SCIENCE

FRIDAY, SEPTEMBER 23, 1887.

THE UNITED STATES HYDROGRAPHIC OFFICE has already received about three hundred reports from vessels which encountered the violent hurricanes which swept the Atlantic during the last two weeks of August and the first week of the present month. Many vessels which were in the greatest danger attribute their safety to the use of oil in the manner so persistently urged by Commander Bartlett in various editions of the 'Pilot Chart of the North Atlantic Ocean,' and such incidents will be among the most interesting facts brought out by the published report. Were it not for the conclusive testimony received from masters of vessels of all kinds, from the little fishing-schooner to the great transatlantic liner, the idea that a vessel could escape shipwreck in a hurricane by allowing a few gallons of oil to trickle overboard would be regarded as worthy of Baron Munchausen; but "truth is stranger than fiction." These hurricanes seem to have moved along the usual parabolic track, with the vertex of the curve off Hatteras and the upper branch stretching across the Atlantic towards the British Isles. Every effort is being made to collect full reports from vessels as soon as they reach port, and to compare their barometers with standards at the branch hydrographic offices. One vessel reports a barometer reading as low as 27 inches; but it was an aneroid barometer, and the reading was not recorded at the time. The most reliable report thus far received makes the lowest reading 27.91 (aneroid compared with standard, and reading corrected), on board the American steamship 'El Dorado,' Aug. 23, 4 P.M., in latitude 29° north, longitude 78° west (about 140 miles east-north-east from Cape Canaveral). With our present knowledge of the character and usual path of these terrific cyclones, and the destruction wrought in their track along our coast, on the fishing-banks, and along the great highway of transatlantic travel, it seems almost criminal carelessness for Congress not to allow greater use to be made of the telegraph cable through the West Indies and Windward Islands, by means of which several days' warning of their approach could generally be obtained, and an accurate forecast published for the benefit of commerce. The completion of the report now in preparation will be looked forward to with interest not only by mariners, but by the public generally.

THE INTERNATIONAL MEDICAL CONGRESS.

THE variety of subjects discussed in the section of special and general medicine at the recent International Medical Congress was very great. Many of the papers read were of purely professional interest, and not such as to be of any value to our readers: others, on the contrary, were of general interest, and, although read and discussed by medical men alone, still they contained much of instruction for all thoughtful minds. We shall endeavor to give a brief *résumé* of those which seem to us of greatest importance.

Dr. William Welch read a paper on vaccination during the incubation period of small-pox. His experience in one hundred and forty-four cases has been such as to prove that vaccination at this time will either prevent the attack of small-pox or so modify it as to insure the recovery of the patient. The discussion which followed brought out the statement from Dr. Parker of England, that in the large cities of that country human lymph was generally employed. Parents are required to bring their children at certain times to public stations for vaccination. Although revaccination is performed upon school-children at the age of fourteen years, this is not compulsory.

A paper on the pathogenesis of yellow-fever was read by Dr. Alvara of Mexico, in which he expressed the opinion that yellow-fever is an auto-blood-poisoning, either by the acid phosphate of soda of the same blood or by the phospho-glyceric acid set free from the lecithina as a result of the action of microbes on the blood.

Dr. Lester of Missouri regards pneumonia as an infectious disease, influenced by malaria and improper hygienic surroundings. Dr. Didamore of Syracuse referred to the discovery of the micrococcus of pneumonia and to the experiments which showed that when this is inoculated pneumonia will result.

Dr. Gihon, United States Navy, read a paper on the domain of climatology and demography as dependencies of medicine. He claimed a place for climatology as one of the sisterhood of medical sciences. Climatology and demography are contributory sciences to preventive medicine, and this is more important than curative medicine. The diseases which are truly climatic are but few. Malaria is not one of these. The reduction of the death-rate of the Italian army to one-third what it formerly was, is due to the drainage of the Roman marshes. Local unsanitary conditions cause more disease than the climate. He criticised vital statistics as usually prepared and published, stating that more facts are needed than the simple number of births, deaths, and marriages. Records, if they are to be accurate and of value, must not be voluntary, but under governmental direction.

Dr. Rohé of Baltimore, in a paper on the meteorological elements of climate and their effects upon the human organism, said that climatologists do not at the present time believe that ozone has any influence either in preventing or causing disease. Some believe that peroxide of hydrogen is an important antiseptic element in the atmosphere, but further investigation in this direction is needed.

Dr. Parker of Newport spoke of a number of health-resorts which he regarded as adapted for the stay of the sick. He recommended a wagon-trip across the plains as one of the best means of obtaining the advantages of a health-resort.

Dr. Taylor, United States Army, presented a paper on the necessity for a more careful examination of the water-supply of military posts, where an unusual amount of sickness prevails, and examination of hygienic surroundings. At some of the military posts the death-rate is great, owing to enteric and malarial fevers, which would be much reduced if proper attention were paid to the water-supply and to the general sanitation of these posts. Dr. Marston of England had no doubt but that certain epidemics of disease which he had observed among soldiers, were caused by impure water. While malaria might be in some instances due to the same cause, the influence of freshly disturbed soil was a most important one. It was believed in China that the simple scratching of the soil by chickens resulted in the production of malaria in those persons who lived near by. He had also witnessed an epidemic of goitre, which was directly traced to the use of drinking-water which contained lime salts.

Dr. Thomas of Baltimore read a paper on the causes of so-called hay-fever. The exciting causes he classified as follows: 1. Inert substances floating in air, dust, pollen, etc.; 2. Psychical impressions; 3. Meteorological changes, sunlight, wind, etc.; 4. Morbid changes or growths; 5. Irritation reflected from distant parts of the body. In speaking of the treatment, he said that the use of cocaine gives temporary relief, but there is danger to tissues from protracted use.

Dr. Collins of Philadelphia described the construction of field-hospitals, mentioning more particularly the depot field-hospital of the army of the Potomac at City Point, Va., in 1864–65. This hospital occupied two hundred acres of land, and could accommodate ten thousand patients. During the war, 71,223 soldiers were treated there. Dr. Varian of Titusville, Penn., recommended tents for hos-

pital purposes, stating that the liability to enteric fever and other camp diseases was much lessened when the sick were under canvas. The streets between hospital-tents should be at least fifty

Fig. 1.

feet in width; and when it was necessary to heat the tents, as in winter, open fires in front of them gave the best results.

The following resolutions were adopted by the section of climatology and demography: —

"*Resolved*, That in the opinion of the section on medical climatology and demography, of the Ninth International Medical Congress, assembled in the city of Washington, Sept. 5–10, 1887, it is important there should be established in every country a national department, bureau, or commission for the record of vital statistics upon a uniform basis, to include not only accurate returns of births and deaths, but the results of collective investigation by government officials, of facts bearing upon the natural history of disease as manifested among men, women, and children separately, especially with regard to climatic and other discoverable causes of the several forms of disease, — race, occupation, and residence being included, — that necessary preventive measures may be determined and enforced for the preservation of the public health."

Dr. Denison of Colorado read a paper on the preferable climate for phthisis, illustrated copiously with maps and tables. He believes that climate is to be preferred for the greater number of consumptives in the United States which is between fifteen hundred feet elevation in the North in winter, and ten thousand feet in the South in summer.

Dr. Day of Louisiana presented a report which was the result of an inquiry into the facts relating to the effects of overflow of the Mississippi River, and based on communications from five hundred physicians of the South. His deductions are, (1) that overflows are injurious to the public health; (2) that their evil effects upon health are lessened or entirely antagonized by good natural or artificial drainage, and by copious showers of rain occurring during the period of subsidence of the waters; (3) that rice-culture is inimical to health only by reason of the improper and unsanitary manner of its cultivation.

Dr. Semmola of Naples delivered an address on bacteriology and its therapeutic relations. He regards the tendency to consider bacteriology as the key to all pathology to be a great mistake. Microbes are not always the cause, but are often the effects of disease. Before any microbe is to be regarded as the cause of a given disease, we ought to reproduce that disease artificially by that microbe. The experiments made have not given any satisfactory results, except in carbuncle and tuberculosis. To conclude hastily that a given microbe is the cause of any disease is to ignore the experimental method. In the present condition of bacteriology it cannot be taken as a guide for the treatment of internal diseases. Modern bacteriology may lead the way to the most fruitful field of inquiry in the future, but for the present it has produced no practical results in the cure of internal diseases. It has not yet been demonstrated in what measure microbes are the causes of diseases. In future investigations preconceived ideas must be abandoned, and scientific independence must be preserved.

Dr. Freire of Brazil read a paper on vaccination in yellow-fever, in which he renewed his claim to the discovery of a method by which yellow-fever may be prevented. He also exhibited specimens of the yellow-fever microbe. In families consisting of a considerable number of persons, if vaccination was practised after the outbreak of the fever, its progress in that family was arrested; if not practised, all would be stricken down, and a large proportion, if not all, would die.

In addition to these papers, of which we have been able to give only the briefest *résumé*, a large number of others were presented to the congress, which were of great value and importance, and from which we shall hope to make extracts hereafter.

SOME WESTERN MUMMIES.

Early in the present year a party of prospectors were searching for precious metals and old Spanish mines in the wild regions of

Fig. 2.

Arizona and New Mexico. They happened to win the confidence of an Indian chief by curing his sick daughter, who had been given up by the medicine-man; and he offered to show them a wonderful cave, where it was supposed that gold bars and immense riches