth, in imitation of the closure of the grave." Treatment such as this not only stopped the progress of leprosy, but the disease was soon eradicated from Europe.

The following, therefore, are the facts I may educe in favor of the contagiousness of leprosy:—

1*st*.—A large proportion of the civil surgeons in this Presidency believe, from personal observation, that the disease is contagious.

2*nd*.—The instances quoted from this report can only be explained by supposing the disease to be contagious.

3*rd*.—It has been shown that the disease known as leprosy, and which exists among the natives of India at present, is the same form of disease which spread by contagion throughout Europe from the East, during the time of the Crusades.

4*th*.—Leprosy having become common among the inhabitants of the West, was absolutely and completely eradicated, in the course of a few centuries, by the forced segregation to which leprous patients were subjected.

5*th*.—It was the universal opinion of contemporary authors, who were the best judges on the subject, that leprosy was contagious; and by far the majority of natives believe it to be so now.

On the other hand, the non-contagionists might argue:

1*st*.—If leprosy spread to Europe through the intercourse which the Crusaders established with the East, and if the disease exists there now, the same sequence should occur from similar causes.

2*nd*.—If contagious, why do not more natives become affected with the disease; lepers being allowed free intercourse with the population around them?

3*rd*.—Some of the officers, whose reports have been quoted in this review to prove one set of facts (as, for instance, Dr. Sutherland), deny that leprosy is contagious; why should their testimony be received as conclusive evidence on one point and not on another?

I may briefly reply to these objections in the order in which they occur.

The intercourse which took place between the East and West, during the time of the Crusades, was of so utterly different a nature from that which exists at the present day, it is impossible to form a comparison between the two periods. William of Malmesbury, writing of the pilgrims starting for the Holy Land, remarks:—"Joy animated the hearts of all who set out; grief dwelt in the hearts of all who remained. Why do I say of those who remained; you might have seen the husband setting forth with his wife and family; you would have laughed to see all the *penates* put in motion and loaded upon cars. The road was too narrow for the passengers; more room was wanted for travellers, so great and numerous was the crowd." No less than three hundred thousands of these poor creatures followed Peter the Hermit into the East, though few of them, it is true, ever returned home again; but they were a type of the hordes of Frenchmen who wandered away to the

Holy Land, undergoing terrible privations to get there, and frequently having to wander back through Asia Minor, where they were of course brought into immediate contact with the people of the country (who, we know from the accounts of contemporary authors, suffered from leprosy.) It is important to bear this in mind, because we have, under these circumstances, the soil prepared in which leprosy, like all other albuminoid diseases, loves to take root. There is good reason, however, to doubt if the filth and want to which these pilgrims were exposed, was in itself sufficient to create leprosy; for if so, we should have heard of similar results following under analogous circumstances in other parts of the world.

That leprosy does not spread among the natives of India by contagion, is in itself an hypothesis, but presuming it to be a fact, it may be explained; for although lepers move about among their countrymen, they are to a great extent isolated from them. Who ever saw a healthy native touch, much less eat, with one affected with leprosy? In many parts of India the mere fact of admitting a leper into a General Hospital, is sufficient to drive every other person out of it. The wealthy leper may purchase immunity from some of the social evils to which his poorer brethren are exposed, but even he is frequently obliged to leave house and home, and wander as an outcast over the face of the earth, visiting shrines and holy places, in expiation for his sins, which he believes have been punished by the infliction of leprosy. Rich and poor lepers, however, though living and moving among their fellow men, are, as a general rule, as isolated from them, as were those condemned to the lazar-houses in the middle ages.

There can be no doubt as to the fact that several of the medical officers, whose opinions have been quoted as authorities on certain points, do not believe in the contagiousness of leprosy.

I cannot, however, do better than refer to Dr. Sutherland's

remarks on this point. He writes, page 193,—"I have never been satisfied with the proof that the disease is infectious, and suspect that, in the supposed cases of infection, a leprous taint previously existed, and that the disease was inherited, or arose, from circumstances in the condition of the affected person, independent of infection. Natives will often touch leprous patients without dread of infection, and it is not uncommon to see at Patna numerous indigent people setting close together begging, some of whom have leprosy in an advanced stage, with loss of fingers and toes, the legs and feet bound with filthy bandages. A person in the lower classes afflicted with leprosy, becomes a beggar by profession.

I have not met with or heard of any well-authenticated cases where the disease was transmitted by sexual intercourse." It will be observed how cautious Dr. Sutherland is. He does not deny that leprosy is contagious, but requires further proofs before he can be convinced of the fact. In the reports of the more careful observers, who have not given it as their opinion that leprosy is contagious, the same reserve may be noticed when expressing their views on this subject. There is not a single instance throughout this report, in which it is attempted to be shown that leprosy cannot be communicated from a diseased to a sound person by means of contact.

The arguments therefore against the contagiousness of leprosy do not refute those in favor of it, consequently, I can arrive at no other conclusion than that leprosy is contagious; *but it is necessary for the propagation of the disease by this means, that the discharge from a leprous sore should enter the blood of the healthy person;* and, further, the disease may even then (unless under peculiar circumstances) remain undeveloped in the system for years.

Having arrived at the conclusion that leprosy is both hereditary and contagious, I may proceed to inquire if the disease

has ever been developed by any other means. And first, as regards its spread by sexual intercourse, there can be no doubt that the germs of leprosy pass from the parent to the offspring, but we have yet to learn if it can be communicated from the infant (*in utero*) to the mother. The disease may spread from the husband to wife during sexual intercourse, because the male organs of generation are often ulcerated, and the female thus becomes inoculated with the virus.

In almost all the reports under review, the want of sanitation, together with climatic and dietetic influences, are prominently put forward as the causes of leprosy. With regard to climate, in a very able paper on leprosy by Dr. Hobson, as seen among the Chinese, (*vide Medical Times and Gazette*, June 2nd, 1860) he observes:—"Heat and moisture probably exert a considerable influence in keeping up the disease, if not in producing it;" and he argues, because leprosy is not seen in the north of China, it cannot therefore exist in a cold climate. This idea is hardly tenable; in fact, it cannot be admitted that climatic influences have power in themselves to generate or stop the progress of leprosy, because it is well known, that at present leprosy prevails in parts of Norway and Hindustan, in the Arctic Circle and China, Iceland and New Zealand, the Cape, Morocco, Mexico, the Sandwich Islands, Borneo, Batavia, throughout Asia Minor, parts of Russia, and Carthagenia. This list might be enlarged, but it includes such a variety of climates, that it would appear impossible the nature of any particular place can influence the disease; this remark applies not only to temperature, but to elevation above the sea, for we find leprosy spreading among the inhabitants of the table-land of Mexico, as well as among the hill tribes living on the slopes of the Himalaya. By reference also to the circumstances of this affection among the natives of India, the prevailing idea may be refuted that leprosy spreads principally among those who live on the sea-shore; for it is very common in races living hundreds of miles from the sea, as in Behar, the North-West, and the Punjab. As leprosy, therefore, exists at the present day among human beings in every part of the globe, at all elevations above the level of the sea, both inland and on the sea-board, it cannot be admited that any peculiar climatic influences are inimical to its spread, and still less that they are in themselves capable of generating the disease.

Sanitation.—The most frequent cause assigned for leprosy throughout these reports, is the want of personal cleanliness among the natives. Before allowing this as a cause of the disease, it would be well to pause and read some of our Sanitary Commissioner's remarks on the condition of the lower classes in various towns in Great Britain, and then to consider if it is possible the want of sanitation can generate leprosy; many of these reports pourtray the condition of our poorer classes as being miserable in the extreme, families consisting of several people crammed into one room, its members existing in a state of filth and degradation, which must necessarily have engendered leprosy among them if it depended upon defective sanitary arrangements. It has also been shown in a former part of this report, that the richer classes of natives suffer from leprosy in an equal proportion to their poorer brethren, and the want of cleanliness can have nothing to do with the spread of the disease in their case. These considerations compel me to abandon the idea that want of sanitation is a cause of leprosy among the people of this country.

Food, which is defective in some one principal, is said to generate leprosy; by some medical officers it is assumed that the diet of the natives is altogether deficient both in quantity and quality, and hence leprosy is developed; by others, some particular article of food is supposed to engender the disease.

Among the Norwegians, putrid and dried fish are said to give rise to leprosy; others fancy that rice prepared in a particular manner is at the root of the evil. We may be sure that the theory of bad and salted fish, being a cause of leprosy, does not apply to this country, for the natives, as a general rule, do not eat salted food, and certainly are not in the habit of consuming putrid fish, and so with regard to badly prepared rice, we must be able to prove, if this be a cause of the disease, that it is eaten by those commonly affected with leprosy, which is far from being the case; for not only is this article of diet unknown to the inhabitants of many countries where lepers are to be found, but we should find the theory utterly fail with regard to the spread of the disease among the inhabitants of Europe in the middle ages. It has already been remarked that leprosy is very common among the people of Behar, and at page 143 of the report before us, the following is the description of the dietary ordinarily consumed by the inhabitants of that province:—

"The natives, as a general rule, live in small mud huts, in which they cook, eat, and sleep; they use no furniture, squatting on the ground, and eating with their hands; their clothing consists of a light cotton garment thrown over the shoulders, and another round the loins; in the cold season they wear, in addition, a blanket; their houses are kept clean, and the sanitary conditions of their dwellings are infinitely superior to that of the poor in any of the large towns in England.

"They are, on the whole, cleanly in their habits; a native, under any circumstances, will bathe at least once a day.

"The population may be divided into four classes: the first composed of Brahmins, &c., &c., including about 40,000 of the three million inhabitants of this district; they consume in the morning about a pound and a half of bread made of

wheat with four ounces of dâl (a kind of pea), an ounce of butter with vegetables and salt, and half a pound of fish or flesh; in the hot season they often take milk in place of animal food; in the evening they eat a meal consisting of a pound and a half of rice with about the same quantity of dhye, or the curd of milk, and two or three ounces of dâl with butter and vegetables: sugar, spice, &c., are all added to improve the taste of the above articles of diet.

"The second class or Koormees, constituting about 80,000 of the population of Tirhoot; they usually take two meals a day: in the morning they consume a pound or a pound and a half of bread made of Indian corn and barley, together with three ounces of dâl and one of butter, to which they add usually, on three or four days of the week, half a pound of fish or flesh and vegetables; at night they take a pound and a half of rice, with two ounces of dâl and a little butter, and half a pound of dhye; they drink more or less spirits, according to taste.

"The third class, which, if we include the lower order of Mussulmen, amount to nearly two millions, eat in the morning a pound of bread made of Indian corn and barley, or a pound and a half of rice, together with three ounces of dâl and a few vegetables, frequently to this they add some flesh: in the evening they usually take a pound of rice with a few vegetables, and salt; they drink spirits.

"The fourth class are the Mussulmen. As regards their diet, they live much like Christians, and, with the exception of spirits and pig's flesh, consume the same articles of food as we do.

"I need hardly say that it is out of the question my attempting to describe the multitude of occupations which engage the attention of the people of a large district like this, nor would it at all elucidate the subject, as no class is free from leprosy."

Food of this kind appears well situated for the natives of a tropical climate, and at the same time it differs so completely from that of the Norwegians or people of the Sandwich Islands, that it is hardly possible to conceive two such dissimilar dietaries could give origin to a disease like leprosy.

While, therefore, excluding climatic, sanitary, or dietetic influences as being definite causes of leprosy, I am by no means prepared to affirm that one or all of them have not a marked influence upon the progress of the disease; presuming that it has once been engendered in the system either by inoculation or an hereditary taint, any causes which then tend to impoverish the vital powers must promote the progress of the affection. This fact is well examplified in Dr. Durant's report, page 30. He observes:—

"The conditions or circumstances of life which seem to accelerate or aggravate the disease when it has once manifested itself in an individual at this place, seem to be the following:—Poverty, excess of bodily labour, deprivations, or distresses of any kind, chiefly those caused by long journeys or pilgrimages to Juggurnauth, insufficient nourishment, absorption of impure air, such as from living in unhealthy localities, confined habitations, and lying out in the open air, and exposure to inclemencies of season, chiefly during the monsoons and cold weather; indulgence in intoxicating drugs, such as the preparations of hemp and opium, dissipations of all kinds, particularly excess of venery (as was the case with the late Rajah of Pooree, who, as I said before, died from this disease and syphilis at an early age), want of proper medical and other hygienic means, and the abuse of remedies, such as mercury, which is sometimes prescribed by the ignorant quacks in the early stages of the disease, mistaking it for syphilis, not to mention the existence of a scrofulous or syphilitic taint;—these, then, seem to be the most common aggravating circumstances

of the disease as I have seen it among the people here. Instances of each particular one mentioned have repeatedly come under my notice, as they have been treated at the Pilgrim Hospital. I may mention that, of all the causes I have enumerated sufferings from long journeys, such as caused by bad food bodily exhaustion, and exposure to inclemencies of the season, seem to exercise the most deleterious effects in aggravating the disease and hastening it on to a fatal termination. Many a life has been frequently prolonged under such circumstances from proper treatment, nutritious diet, and proper shelter afforded them in the Pooree Pilgrim Hospital, where these unfortunate sufferers have constantly been taken in."

From these facts, therefore, I have arrived at the conclusion that leprosy is an hereditary and contagious disease; and that no other circumstances can possibly generate it.

V. Has any provision been made for the cure of leprous patients, either by the Government or by private charity, in the Bengal Presidency? The answer to this question is simply—no; nothing has as yet been done, and hundreds of these poor outcasts are wandering about over the country, many of them in a state of fearful destitution and want; in fact, the picture drawn of their condition in these reports is probably hardly exaggerated, and yet it is affirmed that in some instances lepers are eaten alive by jackalls and other wild animals. As the disease advances, the patient's hands and feet rot away, and ultimately he becomes incapable of defending himself against the attacks of vermin; the worse he grows the more loathsome is the disease, and the less will his countrymen assist him, till at last, from exhaustion and fatigue he lies down in a ditch or open field, and his fate, it is to be feared, is often the fearful one above mentioned. When we consider that in this presidency there are about a hundred million peo-

ple, and that in some places one in sixteen of the population are affected with the taint of leprosy, we may imagine the extent of misery which this terrible disease must inflict.

As far as I know, there is not a single hospital in this Presidency supported by Government for the relief of leprous patients. In Calcutta there is a leper asylum maintained by private charity, and capable of holding some forty patients (the population of Calcutta is about half a million). At Benares, again, there is a building called a leper hospital with sixteen beds in it; the inhabitants of the city being 185,984 souls. There are a few other institutions of a similar nature scattered over the country, which might afford a resting place to one hundred, or at the outside two hundred, lepers. What a contrast does this state of things present to that existing in Europe during the middle ages. We read of no less than 2,000 richly endowed leper asylums springing up in France within a few years of the appearance of the disease, whereas in India, where it has existed probably since the introduction of the human race upon the earth, there has actually been no provision whatever made for lepers up to the present time. Our Chinese neighbours set us a good example in this respect, for Dr. Hobson tells us that for the town of Canton alone, the native Government maintain an hospital capable of containing one thousand lepers. And, again, Dr. Hillebrand says of the Sandwich Islands:—"Leprosy has invaded almost every district of our island group, alarms the people, and seriously occupies the attention of the Government and Legislature, who during the season of 1865 voted the comparatively large sum of 30,000 dollars for the establishment of a secluded hospital and leper village, in an isolated locality, on one of the smaller islands." In answer, however, to the question before us, it may be affirmed that, with the exception of a resting place (four walls with a roof over them cannot be

called an hospital) for some two hundred lepers at the outside, there is no special provision for lepers in this presidency. I may remark that they cannot, as a general rule, be taken into our hospitals, for most of the native patients would leave at once if a leper were admitted.

VI. Are there any known means for mitigating the progress of leprosy?

The segregation of leprous patients would no doubt stop the spread of the disease now as it did in the middle ages; and though it might not be possible to enforce such a strict separation of the infected from healthy people as was formerly practised, still very much might be done in this direction. Dr. Rose mentions, at page 495 in the "Report on Leprosy," that at Malacca no restrictions are imposed by Government at present at either of the three settlements; as to the segregation of lepers, they mix freely with the rest of the community, but are always avoided; still, at any time of the day, in any street, you are sure to meet two or three of these miserable creatures; their appearance is disgusting in the extreme; they are frequently taken up by the police and sent to prison, where they know from former experience they are sure to be sent to hospital, and be well fed and cared for; whilst in hospital, I keep them separate as much as possible.

Government have a leper ward attached to the large Pauper Hospital (built at the expense of a wealthy Chinese named Tan Tock Seng) where lepers are received, but they manage to escape and prowl about seeking alms—a nuisance to the whole community.

At Malacca and Penang, however, large sums of money have been subscribed by the richer natives of all classes for the erection of a leper hospital, so great is the dread they have of the disease; and Government have given over Pulo

"Siranbon," an island contiguous to Malacca, where a comfortable Lazaretto has been erected, to which lepers are removed at their own request, I believe (as I repeat there is no Act at present in force to compel them), where they are comfortable enough, growing their own vegetables, &c.; they seem contented enough; their food is sent out from time to time from Malacca. At Penang, in a very few days, upwards of $20,000 was readily subscribed, and Government have given over the lovely island of Pulo "Jerajah" to the committee, where a roomy poor-house, hospital, and Lazaretto are being erected. I have just reported it to be an excellent site, and the plan of the hospital is well adapted in every way for the purpose intended."

With regard to hospital accommodation, it is absurd to stick up four walls in various localities, and placing a roof over them, call an edifice of the kind a leper hospital, and then flatter ourselves we have made a proper provision for these poor creatures. Unless the circumstances of the leper are thoroughly understood, and unless the charity bestowed on him is disbursed judiciously and honestly, it had far better be withheld *in toto;* the mere fact of giving, because something must be done to escape the reproach of utterly neglecting the claims which these people have upon us, savours strongly of hypocrisy, and will certainly fail to effect any lasting good. By the above remark, I do not for an instant mean to imply that funds collected for a charitable purpose of the kind are likely to be stolen, but unless they are distributed by those who take an honest and zealous interest in the people and cause in hand, they will be misapplied, which amounts to much the same thing as far as the recipients are concerned. However, this is progressing rather too fast before discussing the means to be employed in administering to the wants of the leper; it would be advisable to consider if we are likely to get any funds to disburse. I cannot turn with confidence to the wealthy natives of India or to Government for aid. The individual members of the Supreme Council might be inclined to help these miserable lepers if they could, but they have no State funds at their command for the purpose, and the lepers will have to wait a very long time for assistance from these sources. If their condition could be realized by our countrymen in England, they would, under ordinary circumstances, receive sympathy, if not substantial aid; but the home cry at present is loud for improved sanitary arrangements for our European troops in India; it will be necessary to satisfy this demand before other subjects of a similar nature will be attended to, and justly so, for to England the matter is of vital importance. But while attending to the welfare of the British soldiers, the fact should not be overlooked that the poorer classes in this country constitute the motive force by which the machinery works, from whence the funds necessary for carrying out these improvements must be derived, consequently, if only on the give-and-take principle, the lower classes in India demand some consideration from us. The order of the day, however, appears to reverse this doctrine, for it appears to be a matter of consideration with the Government, whether they cannot save something by suppressing their local dispensaries, and turning the jail hospitals into *the* one Government medical establishment in each district, thus practically destroying the medical relief at present afforded in each division to the poorer classes. And so again, with regard to our Superintending Surgeons, it is reported that their numbers are to be reduced, and their work confined almost exclusively to the supervision of our European troops; and yet we frequently meet with notices like the following in our daily newspapers:—

Englishman, January 26th, 1866.—"We hear from Mymen-

sing that a fever of a deadly kind has broken out in that district, and that a large number of the inhabitants have fallen victims to the disease. The matter has attracted the attention of Government, and the Commissioner of the division has been directed to furnish whatever information is available on the subject." It may naturally be asked why an unskilled Commissioner should be called on to furnish a report on fever. Just as reasonably request the Superintending Surgeon to send in an account of the revenue of the district. A vast deal of good might be done if the Superintending Surgeon of each division were an officer conversant with the language and habits of the people, and were freed from the drudgery of compiling returns, but allowed to expend his energy and time in travelling over his district, taking his tents with him, and living among the people during the cold season, gleaning information from them regarding endemic disease, and being, in fact, as he should be, the health-officer of his division. Considering that in this presidency alone there are, as before stated, upwards of one hundred million human beings, surely a dozen medical officers would have enough to do to guide and advise Government as to the best appliances to be employed to stay the progress of the fearful endemic disease which yearly destroys hundreds of thousands of human beings in this country. The attention of these officers should be entirely confined to the well-being of the natives, and the fewer returns they have to make the better; their annual reports being the only documents required, and these should be published and circulated (both in the English and vernacular languages) throughout the country. If a system of this kind were enforced, the circumstances of leprosy and other such scourges would be better understood than they are now, and means to thwart their progress would, in all human probability, soon be devised. These are the only general remedial measures that can at

present be advocated for the relief of leprosy in India. The natives of each province differ so remarkably in their habits, that facts relating to these varieties (of which we know little or nothing at present,) and their social peculiarities, must be studied before appropriate means can be applied; in some localities leper asylums would answer best, in others leper villages, but in all there is a vast deal to be done, which can only be effected by first obtaining reliable data upon which to act.

This plan is recommended with confidence, because it is a practicable one, and consistent with the nature of the case; it is simply absurd to speculate on the advantage to be derived from costly establishments and hospitals, if there is no possibility of obtaining the funds to build and support them with; but let us know exactly the localities and extent to which leprosy prevails, the feeling of the people regarding it, and if they would be likely to congregate in leper villages, and where these should be situated: exact information upon these and numerous other points of the kind would place us in a position to recommend the adoption of means which would certainly result in success. (See note at end of this report).

A work of this kind could not possibly be completed within five years, for it must be done thoroughly, if at all.

With regard to the treatment of leprosy, I have before remarked in all instances of this disease, there are marked premonitory symptoms; and in this stage its progress may be stopped by the judicious administration of arsenic, combined with the extract of neam. The chaul moogra oil is also very useful; it may be rubbed into the skin or taken internally; at the same time it is absolutely necessary the patient's general health should be attended to, all depressing influences being carefully removed, and a generous dietary, exercise, cleanliness, and fresh air being strictly enforced. If leprosy has become fully developed, no human skill can cure it, but much may

still be done to stop its progress, and mitigate the sufferings it causes, the drugs above mentioned being administered, and also the powdered root of the mudar. Unless, however, the poorer classes have proper establishments provided for them, as well as medicines, it is impossible to expect that they can obtain permanent relief: there is no specific for leprosy, and each case will consequently require special treatment.

I have purposely avoided making any remarks on the pathology of the disease, because the subject is hardly mentioned throughout the report before me. I believe, however, that leprosy depends upon an albumenoid degeneration of the affected tissues. The Norwegian physicians, as far back as 1847, had demonstrated the fact that the spinal cord, the lymphatic glands, and mucous and serous membranes, together with the outer coats of the larger vessels and neurilema of the nerves, were frequently the seat of the lardaceous growth; and more recently Dr. Carter, of the Bombay Medical Service, has noticed marked changes in the trunks of the nerves leading to those parts of the body affected with leprosy; and he attributes the symptoms of the disease to the alterations thus induced in the functions of the nerves. The pathology of leprosy, however, requires further investigation, and its study would well re-pay those who have time and opportunities to devote to the subject.

NOTE.

I am convinced these matters are well worthy the consideration of Government. British rule has doubtless done a vast deal for India; it found the country in a state of anarchy and ruin, and from this chaos order and protection have been secured to all classes; and now that peace and tranquility reign throughout the land, surely no more beneficial work could be undertaken than an endeavour to overcome the ravages which epidemic and endemic diseases annually commit among the people. Upwards of two hundred millions of human beings in this country—whose voices are never heard, who are unrepresented either by public opinion or in any other way—are dependent wholly and solely upon their physical condition, not only for their own maintenance, but upon their power to work depends the existence of their families. The father and mother (we may suppose) of a family of six children are carried off by cholera; there are no poor laws, no work-houses, no charities from which their orphan children can receive relief; their relations may help them as far as practicable, but they again live from hand to mouth, earning only just sufficient to keep them going, so that in the vast majority of instances, the sickness or death of parents among the lower classes is followed by the death of those of their children who are unable to work for themselves. Not only is an amount of untold misery thus caused, but the State loses a vast store of force which was never created to be squandered in this way. Taking, therefore, the lowest and most sordid view of the matter, Government is bound to do all in its power to improve the health of the lower classes, because the fearful mortality at present existing among them is a direct and positive loss to the State.

These ideas have been reiterated by Indian medical officers for the last century; and yet, up to the present time, not even an attempt has been made to compile a history, nor have we gained the slightest clue to the causes which give rise to or diffuse these fearful epidemic diseases. It is true there has of late been an effort made in this direction as regards our European troops, and with a sanitary commission to back the advice of able medical officers, much has been done, and a vast deal more will be done, for our troops; it cannot therefore be argued that science is at fault in this matter: on the contrary, we have ample proof that when the advice of officers conversant with the science of sanitation has been adopted, sickness and mortality have wonderfully diminished. We may not be able to cure cholera, nor is it likely we ever shall hit on a specific, if we trust to the present system of firing random shots in all directions at it—every man having a theory of his own on the subject. But it is more than possible we should be able to prevent the inroads of cholera, if we carefully studied the circumstances of the progress of the disease, especially among the natives. There is no short road to knowledge; but a patient and well directed course of investigations would certainly lead to the elucidation of the truth. Nothing, however, has as yet been done in this direction. Every civil surgeon knows that hardly a year passes without a wave of cholera spreading over his district; those only, however, who have watched the fearful desolation which an epidemic of the kind causes, can realize its extent. It often happens, when cholera fixes itself on a village, that in three or four days every house in it loses one or more of its inmates; the disease increases, and those who remain are often seized with a panic, and the place is deserted except by the dead and dying. *This goes on year after year throughout the length and breadth of India, and yet, as far as I know, not the slightest official notice is taken of it.*

The argument thrown in one's teeth is, what can you do for the natives, they are so apathetic, dirty, and prejudiced, it is impossible to help them; cholera pills are distributed through the police (who, however, never give them away unless they are paid for them); and what more can be done? Certainly nothing, unless an effort is made, but as yet nothing worthy the name of an attempt has ever been made in this direction. It will be distinctly understood I am not now discussing the means to be taken for the cure of a person attacked with cholera: our endeavours should be confined in the first instance to discover the laws which govern the spread of this disease, and, then to its

prevention; but taking into consideration the fact that we have no evidence to enable us to arrive at a safe conclusion on the subject, it is absurd to talk about the natives refusing to profit by our instruction. It would be far wiser to accept our position and plead ignorance, rather than rest upon theories. We are apt to talk about malaria, the poison of cholera, and so on, as if we knew all about them; one man accounts for an epidemic from over-crowding, a second from bad water, and a third from the effluvium from decaying animal matter; if all these exist together, the cause of the disease is supposed to be positive and plain enough: but when one meets with isolated cases occurring under entirely different circumstances, our friends console themselves by saying —"Instances of this kind will occur, there is no accounting for them." No doubt cholera often breaks out when a vast number of natives are congregated together, as Dr. Montgomery, of the Madras Sanitary Commission, has shown in the case of the meeting at Conjeveram; but a case of this kind must be analysed before we can consent to attribute the cholera to over-crowding. How many of these 200,000 strangers would have had cholera had they remained in their own houses, and exposed themselves to the depressing and other influences he describes as prevailing among the assembled throng at Conjeveram. If we could ascertain this point, we should be in a position to consider the influence which the aggregations of these people together might have had in causing the development of cholera among them. The Government has the means, however, at its command for collecting evidence, and establishing facts, bearing upon all the points necessary to the elucidation of the laws which govern the diffusion of epidemic diseases. There can be no doubt that cholera and other epidemic diseases abound in India, while the whole of this enormous country is directly under the supervision of the civil and medical officers of Government, so that the field from which to collect facts is unlimited. A proof of the ability and willingness of civil surgeons to enter on investigations of the kind is apparent from their reports on leprosy; the materials constituting this large volume were collected in a very few months from them. I simply refer to it as a proof that, when civil surgeons feel that their work will be appreciated, and that they are not simply asked a string of questions, the answers to which will never be made any use of, they are ready enough to respond to the call. So far, therefore, the Government possesses a highly educated set of medical officers, scattered throughout every part of their dominions, who will work for the advancement of the

important subjects above alluded to; and, as I have before observed, if their returns were made to the superintending surgeons of the division, this officer being enabled to perform functions similar to those carried out by our health officers at home, and if the result of the combined annual reports for the whole of India were compiled by a registrar general, an amount of information would in a few years be collected, which would certainly lead to the most important results, and that with but little cost to Government.

The want of statistics would doubtless be felt as a great evil, but much might be done in the rural districts to obtain these, and surely a work of the kind might progress to a vast extent without waiting for statistics, which, after all, are frequently used in a very illogical way, and the health officer, in conjunction with the magistrate, could do much towards arriving at a proximate conclusion upon these points, in their annual tours through their various districts. My object is not, however, to enter upon details; these ideas have frequently presented themselves to my mind, and the utter absence of any provision, or positive knowledge as to the condition of lepers in India, as shown by the report I have lately been studying, has led to the above remarks on the subject; the pith of which is, that the functions of Government in a country like this (as applied to the lower classes) do not end in making laws and regulations; life and strength are far more important to these poor creatures, and it is undoubtedly in the power of the legislature to mitigate an enormous amount of the disease at present existing from epidemic causes; bearing in mind always that as yet nothing has been done in this direction, and that a well-organized and patient investigation into these matters would confer a blessing on the masses in India, which no amount of laws, education, or anything else can possibly give them.

LETTER FROM DR. HILLEBRAND.

(Of Honolulu, Sandwich Islands.)

Calcutta, February 3rd, 1866.

Dear Sir,—It is with the greatest interest that I have read the manuscript of your review of the reports on leprosy, the more so, as the conclusion you arrive at substantially agrees with the opinion which I had formed myself on the subject, from facts brought to my knowledge on a new and distant field of observation. In particular, I was glad to see you recall to the attention of the profession the powerful lessons to be drawn from the study of the history of the disease in the middle ages, during its inroad upon the nations of Europe.

The arguments which you have drawn from a critical examination of that history can hardly be gainsaid. It is during the invasion of new countries and fresh nations by obscure diseases, that the laws of the same can be most easily traced, because a starting point, with regard to time and place at least, approximately may be found out, from which the further growth and spread of the disease can be tracked. These conditions given, the laws by which the multiplication of the disease takes place become more manifest. It is on this account that I consider the study of the leprous invasion of Europe in bygone centuries of such great value for elucidating the question at issue; and it is for the same reason that I attach great importance to the facts which I am about to bring to your notice.

In the Sandwich Islands, where I have been living ever since 1851, practising the profession of medicine, and to a great extent among the natives of the country, leprosy was unknown before 1859, and after close scrutiny cannot be traced further back than the year 1852, or at the most 1848. A recent census, taken by the Government, established

the number of lepers to be about 230, out of a population of 67,000 natives, or nearly 3½ in one thousand. As I have good reason, however, to believe that only cases with marked tubercular development have been reported, the simply anæsthetic form not being generally recognized as being of leprous character, this estimate falls rather short of, than exceeds, the reality, which may safely be estimated at four in every 1,000. The character of the disease was first recognized in August 1859, shortly after the establishment of the Queen's Hospital and Dispensary. It then occurred to me that I had met with similar cases occasionally, but rarely before, the first of which I could recollect as far back as 1853. Further inquiry among the natives at large brought to light that a few had been observed in 1852 and 1851; and an old chief, well versed in the history of his country and in everything pertaining to his countrymen, referred the first case known to him to the year 1848. In 1859, when I first brought the existence of lepra amongst our people to the notice of Government and the public, only a few cases became known, but with every subsequent year the leprous patients presenting themselves at the public dispensary increased in number, until during 1864 and 1865 it was considered of quite ordinary occurrence that lepers should apply for relief. It is worthy of notice that, soon after the character of the disease became known, the native began to call it "mai pake," the Chinese disease. Whether this name derived from a belief that the disease had been imported through Chinamen, of whom there have been a considerable number settled at the island for years, or if it simply owed its origin to the circumstance that they learned from the Chinaman that the disease was common in China, I have not been able to ascertain.

Here then, we have the important fact of the leprous disease introducing itself amongst a clean nation, spreading slowly at first, so as not to attract attention for many years, but multiplying faster as years roll on, until, after the lapse of at most seventeen years, it has invaded almost every district of our island group, alarms the people, and seriously occupies the attention of the Government and Legislature, who, during the session of 1865, voted the comparatively large sum of 30,000 dollars for the establishment of a secluded hospital and a leper colony, in an isolated locality on one of the smaller islands; in fact, it is regarded as a national calamity. And mark well, in all this hereditary taint, from the nature of the case, has no share, or if any, only a most subordinate one. I can only remember a single child under the age of 6 years, among the great number of cases which have come

under my observation. Only one instance, where father and child were effected, can I recall to memory, and in that case the child was born clean, before the disease had broken out in the father.

The question next arises—Have changes taken place in the habits or ways of living of the people, for the worse? Do they live on poorer and less wholesome food now than formerly? Are they clad more scantily? Do they live in worse constructed houses? in a word, are they exposed to the inclemencies of the weather? Are they borne down by oppressive taxation, by forced labor, or anything tending to lower their vital forces, and thereby to prepare a soil well adapted for the spontaneous generation of such a disease? Quite the reverse; on all these points they are better off now than at any time before. Their food is the same which it used to be, *viz.*, a paste formed of the tuber of the colocasia esculenta, a tuber richer in gluten than any other. The country is well stocked with cattle, sheep, pigs, fowl, fish, &c., and animal food is within the reach of every one; for labor is in great demand, and highly paid. While, in former times, a girdle round the loins constituted their whole wearing apparel, now they are decently dressed like Europeans; their former dark and damp straw-huts are rapidly making room for pretty wooden structures, raised from the ground, and well-aired. The climate is perhaps the finest in the world, the thermometer ranging between a minimum of 60° and a maximum of 88°, the trade winds blowing uninterruptedly during summer; malaria is all but unknown. They live under a free constitutional Government; and taxation is light. It is true, syphilis has, as in most Polynesian tribes, sapped the life of the nation, and is the main cause of the lamentable decrease of the population; but syphilis and the decrease of population were going on long before the appearance of leprosy, and are making less progress now than before. And moreover, although lepra invading a body tainted with constitutional syphilis, or having syphilis implanted upon it, assumes a more virulent character, it has been found impossible to make out a a specific affinity between the two dyscrasies.

It is also a notable circumstance, that a considerable number of those affected, and some even of the worst cases, belong to the better class of natives, who are well off in every respect.

As to the mode of diffusion over the group, I have been able to gather a few important facts. The first leper seen by me in 1853 lived then in a thinly populated district of the island of Oahu, about twenty miles from Honolulu, in a small village near the sea. When, in 1861, I made inquiries about this man, I learnt from the most trustworthy source that he

was now in a far advanced stage of the disease; and that in his immediate neighbourhood, six other persons had been taken with it. The same thing was observed in the district of Northkona Hawaii, where, towards the end of 1864, about seven cases became known, six of which were reported to have contracted the disease in the village of Kaslua, the tax-collector of which place had, for several years, been the only leper in the district. It must be observed here, that the natives are of very social disposition, much given to visiting each other, and that hospitality is considered as a sacred duty by them. Honolulu, the principal sea-port and the capital of the kingdom, of course contributes the largest number to the official lists, while one or two of the remotest districts of Hawaii, which have but little intercourse with the rest of the group, were, at the time that the census was taken, yet exempt from the disease. With the patients presenting themselves at the dispensary of the Queen's Hospital, I have made it a rule to ask to what cause they severally attributed the origin of their disease. About one-fourth avow contact with other lepers as the cause, a proportion which may be considered high, considering the shortness of time that the disease has been known, and the long term of incubation, during which the poison must lay dormant in the body before it manifests itself.

In one family I hear, of a brother, a sister, and all individuals between 14 and 35 years, hereditary taint is of course out of the question. It is well to remark that all these observations refer to tubercular leprosy, which, in an overwhelming majority of cases, has been found combined with anœsthesia, either in the extremities, or in the affected parts themselves, and generally associated with squamous eruptions of the skin—psoriasis. The tubercular affection does not confine itself to the cutis, but can be followed up the nares, producing ozœna, and to the palate and epiglottis, causing sometimes death by laryngeal phthisis. It appears on these mucous membranes under the form of small lenticular or pisiform knobs which undergo a gradual ulcerative absorption, but never form large or deep corroding ulcers, as does syphilis, from which also the cicatrices are entirely distinct. Simple anœsthesia of particular nervous provinces in the forearm, particularly the ulnar, with contraction of one or more fingers, but without any ulceration of the effected skin, I have occasionally observed also, but their leprous character was not fully acknowledged. Since I have visited China and India, however, all doubts on that point have disappeared from my mind.

Without indulging in loose speculations about the nature of the contagion, supposing such to exist, I believe myself borne out by facts when I attribute to it the following character:—

1.—It must be of a fixed nature, either solid or liquid, not diffusible through the atmosphere. 2.—It has an unusually long period of incubation. 3—It cannot take root in every constitution; or, in other words, some men possess an immunity from its attack. These three laws or characters all tend to beset the investigation of the subject of contagiosity with difficulties, and are as many sources of error. If we could resort to inoculation, all these doubts might be cleared up; but fortunately or unfortunately, there are few bold philanthropists like a late Pasha of Egypt, who placed condemned criminals at the disposal of a physician for the purpose of being experimented upon by the inoculation of plague virus. And yet the results to be obtained from a systematic inoculation of leprous products might become of immense value to mankind, as they would either point out a certain way of protecting society from the ravages of this loathsome disease, and finally eradicating it, or would at once, and for ever, put a stop to all useless measures tending to increase the already great misery of the poor, afflicted by additional restraints and disabilities. In some countries, the belief is prevalent that poultry and pigs are liable to take the disease; it would be well to make inquiries on the subject.

That the contagion must be of a mixed nature, I believe all advocates of its existence will admit at once. I have never heard of a case sincerely brought forward, in which the disease was said to have been communicated without contact. I venture to add that it requires prolonged contact, or may be, reception through an abraded surface, in order that it may become active. Perhaps also, it requires a particularly favourable condition of the nervous system, as may be supposed to exist during the state of general excitement accompanying cohabitation.

On the second character, that it has an unusually long period of incubation, it will be necessary to speak more at large. The periods between the time that the germ of the disease is said to have been contracted, and the real outbreak, extend, according to the patient's own statements, from a few months to several years. This length of incubation is a great anomaly in the history of contagious diseases; it finds its only distant parallel in rabies canina, in which the attack has been reported to follow the animal's bite, after the lapse of nine and even twelve months. It is true that, in such cases of rabies, an explanation has been attempted, by supposing that the virus lay encysted, and thereby isolated from the

inoculation, until, by some accident, it were set free. But we are forced, any how, to believe that the germ of the disease can lay dormant in the body for an indefinite length of time, even if we exclude the doctrine of contagion; for, in a great number of cases which are set to the account of inherited predisposition, the disease did not show itself till after the patient had passed his 25th, 35th and even 45th year. Nay, more, it is asserted by many, and probably, correctly, that the disease may remain latent through a whole generation, and only revive in the next one. It is true that this circumstance would approach the laws of our disease to those which rule in the albuminous dyscrasies—scrofula and tuberculosis—and this much the contagionists will have to concede to their opponents. Another very momentous question, however, will then arise—May not an originally contagious disease by passing through one or more generations transform itself into a hereditary dyscrasy? Take syphilis for example.

As I have alluded to inoculation before, let me relate to you a fact which was communicated to me in Batavia, at the office of the chief of the medical service, by a medical man, himself a strong antagonist of the contagious theory. The case is said to be well known in Batavia, as it affects a member of a respectable family. In Portianak, Borneo, a child, about 9 years old, of pure European parentage, in which not the slightest trace of hereditary taint existed, was in the habit of playing with a leprous child of color.* During play, the leprous child took a pin or a penknife (I do not remember which) and thrust it into the anæsthetic diseased skin of his leg, without expressing any pain. The astonished white child asked for the pin or knife of his playmate, and tried the experiment on himself, thereby causing himself severe pain, so as to impress itself strongly on his memory. Some time after, the child was sent to Holland to be educated, there studied law, and when nineteen years old, returned to Java a confirmed leper. The disease had appeared in him two years before his return. The latter circumstance is an acknowledged fact, as the gentleman is well known in Batavia, and his affliction has been the object of universal sympathy. Was this a case of inoculation? I admit that the data given are not sufficient to warrant this conclusion, but certainly it has been contagion; and in one case or the other, the period

* The Nolvera Islands have, of all Dutch possessions, the greatest number of lepers. The disease has existed there from time immemorial, has leavened, as it were, the whole native race, and is not considered contagious. The lepers are not sequestered, but freely live and associate with the sound part of the population.

of incubation must have extended over several years. As I received this communication only two days before my departure from Java, I have not been able to make further inquiries into the details of the case, but I consider it of sufficient importance to deserve the fullest investigation.

That not every one is liable to receive the contagion, must be admitted by all who believe in its existence. In fact, the strongest arguments of the opponent are derived from observations falling under this head. One of the strongest cases was related to me in Java by a medical man, who had been a resident of Ambon. A Dutch missionary, long a resident of that place, married twenty years ago a half caste woman born there. At the time of their marriage, she was sound, although leprous taint existed in her family, but two years after the disease broke out in her. The good *domine*, partly from genuine affection, partly from religious motives, did not set her aside, but has continued to live with her up to this day. They have had several children, two of whom are lepers, but the husband has remained sound. Dr. K. B. Stewart, of this place (Calcutta), told me of a dresser in the Leper Asylum, as referred to in his report, who is still clean, although he has followed his present avocation over twelve years. But it must be remembered that in inquiries of this kind, one positive case outweighs a dozen negative ones. Thus within the last few days, Dr. Stewart, on making further inquiries into the history of Soomer dressers in the same asylum, has elicited the startling fact that two of them have really contracted the disease there. An analogous fact I have from Dr. Greiner, now in Bintenfore. About four years ago, the Government placed him in charge of a small hospital for lepers, at Malany, in the eastern district of Java, that he might test the effects of hydropathic treatment on the inmates. Not only his chief dresser, who was of a clean family, contracted the disease there, and died of it, but he, in his turn, communicated it to a relative of his. It ought to be borne in mind that exceptional instances of immunity have been recorded from almost every contagious disease, not excepting small pox, the most virulent of all.

There is yet one feature in the natural history of the disease which ought to engage the closest attention of medical men. I mean the part played in it by the nervous system. That the peripheric, sensitive, or cutaneous nerves are deeply affected from the beginning, the anæsthesia which is hardly ever absent entirely in either of the two forms, clearly shows. Dr. Carter's most valuable anatomical researches have demonstrated a complete shrinking of the neurilemma, with disappearance of the nervous fluid in some of the nerves of the extremities. That the motor

nerves do not escape the influence of the disease, appears from the contraction of the fingers, which is often one of the first symptoms; and in the simply anæsthetic form, unaccompanied by any alteration of the skin or underlying tissues, it is mainly owing to paralysis of the extensor muscles. The nutrition of the extremities suffers next; the skin becomes harsh, scaly, and desquamates. The muscles of the hands and bones of the fingers begin to waste; the cellular tissue either shrinks or becomes thickened, causing adhesions between the skin and aponeuroses, thereby increasing the contraction. All this indicates a deep affection of the nerves, to which cause I also refer the ulcerations around the nails and in the creases of the joints of the fingers followed by the loss of the phalanges, when it occurs in the simply anæsthetic form, without being preceded by tubercular knobs or patches. It is absorptive ulceration from atrophy, from waste.

In the next place our attention is fixed by the fact that, from the beginning, symmetrical nerves are apt to be affected, either simultaneously or successively. Thus, for instance, the parts supplied by the ulnar nerve (generally the first one affected) become anæsthetic, and the fourth and fifth fingers contracted on one side, and soon after the ulnar nerve of the other side becomes similarly affected. The same thing I have observed in the peroneal nerves. The development of tubercles also follows, in a measure, the same law.

They will often appear successively in symmetrical parts of the face, or on the malar eminences, or over the eyebrow, their favourite *point d'attaque*. In the leper village at Canton, I saw one man who seemed to have lost sensation of pain, on being pricked over the entire surface of his body.

Taking all these facts together, we are led to ask ourselves—Do in reality the nervous centres remain intact? Is not one or the other of them, however inappreciably to the dissecting knife (Dr. Carter never found them altered), invaded by the disease in the first insta ? Does not nutrition begin to suffer as soon as the sensibility? I am led to ask these questions, because in the leper asylum of Canton I have seen a considerable number of hemiplegic, besides amaurotic, and in some a mental condition bordering on idiotcy.

One concluding word with regard to my experience on the subject of treatment. Disappointed, like every one else, as to final results, I have only found aggravation of the symptoms to follow systematic administration of mercury. A course of purgatives by cream of tartar and jalap, in one recent case, would temporarily restore the lost sensibility of the forearm. Arsenic generally had some good effect, but a better one than from this remedy I have seen from the prolonged administration of nitrate of silver. The idea that a disease which has a tendency to deposit its products in the chorion or cutis, primarily, might most successfully be attacked by an alterative which has a preference for the same organ, is not very far-fetched. Besides, argenti nitras is a powerful tonic, and exercises an unmistakable influence on the nervous reflex-action, as in epilepsy. In one of the worst cases, a systematic administration of this remedy produced a complete arrest of the disease, which lasted more than one year; in many others amelioration followed its use. I commence by giving one-tenth of a grain three times daily, and gradually increase, until quarter and even half grain are reached, which occurs about the end of the third month.

If after four or six week's continued administration, no manifest improvement takes place, I generally abandon its use. From copious draughts of cold water, six to eight tumblersful daily, I have also seen some good effects.

In placing these lines at your disposal,

I have the pleasure of being, Dear Sir,
Yours most faithfully,
W. HILLEBRAND, M.D.

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PAMPHLETS

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