SCIENCE

NEW YORK, AUGUST 7, 1891.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

By invitation of the several scientific associations in Washington, the fortieth meeting of the American Association for the Advancement of Science will be held in the city of Washington, beginning with the council meeting on Monday, Aug. 17. As there will be meetings of several affiliated societies about the time of the association meeting, and as the International Congress of Geologists will hold its first meeting in this country during the last week in August, the official time given for the association meeting will be from Aug. 17 to Sept. 2. This will allow members of the association to unite with and attend the meetings of the other societies.

The hotel headquarters of the association will be the Arlington, near the buildings of Columbian University (corner of 15th and H Streets, N.W.), in which will be the offices, the hall for general sessions, and the rooms for the several sections.

For information relating to membership and papers, address F. W. Putnam, Permanent Secretary, Salem, Mass. For all matters relating to local arrangements, hotels, railway rates, and certificates, address Mr. Marcus Baker, Local Secretary, United States Geological Survey, Washington.

Abstracts of papers, and nominations of members and fellows, should be mailed to the Permanent Secretary, Salem, Mass., until Aug. 10: after that date his address will be the Arlington, Washington.

All botanists, members of the association, are requested to register at Room 22 as soon as practicable after their arrival. The ordinary meetings of the Botanical Club of the association will be held in Room 22, on Thursday, Friday, and Saturday, at 9 o'clock A.M. Mr. Wm. M. Canby, Wilmington, Del., president; Mr. B. T. Galloway, Washington, D.C., secretary.

The Entomological Club will meet daily at 9 A.M., in Room 15. All entomologists, members of the association, are requested to register in Room 15, as soon as possible after their arrival. Professor Herbert Osborn, Ames, Iowa, president; Dr. C. M. Weed, Hanover, N. H., secretary.

The American Microscopical Society will meet on Aug. 11 and 12.

The Association of American Agricultural Colleges and Experiment Stations will meet in the Law Lecture Room of Columbian University on Wednesday, Aug. 12, at 10 A.M., and will have daily sessions on Aug. 13, 14, 15. Under the terms of the new trust, which endows in perpetuity the great agricultural work of Lawes and Gilbert at Rothamsted, England, a representative of Rothamsted is to visit America every three years as an exponent of Rothamsted and its work. The first of these visits is to occur at the Washington meeting, and R. Warrington, F.C.S., the chemist at Rothamsted, has been appointed representative. He will give six evening lectures, beginning on Aug. 12.

The Association of Official Agricultural Chemists will meet in the Law Lecture Room of the Columbian University, on Thursday, Aug. 13, at 10 A.M., and continue its sessions Friday and Saturday.

The meetings of the Society for the Promotion of Agricultural Science will be held on Monday and Tuesday, Aug. 17 and 18, in the Columbian University. A conference of chemists, including a meeting of the Washington Chemical Society, will be held Aug. 17 or 18 at the same place; and the Association of Economic Entomologists will meet on Aug. 18 and 19.

The Geological Society of America will hold its summer meeting on Monday and Tuesday, Aug. 23 and 24, in Columbian University. Mr. Baily Willis, United States Geological Survey, is chairman of the local committee of arrangements for the society, and Professor H. L. Fairchild of Rochester, N.Y., is secretary of the society. These gentlemen will give further information on application.

The International Congress of Geologists will begin its meeting at 10 o'clock on Wednesday, Aug. 25, in the Columbian University, and will continue with daily sessions until Tuesday, Sept. 1. On Wednesday, Aug. 26, a reception will be given to the International Congress by the Geological Society of America.

For further information relating to the congress, address Mr. S. F. Emmons, United States Geological Survey, Secretary of Committee of Organization.

The capital contains so many public buildings and institutions of interest to strangers that it is proposed to pay special attention to arrangements by which members of the association and their friends can utilize to the best advantage the intervals between meetings, receptions, and other engagements that must necessarily occupy much of their time. Through the co-operation of the heads of the various departments and bureaus, suitable times will be assigned, and officers detailed, to facilitate visits to the Capitol, White House, department buildings, scientific bureaus, Smithsonian Institution, National Museum, Washington Monument, Navy Yard, Naval Observatory, and other places of interest within easy driving distance, such as the National Zoological Park, Soldiers' Home, Arlington, and Glen Echo.

Excursions may be made to Alexandria, Mt. Vernon, Bay Ridge, Great Falls of the Potomac, Harper's Ferry, Luray Cavern, the Grottoes of the Shenandoah, Natural Bridge, Penmar, Gettysburg, and Old Point Comfort. Details regarding these and similar excursions will be arranged, and the most favorable terms secured, in order that members may come to an early decision as to the trips they desire to make.

In addition to excursions such as those mentioned, it has been suggested that some members of the association might like to make a short ocean voyage after the meeting, such as, for instance, to the West Indies, the Bahamas, Bermuda, or Newfoundland. The round trip from New York to St. Johns, N.F., *via* Halifax, can be made in twelve days; or, if extended to Pilley Island (in latitude 49° 34′ north, longitude 55° 50′ west), in eighteen days. For a party of forty persons the individual expense for the round trip to St.

Johns would be $50, and to Pilley Island $60. Similarly, very favorable terms can be obtained for other voyages, and the committee will be pleased to render all the assistance in its power in arranging the details of such excursions.

A reception to the association will be given by the Board of Trade of Washington in the parlors of the Arlington at the close of the president's address on Wednesday evening, Aug. 19.

THE CURABILITY OF PULMONARY PHTHISIS.

IN reference to the question of the curability of consumption, says Dr. T. Harris in the *Lancet* of May 2, we may recognize three classes of cases.

1. Cases of very limited tubercular disease of the lung, where the lesion is small, and is eventually replaced either by fibrous tissue and a completely calcified caseous focus. As far as our experience goes, such cases are always instances of very localized and very small foci, and the disease is never an extensive one. These cases are the only ones which can be considered as perfectly healed, and where the lesion (cicatrix or calcareous focus) which remains does not involve a risk to the possessor, such lesions, so far as we know, not being liable to set up either a local or general tuberculosis. These lesions are not unfrequently found in the lungs of persons who have died of various diseases and from injuries, but it is not known how frequently the tubercular change has been extensive enough to cause distinctive signs and symptoms of pulmonary tuberculosis. Probably the majority of the persons in whose bodies such foci of obsolete tubercle are found have at no period of their lives presented the usual signs or symptoms of consumption, the lesion having been very small.

2. Cases similar to the above, but where the remains of the tubercular disease is not at all or only imperfectly calcified. Although the physician, from the examination of the chest, and the consideration that all the symptoms of phthisis have disappeared, may regard such cases as cured, they cannot be so considered by the pathologist. The latter knows from the microscopical examination of such foci, and from the results of inoculation experiments with animals, that such foci are dangerous, and may at any time give rise to further destructive changes in the lungs or to the general miliary tuberculosis. They are cases, however, which, if the person remains under favorable conditions for preserving health, may pass on to a complete cure, and then deserve a place in Class 1.

3. Cases which run a prolonged course, often with periods when the disease remains quiescent, and which are characterized pathologically by the formation of much fibrous tissue. It is some of these cases which are so misleading to the medical man, and cause the hopes of the sufferer not only to be raised, but cause him to believe that he is cured. This feeling is a consequence of the disease having become temporarily arrested, or, as is probably more frequently the case, by its progressing extremely slowly and being associated with few physical signs and symptoms of extending disease. Very many cases of phthisis come under this heading, and it is rare for a case of chronic phthisis to be continually progressive. Nearly all such forms of the disease are associated with periods of relative good health when the disease appears to be quiescent. The fact that many cases of phthisis belong to this class renders any conclusions as to the good effects of any particular treatment so fallacious. The enthusiastic therapeutist is very prone to conclude that the favorable results are the consequence of the treatment adopted, and to forget that the favorable symptoms and signs may be explained as manifestations of the natural course of the disease. The history of the treatment of pulmonary tuberculosis is full of such fallacies.

From a consideration of the above classes it follows that some cases of phthisis are completely cured, but that the disease in such instances has never been a very extensive one. The majority of cases of phthisis we are compelled to consider belong to the last-mentioned classes, and consequently to be cases which often show a tendency to cure, but rarely perfectly attain that end. The tendency, however, in very many cases of phthisis is towards arrest; and it is the evidence on this point, together with the absolute proof which we have, that in some cases a complete cure does result, that gives us encouragement to persist in treatment, and warrants us in holding out good hopes of recovery to the unfortunate sufferers in the early stages of the disease.

EXPERIMENTS ON THE FEEDING OF HOGS.

THE following is a summary of experiments made by the Illinois Experiment Station at Champaign during the years 1888, 1889, and 1890.

In eight trials in which corn only was fed, aside from salt and coal slack, pigs varying in average weight from 65 to 290 pounds and kept in pens or small lots without grass, gained at the rate of from 10.46 to 14.73 pounds per bushel (56 pounds) shelled corn, the average gain being 12.36 pounds. The rate of gain for food eaten, and the food eaten in proportion to weight, decreased after four to six weeks feeding with corn only. The corn eaten per day varied from 3.41 pounds, eaten by pigs averaging 65.58 pounds, to 10.71 pounds, eaten by pigs weighing 311 pounds. The corn eaten per day per 100 pounds live weight varied from 1.95 pounds eaten by pigs fed 84 days and averaging 207 in weight, to 5.19 pounds eaten by pigs averaging 65.58 pounds. In one case in the fourth week of pen feeding two pigs gained 3.21 pounds each per day — at the rate of 16.81 pounds per bushel of corn. This was the greatest gain per day, and was also the best rate of gain in any trial. There seemed to be no constant relation between the weight of the pigs or the season of the year, and the food eaten or the gains made.

In four trials, pigs fed all they would eat of shelled corn, with blue grass pasture, ate 4,216.5 pounds of corn and gained 905 pounds, which was at the rate of 12.04 pounds gain per bushel of corn. Pigs under like conditions, except that they were fed but half as much corn, ate 2,190 pounds of corn and gained 505 pounds, which was at the rate of 12.93 pounds per bushel. Pigs in dry lots, fed shelled corn, ate 4,207 pounds of corn and gained 790.5 pounds, which was at the rate of 10.52 pounds per bushel.

After periods varying from six to nine weeks, the pigs which had been fed a half ration of corn on pasture, were given a full feed of corn, the others being fed as before. In three trials lasting four or five weeks each, the pigs which had had a full feed of corn throughout ate 1,796 pounds of corn, and gained 329 pounds, which was at the rate of 10.11 pounds per bushel. Those which had been fed a half-feed of corn in the first part of the trials ate 2,075.5 pounds of corn in the second part, and gained 462.5 pounds, which was at the rate of 12.5 pounds per bushel. Those fed corn only ate 1,624.5 pounds of corn and gained 224 pounds, which was at the rate of 7.44 pounds per bushel.

In two trials pigs fed soaked corn ate more and gained more than those fed dry corn. In one trial they gained more, and in one less, in proportion to food eaten than those fed dry corn. The differences were not great in either case.

Two pigs in a pasture in which were three yearling steers were fed corn, gaining in 24 weeks 195 pounds. In a second trial two pigs with like conditions gained 231 pounds in 31 weeks. In neither case was the gain large. In each case the pigs at the close of the trial were in good condition for full feeding and made large gains when so fed.

A trial of apple pomace as food for pigs resulted unsatisfactorily. The pomace kept well. Chemical analysis of it showed an apparently good composition for feeding purposes; but the pigs ate very little of the pomace.

HEALTH MATTERS.

Morning Cold Baths.

IN the past few years several patients have come to me, says a medical writer in the London *Lancet*, complaining that they from time to time, especially in winter, in the early part of the day, have expectorated mucus tinged with blood. In each case there was no family history of phthisis, the temperature was normal, there were no bacilli discoverable in the sputa, there was no loss