length of time, this being fixed on the assumption that the organic matter in the air increases at the same ratio as the carbon dioxide, but it is evident that this limit may be exceeded without damage to health when such atmosphere is only to be inhaled for a short period.

On examining the report of the Public Health Committee, it will be noticed that the carbon dioxide was highest in the air of the carriages, and that the air in the lifts also contained a larger quantity of carbon dioxide than the passages leading to them, showing that, as might have been expected, the enclosed areas in which respiration was taking place contained the largest quantity of carbon dioxide.

Before it can be assumed from this that the impurities found are due to want of ventilation in the tube, it should be clearly shown what the comparison is between the carbon dioxide and organic matter present in a carriage on the tube, and a carriage (say) on the North London Railway during the busy hours of traffic, or even in some London theatres towards the close of a performance, and it will probably be found that the difference which exists is very small indeed.

The real hygienic value of the report centres in Dr. Andrewes's summary of his results, in which he concludes that while micro-organisms are present in the tube air in a somewhat greater proportion than in fresh air, *i.e.* 13 to 10, the excess is not so considerable as to cause the tube air to compare unfavourably with the conditions known to exist in inhabited rooms generally. The highest averages of micro-organisms were found in carriages and lifts, *i.e.* in the most crowded places examined, whilst the platforms and passages came out actually better than the fresh air, the tunnels being only a little worse.

If we consider this as well as the fact that the Central London Railway Company is taking steps to improve the ventilation of the tunnels by installing a large rotary fan at the Shepherd's Bush end powerful enough to draw out the whole of the air in the tunnels three times over during the period in which traffic is stopped, and is installing at the Bank station an air compressor for forcing fresh air into the extreme end of the Bank sidings, it seems clear that the facts of the case do not call for any active interference on the part of the authorities, especially after the atmosphere existing in the Metropolitan Railway between (say) King's Cross and Baker Street has been patiently endured for so many years.

## *THROUGH PERSIA AND BALUCHISTAN.*[1]

UNDER a somewhat quaint title, Mr. Landor describes a journey through Persia and Baluchistan to India. He is a keen observer, and, throughout his two large volumes, he writes pleasantly of his experiences on the road, and of much that he saw and heard by the way. He is a little inclined to dwell upon the discomforts rather than upon the pleasures of travelling, and to get excited over "a prominent geographical society," "royal geographo-parasites," and "newspaper penny-a-liners," but he is always amusing. He gives his views with great frankness upon the social condition of Persia, so far as he became acquainted with it, and upon questions of trade, education, and politics. He writes strongly upon the struggle between England and Russia for political and commercial supremacy in the kingdom of the Shah, and gives a clear idea of the smartness with which Russia takes advantage of the slowness and mistakes of her adversary.

Mr. Landor travelled *viâ* Flushing, Warsaw, and Kiev to Baku; crossed the Caspian in a Russian steamer; and, after a sleepless night on a "living" mattress, entered Persian territory at Enzeli. Thence he proceeded to Resht, and drove along the carriage road to Teheran, where he was presented to the Shah, visited several of the Persian Ministers, was present at the birthday festivities, and saw all that is most worth seeing in the capital. An interesting lescription is given of the Shah's palace and gardens and, in some remarks on the Persian army, attention is drawn to the great difference between the "Russian-drilled Persian Cossacks" and the infantry soldiers. From Teheran Mr. Landor followed the post road to Isfahan, and thence travelled *viâ* Yezd to Kerman, where he visited the deserted city of Farmidan, and the "Ya Ali" inscription. From Kerman he turned north and crossed the salt desert, Dasht-i-Lut, to Birjand, passing on the way Naiband, of which place and its people many interesting details are given. In the desert he suffered, as others have done in desert countries, from heat and thirst by day, and from cold by night. But he appears to have been more than usually unfortunate in his camels, which do not seem to have been in good condition for a long desert journey, or to have been accustomed to hill work.

FIG. 1.—South-East portion of Zaidan City, showing how it disappears under distant sand accumulations. (From Landor's "Across Coveted Lands.")

From Birjand Mr. Landor followed the well-known route through Sistan and Baluchistan to Quetta. He has much of interest to tell about the ruins of Zaidan, in Sistan, and gives several photographs of one section of them. But surely it is inappropriate to write of the place as "the ancient London of Asia," as if it were of extraordinary size and unusual grandeur. The ruins in themselves are not very imposing, and the view

[1] "Across Coveted Lands." By A. H. Savage Landor. 2 vols. Pp. xv + 927. (London: Macmillan and Co., Ltd., 1902.) Price 30s. net.

of Major Sykes that they represent villages built along the line of an irrigation canal seems more reasonable than the opinion of the author that they are the remains of a city eighty-five miles long. The ruins, however, certainly require careful examination, and such excavation as may determine their character and history.

The concluding chapters give a description of the road from Robat through Nushki to Quetta which has recently been completed with good rest houses supplied with water. It is very pleasant to read Mr. Landor's appreciative remarks on the manner in which the British officers connected with the road carry out their multifarious duties, and on the high esteem in which they are held by the natives amongst whom they live and work.

The general impression on reading the book is that Mr. Landor might have conveyed his message from much-travelled Persia and Baluchistan in a less formidable form than two volumes containing more than 900 pages. Still, the work appears at an opportune time; it gives much information in a popular form, and those who are not acquainted with what has been written about Persia will find in it much to instruct and amuse. The illustrations from photographs and sketches by the author are numerous nearly all of them are good and some are excellent. C. W. W.

## *ABANDONMENT OF THE SCHOOL OF MEDICAL RESEARCH AT NETLEY.*

THE extinction of the School of Research in Tropical Diseases in connection with Netley Hospital, and the abandonment of prophylactic inoculation against typhoid fever, the adoption of which has already resulted in a marked saving of life, have been noticed with regret by all men of science acquainted with recent advances in scientific pathology.

Mr. Brodrick's action in placing the Army Medical Service under the Advisory Board constituted, so far as its predominating civilian element is concerned, of members out of touch and sympathy with medical research, has had a disastrous effect on the future prospects of the development of scientific research in connection with the Service.

Though a large sum has already been spent on the plans for, and the foundations of, the research laboratories at the Royal Victoria Hospital, Netley, and in face of the fact that Parliament had voted 45,000*l.* for the purpose, the research laboratories at Netley are to be abandoned. More than this clinical study in tropical medicine has been eliminated from the programme of instruction for officers entering the Army Medical Service, and the scientific departments associated with the work of Netley Hospital have been hurriedly transferred to cramped and temporary laboratories in London.

The abandonment of the research laboratories at Netley, and their transfer to limited and temporary quarters in London, must be detrimental to the progress of research in tropical medicine. For, whereas the school at Netley was in connection with the Royal Victoria Hospital, which is by far the largest emporium of tropical diseases in the country, in the case of the London school, sick men must be brought from the healthy surroundings of Netley to the unhealthy town atmosphere of London if their diseases are to be made subjects of scientific study.

The retrograde policy which has thus been inaugurated shows a complete disregard for the value of scientific knowledge in medicine. Of bad omen, too, for the future of science is the placing of the professoriate under the orders of a Military Commandant, and above all the limitation of the tenure of the professorships to the ordinary three years limit as fixed for staff officers. We cannot state the case better than it is put in a letter by Sir James Martin to Sir James Clark when this question was raised and quashed in connection with the Army Medical School in 1863—quashed only to be reopened again, after forty years, in 1903. "There is no comparison, I think, between the nomination of military officers to staff offices and that of scientific men as teachers. The duties of the first-named are ordinary and every-day. The duties of medical officers as teachers of the most difficult of all sciences, including that of climate, are altogether another affair, and to change such teachers at short terms—men of peculiar and acquired excellences and experiences—would go to destroy any scientific institution whatever."

The downward course entered upon has been further signalised by the dismissal of Prof. A. E. Wright, professor of pathology at Netley, on the ground of his acceptance of a post in connection with a metropolitan hospital, a post which competent judges allege would have in no way interfered with his official duties, but might have proved valuable in providing further material for the complete instruction of his classes. But in face of the terrible lessons of the recent war in South Africa, perhaps the most serious result of Mr. Brodrick's action is the proposal to abandon antityphoid inoculation in the Army, and this, too, upon the recommendation of a subcommittee of the advisory board which considered it unnecessary either to give Prof. Wright an opportunity of appearing before it or to make for itself any statistical inquiry.

There is, unfortunately, nothing new in this country in a policy such as that we have outlined. An equally flagrant case of brain starvation is the educational vote included in the Army Estimates, where, as the *Times* points out, in a total military Budget of 34,000,000*l.* only 134,000*l.*, or about 0·4 per cent., are devoted to education. The lessons which have been learnt in other countries, where men of science are systematically consulted upon all questions the solution of which demands scientific knowledge, have led to a marked increase in their national prosperity. The rulers of our Empire will some day understand what immense loss the neglect of science entails, and until this is fully appreciated it is the duty of all who know to explain on every occasion.

As an indication of the value attached by our foremost pathologists to the work upon which Prof. Wright was engaged a Netley, we print below a letter from Dr. E. Klein, which he has given us permission to publish.

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In common with many other physiologists and pathologists in this country, I have noticed with extreme regret the omission of Prof. Wright from the teaching staff of the Army Medical Service.

Prof. Wright, by his numerous researches and valuable discoveries of new methods in the study of the physiology and pathology of the blood, by his systematic work on antityphoid inoculations, has won for himself the reputation of an original investigator of the foremost rank. Moreover, by the eminently practical work of his pupils in the Army Medical Service, he has demonstrated the great value of a research laboratory for the Army Medical Service.

Everyone interested in the advancement of medical science in general, and of the teaching of scientific pathology to our Army medical officers in particular, will gladly admit the great services which Prof. Wright has rendered while at Netley. E. KLEIN.