stances mentioned by Hale are of the greatest interest, and we reprint one here, as it shows clearly what the subject of this study ought to be. In his second paper on this subject, Hale quotes from a letter from Von der Gabelentz the following: "My brother Albert's eldest son George, before he had learned his mother-tongue, called things by names of his own invention. In these names the constant elements were the consonants, while the vowels, according as they were deeper or higher, denoted the greatness or smallness. For instance, his term for ordinary chairs was *lakail*, apparently quite a self-made word. Now, he would call a great arm-chair *lukull*, and a little doll's chair *likill*. The root for round objects was *m-m*. He called a watch or a plate *mem*, but a large plate or a round table *mum*; the moon was likewise *mem*, but when he first saw the stars he said *mim mim mim mim*. His father, and at first every grown-up male person, was called *papa*, till he learned to distinguish between Papa and Grosspapa (*o papa*), and henceforth called all other gentlemen *o-papa*. Now, I am a head taller than was my father. So one day, when seeing my father and me together, baby called the former *o-papa* and me *u-pupu*. One day in winter he saw his father in a large fur cloak and with his hat on. This impression he uttered with the word *pupu*, meaning a very big papa. The boy soon gave up his idioglottic endeavors, learning German before his next-born sister had reached the age of beginning speech. So *that* language could have no further grammatical development."

THE GREAT MEDICAL CONGRESS.

The First Triennial Session in Washington. — A Series of Brilliant Meetings. — Some of the Papers read. — Distinguished Guests.

THE meeting of the Congress of American Physicians and Surgeons, which took place in Washington last week, continuing three days, marked a new departure in national gatherings of American medical men. It was a convention of specialists, of men who have pursued their investigations, each in his own department, far beyond the point reached by the ordinary practising physician, even though his professional equipment be of the best. The papers that were read, therefore, presented the results of the most advanced scientific researches in the several departments, and the organization of the congress is such as to insure in the future the maintenance of this high scientific standard. All opportunity for scheming medical politicians to gain prominence or office is carefully guarded against, and the only chance that any physician has to gain distinction through membership of the congress is by presenting papers of such high order of excellence as to command the attention and secure the approval of the learned members of the medical profession to whom, as to the most competent critics, he submits his work.

Perhaps the best idea of the scope and objects of the congress may be gathered from the address with which Dr. Pepper of Philadelphia, chairman of the executive committee, opened the first session. He said, —

"On behalf of the executive committee, I have the honor to announce to you, the members of the various special associations composing the Congress of American Physicians and Surgeons, the manner in which we have discharged the responsible duty intrusted to us. The present meeting is the result of prolonged deliberations. The development of one special society after another showed the irresistible tendency of the recent progress of medical science. The deep interest which attaches to the meetings of these separate bodies suggested naturally the thought of a conjoint meeting, which would bring together the active workers in allied fields. This thought began to take definite shape as much as four years ago, before the attention of the medical profession became occupied with the preparations for the meeting of the International Medical Congress which occurred in this city last year. But all action was deferred, in order that there should not be even the semblance of interference with that important meeting. The delay has not been injurious. It has rendered more than ever conspicuous the actual need of an organization to secure the re-union, at stated intervals, of the more active teachers and writers and workers in the leading branches of medical science. Such re-unions must be at a locality to which it will be possible to draw such men from all quarters.

"In order to produce the best scientific results, it is essential that the members in attendance shall be reasonably limited, and that as far as possible the same men shall attend successive meetings. A continuity of intellectual life and activity is thus secured, which increases greatly the benefits derived from these meetings. A large proportion of those interested in the development of such an organization are, as I am myself, warmly attached to the American Medical Association, and determined to exert their influence to maintain and promote the success of this great national organization. All are no less warmly interested in the prosperity of the various special societies to which they severally belong. Your executive committee found little difficulty, however, in deciding upon a plan which would avoid even the least interference with the American Medical Association, while at the same time it avoided any encroachment upon the independence and autonomy of the special societies. It is unnecessary to dwell upon the special points which have been embodied in the by-laws which will be immediately submitted to you.

"Your committee ventures to hope that these provisions, which are strictly in accord with the terms of the resolutions under which they were appointed, will meet the unanimous approval of the congress. We have recommended that the sessions shall be triennial, thus leaving to each participating body two intervening independent meetings, at such time and place as may be chosen. We have jealously guarded against the admission of any parliamentary business into the work of the congress, the functions of which are designed to be absolutely and exclusively scientific. Thus, and thus only, can the sessions of this body be lifted up into and maintained in that high and cool air of learned discourse which best permits the diffusion of truth and the promotion of science. We have no less jealously guarded the independent sovereignty of each participating society. To all their full rights are preserved; to all equal privileges are accorded; upon all the burden of expense, which should always be but a light one, has been laid in equitable distribution. The successive meetings of the congress will be held in this beautiful city, which every year renders more accessible, more attractive, and more precious to every citizen of the Republic. Nor could we fail to make acknowledgment of the great material advantages we shall enjoy in these meetings here, through the liberal and enlightened policy which places freely at our disposal the admirable facilities of the medical department.

"And, lastly, your executive committee would report that in the discharge of one of the most important of our duties we have reached the conclusion that the selection of the president of each congress shall be intrusted to the executive committee then in office. Thus will the choice of the most worthy and most representative men of the whole country be insured at the hands of a truly representative body, specially selected by their various societies for their ability and judgment. The powers you are asked to confide to future executive committees are large, but they will be reposed in safe hands. Each society participating will be stimulated to continuous and lofty effort. Membership in any of these bodies will come to be regarded as more and more an honor, and in time the scientific qualifications of candidates will be more and more strictly scrutinized. Can there be any doubt, that, if the spirit which has led to the formation of this congress be maintained and cherished, this new organization will exert a powerful and beneficent influence on the future medical science? It remains, then, only to add, that, in exerting the privilege of selecting a president for this first Congress of American Physicians and Surgeons, your executive committee feel they have been guided to the choice of a man whose admirable personal character, whose high attainments, and whose illustrious services in the cause of literature, of science, and of the entire medical profession, mark him as entitled to this great honor and distinction. It gives me, therefore, the utmost gratification to present to you our president, Dr. John Shaw Billings, and to announce that the Congress of American Physicians and Surgeons is now duly organized."

Dr. Billings, on taking the gavel, in a few words expressed his appreciation of the honor which had been conferred upon him. His formal address was given on Thursday evening, and was published in last week's *Science*.

The address of welcome by Dr. S. C. Busey of Washington,

chairman of the committee's of Surgeons, was warm and cordial He spoke of Washington as a great scientific centre, as it is. It would probably have surprised the members of the congress if he had added, as he might have done, that there are in Washington more than nine hundred men who are engaged in scientific work. It may be remarked here that the work of the committee of arrangements from beginning to end — from the banquet on the evening before the congress met, to the magnificent reception with which it closed — is worthy of the warmest commendation.

At the first meeting of the congress, also, Dr. Pepper submitted the following rules of organization, which were adopted: —

"1. This organization shall be known as 'The Congress of American Physicians and Surgeons.'

"2. It shall be composed of national associations for the promotion of medical and allied sciences.

"3. It shall hold its sessions triennially in the city of Washington, D.C.

"4. The officers of the congress shall be a president, vice-president, a secretary, a treasurer, and an executive committee.

"5. The president shall be elected by the executive committee, of which he shall be *ex officio* a member.

"6. The presidents of the participating societies shall be *ex officio* the vice-presidents of the congress.

"7. The secretary and the treasurer shall be elected by the executive committee. They shall be *ex-officio* members of the executive committee.

"8. The executive committee shall be composed of one member from each participating society, and said members shall be elected by the various societies at the next annual meetings subsequent to the congress.

"It shall be charged with all duties pertaining to the organization of and preparation for the ensuing congress, including the election of all officers and of a committee of arrangements.

"It shall superintend the publication of the transactions of the congress.

"9. The expenses of the congress shall be divided between the participating societies in proportion to their membership.

"10. The admission of new associations to participation in the congress shall be by unanimous vote of the executive committee."

Typhoid-Fever.

The eleven medical and surgical societies from the membership of which the congress is composed held their annual meetings during the three days of the congress. A great number of papers were read, a few of which, only, it will be possible to mention here.

At the Tuesday meeting of the Association of American Physicians, Dr. W. W. Johnston of Washington presented an important paper on 'The Geographical Distribution of Typhoid-Fever in the United States.' In brief, he said: "Typhoid-fever is admitted to be a very generally distributed disease in the United States, but there is a great difference of opinion as to what constitutes typhoid-fever, — what symptoms are essential to its recognition. The difficulties lie in the fact that typhoid-fever is frequently a very mild disease, with few of the characteristic symptoms; and that sometimes the illness is so slight that its true nature is not recognized until some sudden accident, as hemorrhage from the bowels or perforation, reveals its true nature. The difficulty is increased still more by the simultaneous occurrence, in malarial districts, of forms of fever which have some of the symptoms of typhoid-fever and some of malarial-fever. The question is to determine to which category such obscure or doubtful cases belong. In the present paper the effort was made, by a study of the prevailing forms of continued fever in different portions of the country, to determine the relative value of their symptoms, and to arrive at more precise rules of diagnosis. Such a study reveals the fact that the principal forms of fever recognized are (1) true typical typhoid-fever; (2) true typical malarial (remittent or bilious) fever; (3) adynamic malarial-fever; (4) typho-malarial fever; (5) anomalous obscure forms appear as simple, continued fever, gastric-fever, autumnal-fever, etc. An analysis of the symptoms given by physicians in different parts of the country shows that great difference of opinion prevails as to the symptoms of these fevers; but such an analysis and comparison show also that true typical typhoid-fever and true remittent-fever are clearly defined; that 'adynamic remittent-fever' is a term which is used to designate a class of fevers consisting partly of remittent-fevers, and partly of typhoid-fever of a typical character. In regard to typho-malarial fever, no fixed ideas exist as to what symptoms indicate it; and so great is the confusion, and so hopeless the task of giving this disease an appropriate place, it is clear that much would be gained by abandoning the terms altogether. As regards the obscure forms mentioned, there is the tendency to class many of them under the head of mild or typical typhoid-fever. But there is a great deal yet to be learned about these forms; and much progress can be made by a close study of the micro-organisms found in the blood of these cases, and by a closer study and unbiassed appreciation of their symptoms."

Heat-Centres in Man.

In the Tuesday meeting of the American Neurological Association, the paper that probably was of most popular interest was that read by Dr. Isaac Ott of Easton, Penn., on 'Heat-Centres in Man.' He showed by cases of disease that in the brain of man are points whose function it is to preside over the temperature of the body, and to keep its heat constant. These centres were partly located upon the surface and partly at the base of the brain. He also related cases on record of a temperature as high as 128° F., and as low as 94° F. He explained how these great changes of temperature could be produced through disease of the nervous system. Cases of children were detailed whose temperature was 110° F. for a short time and recovered. Fever was stated to be mainly a disease of the nervous system, causing increased chemical changes in the tissues of the body, and thus elevating the temperature.

Searching for the Yellow-Fever Germ.

At the meeting of the Climatological society on Wednesday, Dr. G. M. Sternberg, surgeon U.S.A., read a very important paper, in which he gave a report of the result of the search for the yellow-fever germ which he has been prosecuting under the direction of the President. The title of his paper was 'Recent Investigations relating to the Etiology of Yellow-Fever.' The subject is one which, on account of the prevalence of this disease in the Southern States, is just now of absorbing interest, not only to the medical profession, but to the public generally. Dr. Sternberg said that there have been several different claimants to the honor of having discovered the yellow-fever germ, but none of these claims are well founded. He exhibited to the association cultivations of the germs of Dr. Domingos Freire of Brazil, of Dr. Carlos Finlay of Havana, and of Dr. Paul Gibier of France. The last-named physician was commissioned by the French Government to study yellow-fever, and had already been in Havana for several months, when, in May last, Dr. Sternberg arrived in that city in compliance with instructions from the President to continue the investigation commenced last year in Brazil and in Mexico.

Through the courtesy of the Spanish army-surgeons at the military hospitals in Havana, Dr. Sternberg was able to obtain as many autopsies as he required, and made a careful search of the blood in the various organs of the body with reference to the presence of germs. He did not encounter in a single case the microbe which Dr. Domingos Freire has described, and with which he professes to practise protective inoculations. He has, however, encountered this micrococcus in cultures made from the surface of the body, and believes its presence in Dr. Freire's blood-cultures from the finger to have been quite accidental and without special significance.

Having proved by his microscopical researches and culture experiments that there is no specific germ in the blood of yellow-fever patients, Dr. Sternberg turned his attention to the alimentary canal, thinking it not improbable that the specific germ of the disease might be located there, as it is the case in cholera. As was to have been expected, he encountered a variety of micro-organisms in this situation, some of which were apparently undescribed species, and therefore possible yellow-fever germs. Among these is the bacillus of Dr. Paul Gibier, which was found in three out of ten cases. According to Dr. Sternberg, Dr. Gibier has not as yet given any satisfactory proof that this is the veritable yellow-fever germ, and further researches are required in order to determine the important questions relating to the cause and prevention of this disease. Dr. Sternberg has himself discovered several new micro-

organisms, and it is possible that one or the other of these is the deadly microbe which he has so long been in search of; but he is not at present in a position to make a definite claim with reference to any one of them. Some of these germs were exhibited to the association; and Dr. Sternberg stated that since his return from Havana he had been continuously engaged in the study of these various microbes, and that the material which he had brought with him would fully occupy his time for some months to come.

Consumption among the Indians.

At the same meeting, Dr. W. Matthews of the Army Medical Museum read a paper entitled 'Further Contributions to the Study of Consumption among the Indians.' Before a meeting of this society, held in Philadelphia two years ago, Dr. Matthews presented a paper on this subject, in which he brought forward statistical evidence to show that consumption increases among Indians under the influence of civilization, i.e., under a compulsory endeavor to accustom themselves to the food and habits of an alien and more advanced race, and that climate has very little to do with this increase. The Indian race, which is native to the climate, suffers more from consumption than the white and colored races, which have only recently appeared on the western continent. As a rule, too (to which there are some exceptions), the tribes that live in the Eastern States, and have been longest under the influence of civilization, suffer most from consumption and allied diseases. In the present paper the author brings out much additional evidence to strengthen the conclusions of his first paper, and endeavors to discover the causes of this consumptive tendency among Indians. He believes that the disease with them is usually complicated with scrofula, in short that it is scrofulous phthisis, and that in studying it we must seek for the causes of scrofula. Chief among these is improper and badly cooked food. Other causes are bad dwellings and insufficient clothing. Still it is strange that the colored population, who are often as badly housed and fed as the Indians, are more healthy. This is partly accounted for by difference of disposition, the Ethiopians being the more light-hearted race. Much of the difference, too, arises from the fact that all Ethiopians, whether rich or poor, fair or dark, are placed by statisticians under the head of 'colored;' while people of Indian descent, who live among whites, and sever their tribal relations, are classed as whites, only the poorer and less prosperous remaining on the Indian census-rolls.

Cerebral Localization.

The most brilliant meeting of the congress proper was that of Wednesday evening, when one of the most interesting subjects in medical science, cerebral localization, was discussed by several of the most distinguished specialists of the world. Dr. Charles K. Mills of Philadelphia, the professor of diseases of the mind and nervous system in the Philadelphia Polyclinic and College for Graduates in Medicine, opened the discussion, the topic being 'Cerebral Localization in its Practical Relations.' He was followed by Dr. Roswell Park, professor of surgery in the Buffalo Medical College. Both of these gentlemen read papers, which were discussed by Dr. David Ferrier and Mr. Victor Horsley of London, England, Dr. W. W. Keen of Philadelphia, and Dr. Robert F. Weir of New York City. Diagrams were displayed on the wall, and by their aid the various speakers pointed out the brain-centres. Dr. Ferrier, one of the original discoverers of brain-centres, claimed that they were distinct areas, while Mr. Horsley was of the opinion that they overlapped. Dr. Mills's paper was an exhaustive one, describing the results of the latest modern discoveries. Dr. Park covered about the same ground, and his paper was regarded as a masterly exposition of the subject.

Distinguished Guests.

The congress was notable for the distinguished guests of several of the constituent societies who were present and participated. Among these guests, Dr. Frederick von Esmarch of Kiel, Germany, was probably the most distinguished. He was accompanied by his wife and son, the former being Princess Caroline Christian Augusta Emily Henrietta Elizabeth of Schleswig-Holstein-Souderburg-Augustenburg. She is aunt of the Empress of Germany. Dr. von Esmarch is director of the surgical clinic in Kiel. During the Franco-Prussian war he was a surgeon on the staff of the Emperor, and is recognized from the leading surgeons of the world. He is a voluminous writer, and nearly all of his works relate to the antiseptic treatment. He has endeavored to ameliorate the horrors of war by the introduction of improved sanitary measures in the treatment of the wounded, and also by suggestions in case of sudden accident. He first suggested the method of artificial bloodless operations, which was generally adopted. He has received honors abroad and at home, and wears decorations of the highest order.

Among the other foreign guests were Dr. David Ferner of London, England, one of the leading medical writers of the day, joint editor of *Guy's Forensic Medicine*, professor in King's College, and physician in King's College Hospital; Dr. Victor Alexander Haden Norsley of University College and Brown Institute, England; Dr. W. M. Graily Hewitt of London, England, a distinguished author and professor; Dr. Lawson Tait of Birmingham, England, president of the Birmingham Philosophical Society, and author of 'Diseases of Women,' a recognized text-book for students and practitioners; Sir Spencer Wells of London, England, surgeon to the Queen's household, and an extensive writer on medical subjects; Sir Andrew Clark, also of London, president of the London Medical Society; Sir William MacCormac, author of 'Notes and Recollections of an Ambulance Surgeon,' which has been translated into several continental languages; Dr. William O. Priestly of London, a voluminous contributor to medical literature; Dr. William Ord of London, a physician and lecturer of high rank; Dr. Thomas Bryant of London, lecturer on surgery in Guy's Hospital; Dr. Reginald Harrison of Liverpool, England; and Dr. Arthur E. Durham of London, England. Several of these distinguished guests, by invitation, read papers or joined in the discussions.

In every respect the congress was successful. It contributed to the advancement of the highest medical science, and has furnished a stimulus for future work.

MAJOR POWELL'S REPORT.

Operations of the National Survey. — Yellowstone Park. — Atlantic Coast Work. — Archæan Geology. — Glacial Geology. — Appalachian Division; Classification of Soils.

Operations of the National Survey during the Year ending June 30, 1888.

DIRECTOR POWELL of the United States Geological Survey has completed his report for the last fiscal year, and Sept. 6 transmitted it to the secretary of the interior. There will probably be several months' delay in the publication of it, owing to the lack of facilities in the Government Printing-Office; but the Washington correspondent of *Science* has been permitted to make the following full extracts and summary from the manuscript copy. This is the first publication of this report.

In the topographic department an area of 52,062 square miles was surveyed during the year. In regard to the scale on which the topographic maps are made, the director says, "In the earlier work of the Geological Survey it was contemplated that a large part of the general topographic map should be projected upon a scale of four miles to the inch. . . . The last two years, however, have brought great improvements in the methods of work, in the instruments and appliances, and, above all, in the skill and efficiency gained by the topographers through experience and zealous emulation. The cost of the work per unit of area upon any given scale has greatly diminished, the quality and accuracy of the work has been much improved, and the rapidity with which a given grade of work may be accomplished has increased. At the same time the demand for maps of greater detail, and upon a larger scale than four miles to the inch, has been rapidly growing, not merely for scientific purposes, but far more for economic purposes.

"The general utility of a map two miles to the inch is, for all purposes, many times greater than that of a map four miles to the inch; and a further increase of utility follows from increasing the scale to one mile to the inch. . . . It has therefore become practically imperative to enlarge the scales in some regions, while the original four-mile scale is still adhered to in the regions of high mountains and arid plains and plateaus. The increased cost which (other things being equal) necessarily attends the production of larger