

travel were so great in the early centuries of our era. We read of regular posts and connected lines of open route which must have been furrowed by the feet of thousands where never a soul passes in these later days.

With new history we have also to welcome a broad expanse of new geography. Dr. Stein's methods are nothing if not thorough. We have no uncertainty as to whereabouts he found this or that most ancient site; and when he records his remarkable discovery of a long extension of the time-worn wall of China he is able to define, not only its exact position, but its geographical significance as a defensive work with regard to surrounding topography. He does ample justice to the ability of his geographical assistant, Rai Sahib Ram Singh, but Ram Singh would never have effected such results without Dr. Stein's effective guidance and active help. One hundred and thirty sheets of the standard degree size, on the scale of four miles to the inch (which is what has been secured for the records of the Indian Survey), is a solid addition to our geographical knowledge which ranks well even with his vast store of accumulated archæological lore. Perhaps the most noteworthy discovery made by Dr.

#### THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

MEDICINE is so self-centred, and its practice is conducted so largely in private, that an international congress, where men meet on a level, rub shoulders, and part again once in three or four years, is an excellent corrective. It serves the same function in the profession as is answered by a public school for the only son of wealthy parents. It is not so much what is taught as what is seen and heard. The knowledge which is obtained by conversing with men brought up in different schools of thought, under various forms of civilisation, and often with wholly divergent ideals, is in itself remarkable, and is sufficient to start new trains of thought in many lines of research. In a great gathering like the International Congress of Medicine, where five or six thousand medical men are gathered together at fixed intervals, old friendships are cemented, new ones are formed, and whilst the scientific reputation of some falls to the ground, others are exalted. The quack is taken at his true value, for his work is judged by those who know the truth, whilst the humble and earnest worker in the difficult paths of research goes home strengthened by the encouragement which he has received from fellow toilers.

The sixteenth International Congress of Medicine was held at Budapest during the first week of September. The seventeenth congress will be held in 1913 at some town in Great Britain. Budapest lends itself especially to a large gathering of foreigners. It is a splendid city, magnificently placed on the Danube, easy of access both to the northern and eastern races of Europe. The inhabitants are active, intensely patriotic, eager to show the progress that has been made, and to prove that the youngest civilised State in Europe has not much to learn, and is in some respects already ahead of the older civilisations the best points of which it has endeavoured to copy. It is, indeed, very difficult to realise that Budapest was a Turkish possession little more than two hundred years

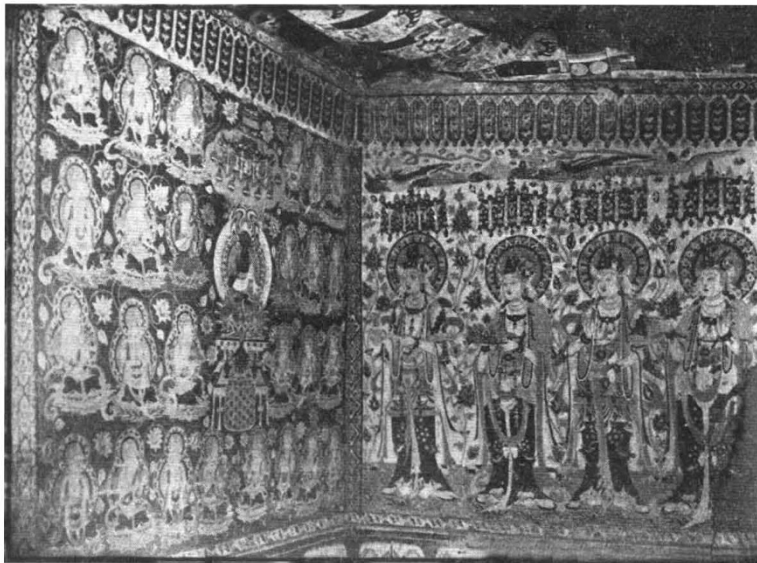


FIG. 3.—Frescoed Wall in Cave Temple at "The Ten-thousand Buddhas."

Stein during his investigations was the extension of the Turkestan basin eastwards to a point some seven degrees farther east than had been previously recorded. From the Chinese frontier town of Suchau a clearly defined line of drainage follows a course parallel to the extension of the Great Wall towards the central depression at Lop-nor; nor can there be much doubt that in the early days of Buddhist settlements in this region this now partially desiccated line of drainage marked the main trade-route from China to Turkestan. That route now hugs the foothills of the Altyn Tagh to the south between Anshi and Lop-nor, but it is a desolate and forsaken route, untrdden by the trader and unsanctified by the pilgrim.

It may be long yet ere we are able to appreciate as they deserve the discoveries and collections of Dr. Stein in relation to their bearing on the history of India; for the mass of raw material which has yet to be classified is so great as to have proved almost an embarrassment to its owner. In the meantime the short and instructive booklet on the subject now issued by the Geographical Society is well worth careful study.

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ago, though the vigilant observer will notice the very faintest trace of orientalism as he walks amongst the people and through the smaller streets of the town. For a medical congress, Budapest is ideal, because it is full of springs and baths which would in themselves have brought it fame, the Hunyadi and Apenta springs being known throughout the world.

The congress was excellently organised, and the greatest credit is due to the president, Prof. Kálmán Müller, and the general secretary, Prof. Emil de Grösz, for the manner in which they brought things to a successful issue. His Royal and Imperial Highness the Archduke Joseph, acting on behalf of the King of Hungary, was indefatigable in the cause of the congress, for he not only attended the inaugural meeting in the municipal buildings, where 5000 persons were gathered together on one of the hottest days in the year, and remained throughout the whole sitting of three hours, but later in the week he welcomed the members to the palace and spoke personally to a very large number of the more important official

delegates. He was ably assisted throughout by Count Albert Apponyi, the Hungarian Minister of Education, who made several important and statesmanlike speeches showing that he was in touch and in full sympathy with the work of the medical profession throughout the world.

The work of the congress was divided into official, sectional, and general. The official work was of unusual importance. It was decided that in future a meeting should be held once in four years instead of once in three years, as has been the case hitherto; that a permanent committee should be formed, with a president, a paid secretary, and a fixed office. Dr. F. W. Pavy, F.R.S., the president of the National Committee for Great Britain and Ireland, was nominated president, and it was determined that the office of the paid secretary should be at The Hague. By these means it is hoped that there will be a continuity of policy in the affairs of the congress which has hitherto been impossible, because there has been no permanent board to which difficulties and questions of policy could be referred.

The work of the sections did not prove of much interest, although many members attended and the papers were exceptionally numerous. The subjects chosen for discussion, like appendicitis, malignant disease of the larynx, the tuberculin treatment of tuberculosis, and uterine myomata, did not lend themselves to the expression of very novel views, and if the speakers who took part in them were not very inspiring, they were not belligerent, and the congress was spared the painful scenes which have occasionally turned the arena into a veritable battlefield.

Puerperal infection was selected appropriately as a subject of discussion. It was a tardy tribute to the memory of Semmelweis, the pioneer of modern obstetric prophylaxis, who died broken-hearted in the town where he had spent the best years of his life in declaiming against the fearful mortality of childhood and showing some of the means by which it might be avoided. He remained a voice crying in the wilderness until the end, but the statue erected by international effort, and placed in the gardens of the *Ergebter-teren*, was visited by every member of the congress, and was duly decorated with tributes from every nation.

The general addresses were excellent, and drew very large audiences, who listened most attentively. Prof. Holländer showed by means of lantern-slides some of the diseases and mutilations depicted in the records of the Incas and Huacos. Dr. Bashford, director of the Imperial Cancer Research in London, explained by similar means the present state of the cancer question, whilst Prof. Loeb, of Berkeley, made a remarkable communication upon artificial parthenogenesis.

The net outcome of the congress was the hold which the doctrine of immunity has gained upon the whole of the scientific side of the medical profession. Evidence of its importance was forthcoming from every side. There was a general discussion upon the subject. Dr. Bashford laid much stress upon it in his general address, and it formed an important factor in the work done by Prof. Loeb. It is evident that a great future lies before those who are working at the subject. At the present time there is much confusion and overlapping, a jargon of confusing terms masks the principles, but it is clear that before long the whole theory will be simplified and a most important agent will be added to the practice of medicine.

#### THE INTERNATIONAL SEISMOLOGICAL ASSOCIATION.

THE third meeting of the permanent committee of the International Association of Seismology was held at Zermatt on Monday, August 30, and the three succeeding days. Out of twenty-two States which now belong to the association, seventeen were represented. In his presidential address, Prof. Schuster directed attention to the importance of determining the movement of the soil in a seismic disturbance, and laid stress on the conditions which seismographs must satisfy, in order that the components of the displacements should be capable of being deduced from the records obtained.

A number of committees, which had been appointed at the previous meeting, now presented their reports. Perhaps the most important of these referred to the microseismic oscillations, which have lately attracted attention in many places. Two kinds of oscillations are to be distinguished, one having a period varying between four and nine seconds, and the other a period of about half a minute. The short-period microseism is often observed simultaneously over large portions of the earth's surface; its most interesting feature, which was independently discovered by Prince Galitzin in Pulkowa, by Hecker in Potsdam, and by Omori in Japan, is that there is a direct relationship between the amplitude of the oscillation and the period, the larger amplitude corresponding to the longer period. Dr. Klotz, the representative of Canada, has also investigated the subject, and found that whenever a centre of low barometric pressure, after traversing the continent, reaches the ocean, these microseismic waves of short period appear. Though we cannot at present give a quite satisfactory explanation of these waves, Prof. Wiechert's suggestion that they are caused by the impact of ocean waves on land areas deserves further investigation. For this purpose the committee intends to set up, probably on the west coast of Ireland, an instrument capable of registering the number and height of the waves. The microseismic disturbances, which have a period of about half a minute, have been found to depend on the intensity of local winds. They seem due to a wave-motion set up on land in a similar manner to that in which waves are set going on the ocean.

Probably the most important communication made to the meeting was that in which Prince Galitzin showed that it is possible to determine the azimuth of the seat of an earthquake by combining the indications of two seismographs, set up so as to give displacements in two directions at right angles to each other. The coincidence of the azimuth determined in this way for a number of earthquakes with that known independently was quite remarkable, the difference in many cases being less than a degree. As the distance of the earthquake can be determined from the interval elapsing between the arrivals of the forerunners and surface waves, Prof. Galitzin's investigations show that it is possible to fix the locality of an earthquake by observations at one distant station only; but such a result could only have been achieved by means of a perfection of instrumental appliances consequent on a complete mastery of the problems involved. Mr. H. F. Reid, of Baltimore, unable, unfortunately, to be present himself, sent a communication, in which he summarised his experiences gained by a study of the San Francisco earthquake. After directing attention to various instrumental matters, notably the absence of damping in many of the American instruments, which rendered the investigation difficult, he suggests the theory of a slow secular displacement as a pre-