tions, causes arrest of motion and typical agglomeration of Sanarelli's bacillus; also, that cultures of Sanarelli's bacillus fed to pigs cause the death of these animals, and that the typical lesions of hog cholera are found in their intestine.

Fifth. The blood-serum of yellow fever patients or of convalescents from this disease does not give a marked Widal reaction with Sanarelli's bacillus, although the blood of an animal immunized by the injection of cultures of this bacillus does give the specific reaction in high dilution.

Sixth. So far as I am informed the results obtained in the use of Sanarelli's antitoxic serum do not give support to his claim to have discovered the specific germ of yellow fever.

In a letter dated January 20, 1899, my friend Dr. J. B. de Lacerda, of Rio de Janeiro, says:

"The serum of M. Sanarelli has failed here in Brazil. The results of the experiments which he made at San Paulo have not recommended the employment of this serum. It is neither preventive nor curative."

In a paper recently published in the *New Orleans Medical and Surgical Journal*, Dr. P. E. Archinard reports a negative result from the use of Sanarelli's serum in ten cases. He says:

"From the above cases, which limit our experience with the anti-amarylic serum of Sanarelli as a curative agent in the human being attacked with yellow fever, we are forced to conclude that this agent, in our hands, has shown no curative powers whatsoever, none of the important and dangerous symptoms of the disease having been in any way mitigated or prevented by its administration."

Drs. Reed and Caroll are now preparing a report of their extended researches, which have been going on at the Army Medical Museum during the past two years. This report will be published in due time and will give full details as to the experimental evidence upon which they base their conclusion that Sanarelli's bacillus is a variety of the bacillus of hog cholera.

Finally, I would say it appears to me at the present time that, like the colon bacillus and bacillus *x*, the bacillus of Sanarelli is a pathogenic saprophyte which is present occasionally and accidentally in the blood and tissues of yellow-fever patients, and that its etiological relation to this disease has not been established. If, however, the results reported by Drs. Reed and Carroll can be shown to be based upon erroneous observations, I shall be ready to revise my opinion. Truth is mighty and no doubt in the end will prevail.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

THE report of Sir Herbert Maxwell, M. P., F.R.S., and Dr. Pye-Smith, F.R.S., the delegates of the British government at the International Congress on Tuberculosis held at Berlin from May 24th to 27th last, has been issued as a Parliamentary paper. The report states, as abstracted in the London *Times*, that the Congress, which was opened by the Herzog von Ratibor, in the presence of the German Empress, consisted of 180 delegates, appointed by and representing different states and universities and other public bodies. A number of papers were read, chiefly by German delegates, but nothing in the nature of a general discussion took place. The proceedings when printed will form a valuable *corpus* of scientific opinion on the subject.

Dr. Pye-Smith adds a memorandum on the medical aspect of the results of the Congress. After giving in some detail the most important conclusions which were recognized—that consumption and other tubercular diseases are caused by the presence and multiplication of the specific bacillus discovered by Professor Koch; that tuberculosis, as a condition directly transmitted by inheritance, is extremely rare; and that phthisis, or pulmonary tuberculosis, in particular, is not catching—Dr. Pye-Smith goes on to describe the following practical points in the prevention of tuberculosis as a widespread and destructive disease which were inculcated by various speakers at the Congress:

A. The primary importance of free ventilation and wholesome and abundant food. Improvement in the dwellings and the food of the poorer classes in this country, and their increasing cleanliness and sobriety, have not only diminished sickness generally, but directly reduce the number of deaths from consumption

until the mortality from this cause is less in London than in any other large city. (It is, however, important to notice that the death-rate of young children from disease of the bowels has little, if at all, diminished. See Sir Richard Thorne's Harben Lectures.)

B. The prevention of infection of the lungs by the bacillus of tubercle depends chiefly on the rational treatment of the sputa of consumptive patients, or rather, for practical purposes, of the sputa of all those affected with cough and expectoration. The phlegm should never be deposited on the ground or on a handkerchief, where it can dry up; it should be kept moist until it can be destroyed by heat, and the vessel used to receive it should contain phenol or some other antiseptic solution.

C. The prevention of infection by tuberculous milk may be accomplished either by boiling all milk given as food to children or by inspection of dairies, so as to prevent tuberculous milch-cows being used.

D. The prevention of infection by meat can be secured by careful and thorough inspection of carcasses, or by diagnostic testing of cattle with tuberculin. This, the only undoubtedly useful application of the so called tuberculin, has the drawback that after the effect of the inoculation has passed off a tuberculous animal becomes immune to it for a time, and so may be passed as healthy. (It is said that cattle suspected of tubercle are thus rendered immune to the tubercular test before being sent over the French frontier.)

Though the question of the treatment of phthisis was only a supplementary part of the work of the Congress, Dr. Pye-Smith gives the following facts, which are, he says, "important for the people as well as their governors to be aware of":

a. That tuberculous disease of the bones and joints of the glands and skin and abdomen, though dangerous, is not incurable, and, by the modern methods of operative medicine, is in most cases successfully cured.

b. That tuberculosis of the lungs (phthisis, or consumption) is frequently cured, and probably more often now than formerly. (Curschmann, of Leipzig, fourth day of Congress.)

c. That there is no specific drug which has direct influence upon consumption, but that many, both old and new, have valuable effects upon its complications. (On the Action of the New Tuberculin, see Briger's paper, on the second day of Congress, and Dr. C. T. Williams in the R. Med. Ch. Trans. for the present year.)

d. That abundant food, particularly of a fatty nature, and a life in the open air, are no less valuable in the treatment than in the prevention of phthisis, and that the hospitals and asylums for providing these essentials, which are now numerous in Germany, and far from rare in England, Austria and Hungary, France and the United States, are of essential value. That the 'open-air treatment' has been long known and practiced in the United Kingdom was handsomely acknowledged by Professor Von Leyden (first day of Congress). Compare papers by Kaurin (Norway), Westhoven (Ludwigshaven), J. R. Walters (London), Desider Kuthy (Budapest), Schmidt (Switzerland), Dómene (Spain), fourth day.

e. That the influence of climate, altitude, temperature, and dryness of the air and soil, of travelling and of sea voyages has been very differently estimated at different periods, and that, while each is in various degrees important, popular opinion probably exaggerates their power. (Herman Weber, of London, fourth day of Congress.)

f. That the prospect of improved success in the treatment of tuberculosis in general, and of consumption in particular, by the advance of pathology and the progress of surgery and medicine, is a hopeful one, almost as hopeful as that of limiting the spread of the disease by preventive measures.

SCIENTIFIC NOTES AND NEWS.

PROFESSOR SIMON NEWCOMB has been elected president of the Astronomical and Astrophysical Society of America, organized last week at the Yerkes Observatory, in succession to the Conferences of Astronomers and Astrophysicists which met last year at the Harvard College Observatory and the preceding year at Yerkes Observatory.

THE delegates of the National Geographic Society to the Seventh International Geograph-