with the promulgation of indifference and scepticism. It seems to me to be indeed the duty of true science, and more especially the science of man (physiology), to distinctly define her position with regard to this great question, to secure to wavering mankind the scientific basis of faith and religion, and to demonstrate conclusively the origin and rationality of belief. At a time when so-called science is credited with the most incomprehensible absurdities, a clear and distinct definition of the true scientific state of the question becomes again and again necessary, and many are hoping with me that in the name of the profession you will once more sound the voice of reason, of common sense, and of science. I remain, Sir, your obedient servant,

March, 1882.

VERITAS.

THE RED CROSS SOCIETY v. THE INTERNATIONAL MEDICAL AID SOCIETY.

To the Editor of THE LANCET.

SIR,—Permit me space to call the attention of intending competitors for the prizes offered by the International Committee of the Red Cross Society to the following facts: that a large number of both imperial and colonial troops is more or less constantly employed against wild savage foes, who never give quarter and never expect it (fights or battles with these savages generally take place either in the bush, jungle, or on the rocky precipitous sides of mountains, and most of the wounded fall in such places); that the troops so engaged take the field with only absolute necessities, and sometimes without medical aid; that there is nothing within reach for "improvising the means of transport of the sick or wounded"; that hitherto "art" has not been of much avail in this direction—i.e., in the kind of wars I refer to, and all the skill practicable for the instant removal of the wounded from the savage enemy is generally centred in some personal act of bravery, or strength and coolness of a comrade, as is instanced by the following gallant conduct. Surgeon-Major Hartley, V.C., Cape Colonial Forces, removed several wounded men, shot down at an advanced post on a ridge of a mountain, by placing the patients across his knees and sliding slowly down the dangerous rocky path; this position offered a chance of cover to both patient and bearer. Still, even in this manner, one wounded man received a second shot whilst being conveyed to shelter. Another instance was that of Mr. Orpen, the governor's agent in Basutoland. This gentleman removed a wounded man from under a severe fire by placing the patient on his (Mr. Orpen's) back, and by crawling along the ground to a place of safety.

Now, Sir, most authors when dealing with subjects mentioned for prize essays generally refer to wars in civilised countries, where plenty of material generally exists to work upon; but in the wars I refer to there are usually no materials to work upon. Sometimes a blanket, a water-proof sheet, an ox skin, and a water-bottle or brandy-flask, and a few bandages may be obtained; but the first-named would not be of service in cases I have quoted. I trust, therefore, that intending competitors for the prizes now offered by the International Committee of the Red Cross Society will not overlook the point I have ventured to mention.

Further, *à propos* to this subject, I believe if the International Committee of the Red Cross Society would but take in consideration some vast scheme for forming depôts of medical and surgical appliances or comforts for the aid of the sick and wounded in war, with the ultimate view of relieving parsimonious Governments and all army medical departments altogether of the responsibility of providing medical and surgical appliances and comforts or equipment generally, that great international army medical relief reform would be effected, and that we should not hear of appliances running short, or of supplies being exhausted, or medical departments coming to grief (which means increased bodily suffering of the sick and wounded) any more. In civilised war friends and foes can have but one common interest in their sick and wounded, and by the aid of this scheme both sides could draw their supplies from one common centre.

Again, this huge plan might develop itself into one vast International St. John's or St. Mary's Medical and Surgical Aid Society or Red Cross Society, absorbing all other societies of the like character, the red cross being the doctors' flag, the white cross the sisters' or nurses' flag, and the blue cross the equipment flag, or signs of departments.

Lastly, the various depôts might establish exhibitions of inventions and appliances, offer prizes for the best essays upon army medical organisation in times of peace or war, and for original inventions, &c., form schools of instruction, read papers, encourage discussions, publish transactions, and distribute gold, silver, and copper medals in a similar manner to other learned societies.

The scheme could be one vast measure of centralisation, to grasp one universal common cause, interesting alike to all nations and tongues of the world where Christianity exists.

I am, Sir, yours obediently,

South Africa, Feb. 18th, 1882. S. CARTWRIGHT REED, M.D.

"THE CAUSE OF THE DUCHESS OF CONNAUGHT'S ILLNESS."

To the Editor of THE LANCET.

SIR,—*A propos* of Dr. Playfair's "Note on the Sanitary Condition of Bagshot Park," which appeared in THE LANCET of March 18th, the following short account of the sanitary arrangements of a detached villa, which I was called upon to inspect a week ago, may be considered interesting. The house is a good one, built a few years ago, regardless of expense, as a residence for the late owner and his family. The present tenant left his last house on account of its defective sanitary condition, and was assured on taking this one that he might rest thoroughly satisfied that everything in connexion with the premises was complete and perfect in every way. After a short time, however, the members of the family became conscious of an offensive smell in the house, and several of them got out of health, suffering from lassitude, general malaise, drain throat, &c. I was then requested, in my official capacity, to investigate the sanitary arrangements of the house, and with the following result.

In the cellar, in which the smell was most offensive, the flags were raised, and a horrible cesspool of sewage was exposed. The butler's pantry is above this cellar, and the waste-pipe from the sink in it was found to pass just through the outside wall of the house, and end there without any connexion to a drain. The result was that all the dirty water which ran from this sink since the house was built, seven years before, had percolated down and through the wall of the house, and underneath the foundations, forming the cesspool of sewage mentioned. Two feet from the end of the defaulting waste-pipe was found the pot-pipe drain, which had been specially laid to receive it, but, owing to gross carelessness, the connexion had never been made. On further investigation, there was found immediately underneath the cellar flags, and running all the length of the house, an open stone drain, which communicated directly with the sewer, and which received in its course an untrapped waste-pipe from the wash-kitchen sink, a large untrapped overflow-pipe from a cistern in the attic, and three untrapped drains from open grates in the larder and other cellars. The waste-pipe from the scullery sink communicated directly with the sewer, the pot-pipe which received it coming inside the wall of the house. Opening from the scullery was a watercloset for the servants, with the soil-pipe passing down inside the wall of the house, and ventilated only by a small fall-pipe from the scullery roof, the upper end of which fall-pipe opened directly underneath a bedroom window. The overflow-pipe of the cistern for this closet, which was immediately close, passed directly into the soil-pipe. On the first floor was another watercloset, with soil-pipe unventilated, save by the overflow-pipe of its cistern, which passed directly into it and conveyed its gases into the attic. The soil-pipe received also the waste-pipe from a urinal. The waste and overflow-pipes of the bath were found to be untrapped, and they discharged into a fall-pipe, which communicated directly with the sewer. The waste-pipe of a wash-basin in the bath-room was trapped, but it opened into the waste-pipe of the bath, and its trap was, of course, unsyphoned every time that the bath was emptied. The waste-pipe of a wash-basin in one of the bedrooms passed directly into the sewer. The pipes which conveyed the rain from the roof of the porch passed directly into the sewer and ventilated it underneath a bedroom window. These arrangements speak for themselves. From the cellar floor to the roof this house was pervaded by an atmosphere of sewer-gas. Similar arrangements, I have no doubt, exist in thousands of well-built modern villas, where they are least suspected,

as well as in humbler dwellings. It is probable that hundreds of deaths are due to them every year. It is to be hoped, then, that Dr. Playfair's note, and the notable circumstances under which it was written, may be the means of directing more general attention to the fact that many diseases are caused and many aggravated by the presence of sewer-gas in our houses.

I am, Sir, yours truly,

W. J. SMYTH, M.D.,

March 18th, 1882.

Medical Officer of Health, Shipley, Yorkshire.

THE CHEMICAL LUNG.

To the Editor of THE LANCET.

SIR,—In your account of the demonstration given at my house, showing the power of the chemical lung as punkah in cleansing the air of sick rooms and other places, no allusion is made to the mode by which I would guarantee to purify any tunnel or large building such as a theatre or a church.

The tunnel air can be readily and satisfactorily purified by being passed through a carriage specially provided with trays of slacked lime, or it could be driven through a travelling tank by the aid of a fan, worked by the wheels on which it rides. The punkah plan is not adapted for very large quantities of air; but one that has been at work for many days in a mission-room crowded with poor people has rendered the air, which was previously most objectionable, cool and pleasant.

In the case of large buildings, the air would be sucked out by means of a fan, passed through the chemical solution, and reintroduced in such a manner as to avoid draught, and having its temperature regulated at discretion.

I am, Sir, yours truly,

RICHARD NEALE, M.D. Lond.

Boundary-road, South Hampstead, March 31st, 1882.

"AN EXTRAORDINARY MORPHIA CASE."

To the Editor of THE LANCET.

SIR,—I am glad to see that the publication of my morphia case has induced Dr. Cass to record a greater, as far as mere quantity of the drug is concerned. It behoves all those who can authenticate the amounts to publish their cases if they are at all extraordinary, and not to do so only when they think they can beat the "greatest on record." Quantity is only one point in such a question. De Quincey ate three hundred and twenty grains of opium a day, equal to (say) thirty grains of morphia, and are no scores below this worthy of note? I am aware that twenty grains of morphia a day have many times been administered hypodermically, and as a *dernier ressort* in cancer cases large doses are often given, and are without doubt justifiable. In painful diseases there is usually great toleration of opium, as of alcohol in syncope, but absence of pain considerably alters the question.—I am, Sir, yours truly,

PERCY BOULTON, M.D., M.R.C.P. Lond.

Seymour-street, Portman-square, March 25th, 1882.

ETIOLOGY OF TYPHOID FEVER IN INDIA.

To the Editor of THE LANCET.

SIR,—Of the various subjects which were discussed in the military section at the Medical Congress none is of greater interest than the above. Important in itself, it is rendered more so by some of the theories which have been advanced and your comments on them, for in scientific medicine a theory means a basis for a line of treatment, which latter must be wrong if the theory on which it is based be erroneous. Surgeon Martin put forward the theory that the climatic condition of India caused increased hepatic action, with a subsequent reaction, in which the liver was not properly performing its functions, and that to compensate for this latter state of the liver certain intestinal glands became more active, and performed vicariously a compensatory action for the shortcomings of the liver; that this state of abnormal activity in the intestinal glands led to congestion, inflammation, and the production of the peculiar ulceration pathognomonic of typhoid fever.

If this theory be true it deserves to be widely known, for I apprehend that its practical application would mean the careful watching of the state of the liver of all soldiers arriving in India until what I may call the typhoid period has passed, lest disorder of its functions and vicarious action of the glands may set up typhoid fever; and if it be not true, the sooner it is discarded the better, as it may have the effect of preventing inquiry after causes which are proved to have intimate relation to the occurrence of this fever. You remark that this theory serves to explain those cases of typhoid fever which cannot be traced to filth causes; but does it? I am unaware of one fact to support it, but there are many with which it is completely at variance; for instance, on what grounds is it stated that the glands affected in typhoid fever are capable of acting vicariously for the liver? To me it is a new physiological doctrine. Again, all writers are agreed that the lesion of the intestinal glands is but the local expression of a general state existing in the system, and does not take place till the fever has existed for some days; but Surgeon Martin's theory would make the glandular affection the starting-point, and would hold the local lesion responsible for the specific constitutional state, whilst the best observers hold exactly the opposite opinion. Many cases of small-pox occur which cannot be traced to the specific cause in any way, and it would appear quite as reasonable to say they were of climatic origin, and take the pustule or papule as the starting-point, as to hold this theory of the origin of typhoid fever.

If this liver and climatic theory be right the natives of India should suffer much from this fever; but that they do not is notorious, and some even deny that they suffer from it at all. But the latter statement is not true, as I have seen undoubted cases, verified by post-mortem examination. Soldiers ought also to suffer more than they do, as they are all exposed to the climatic conditions which are supposed to cause it. Soldiers suffer most during their first year of service in India, less in their second, and extremely rarely in their third. Speaking generally, the longer a man resides in India the more his liver becomes deranged, and we should expect to find more vicarious action and consequent typhoid fever; but this is exactly what we do not find, nor is functional derangement of the liver a symptom observed to precede typhoid fever.

Surgeon-General Maclean's doctrine of the ever-pythogenic origin of this fever has much evidence in support of it, whilst the theory of its other than pythogenic origin is, to say the least, questionable, and rests mainly on negative proof. That we should be always able to trace the pythogenic cause is not at all necessary to prove its presence, for it would be as logical to deny the specific nature of small-pox because we could not trace the origin of a case to its specific contamination. That the natives of India suffer from typhoid fever is now pretty generally admitted, and this fact, read by the light of Pasteur's wonderful statements relating to the manner in which disease germs may lie dormant and the strange manners in which they may subsequently be brought within striking distance of their victims, should at least make us pause before advancing theories opposed to much weighty evidence regarding the causation of this fever.

That the insanitary starting-point of this fever should always be sought for *outside* the body of the patient is, I am convinced, an error, for I have observed cases in which the main symptoms were foul breath, slight abdominal cramps and tenderne-s, headache and diarrhoea, accompanying intermittent fever, the true nature of the digestive troubles being revealed by a purgative, which usually brought away some undigested and decomposing animal ingesta; and is it unreasonable to suppose that such decompositions inside the body are capable of forming a starting-point for this fever? These peculiar dyspeptic symptoms, with foul eructations, were always observed amongst the newly arrived drafts, and were not observable in the case of the older soldiers, whose dyspeptic troubles, when suffering from intermittent fever, were almost *nil*. Bearing in mind this fact in connexion with the liability of the newly arrived soldier to typhoid, I think it is a question well worthy of serious consideration how far the diet of the soldier on arrival in India is suited to the altered circumstances in which his digestive powers have to act and their power of dealing with the quantity of animal food consumed before he has passed the typhoid period, most of the cases occurring during the first six months after arrival.