sterdam. In no week did the births in Leipzig approach within 100 those in Amsterdam. Dresden, with a population of 579,536, compared with Amsterdam's 626,470, had in the first of the weeks mentioned 118 births compared with 255 in Amsterdam, the deaths in that week being exactly the same—namely, 126. The highest number of births in Dresden in the weeks mentioned was 142 and the lowest number of deaths 103, while the highest number of deaths was 198.

ANCIENT DWELLINGS IN NAVAHO NATIONAL MONUMENT, ARIZONA

MR. NEIL M. JUDD, of the United States National Museum, has left for Arizona to supervise for the Smithsonian Institution the excavation and repair of prehistoric ruins and cliff dwellings. The work will be carried on under a provision in the Indian Appropriation Act, Interior Department, for the preservation and repair of the remains of ancient dwelling places of certain American aborigines in the Navaho National Monument.

According to a bulletin of the Smithsonian Institution the Navaho National Monument comprises three large ruins located in the northern part of the Navaho Reservation, in Arizona, about 175 miles by trail north of Flagstaff. There is a road for about a third of the way, but there is little traffic from its termination to the Navaho Monument. From there the way is difficult to travel also on account of the scarcity of water in the desert to be crossed, the lack of opportunity to purchase supplies, and the steepness of the ascent near the monument which is truly in the "High Rocks," as the Hopi designate the location of their former home.

The trip requires about five days, but the route is an interesting one, for it passes through Painted Desert, a picturesque country especially attractive on account of the native legends and descriptions relating to the surroundings. Superstition Mountain, for example, where, so the Navaho stories relate, fires are to be seen on dark nights, recalls the old Snake legend which claims that all this country once belonged to the Fire God, and that they inherited it from him. In the olden days, so they relate, the inhabitants used to see lights moving around the mesas. Journeying over the recent lava beds and cinder plains to-day, it is easy for the traveller to accept the story of the early proprietorship of this burnt-out country, and attribute the fires seen there to volcanic eruptions and the glowing lava of years ago, which is quite enough to substantiate the legend. Among the fantastically eroded rocks, forming natural sculptures along the trail, are Elephant Legs, and White Mesa Natural Bridge, which lend interest en route to the Monument, as does also the Indian Village where still dwell descendants of the early inhabitants.

The ancient pueblo and cliff dwellings were first scientifically examined in 1908, by a party of which Mr. Judd was a member, led by Professor Byron Cummings, formerly of the University of Utah and now of the University of Arizona. They are supposed to be the ruins of dwellings made by the Snake people whose descendants live to-day in Hopi villages in northeastern Arizona. Some of the houses built in the cliffs are very large, measuring several hundred feet in length and include as many as a hundred rooms. Naturally, some of the original rooms are buried in fallen debris but their excavation and repair is to be carried out between now and the end of June, by Mr. Judd and his party.

The only human beings living in the neighborhood of these ruins is an Indian trader, and a few Navahos who are very superstitious. None of them will dig in the ruins fearing to evoke the wrath of the spirits of the dead, so Mr. Judd will be forced to engage white laborers at Flagstaff, probably six in number and a cook, relying on the native Navahos only for trail-making and the transportation of his supplies and building materials to the ruin where the work is to be done.

THE INDIAN SCIENCE CONGRESS

FROM an account in *The Englishman,* Calcutta, we learn that the fourth annual meeting of the Indian Science Congress opened on January 10 in Bangalore. A large and distinguished gathering of scientific men from

all parts of India is said to have been present, including the Hon. Mr. H. V. Cobb, Sir Alfred Bourne, Sir Sidney Burrard, Mr. J. Mackenna, Dr. Mackighan, Dr. J. L. Simmonson, Dr. H. E. Watson, Mr. R. H. Campbell, C.I.E., Dr. Harold Mann, Dr. T. M. Nair, Dr. E. H. Hankin. There were also a number of prominent local officials and others present.

The Maharaja of Mysore in opening the congress welcomed the members and made a short speech in the course of which he referred to the war. He said that one could not help feeling it a tragedy that science, to which the world so largely owed its progress and civilization, was being, as it were, debased in this war and used for the purpose of destroying human life. But may we not hope that good may come out of evil and that the lesson which the present war will leave behind of the appalling results of applying discoveries of science to the fast destruction of the human race, may eventually bring about a world peace by making the very thought of war abhorrent? May we not look forward to the time when science will be hailed not only as a beacon light of civilization but as the world's peacemaker? He alluded to the effect on Indian conditions of efforts made in the British Isles to develop science and trade and promote economic efficiency and said that the recent appointment of the industries commission will also doubtless help in that direction. He thought that some organization on the lines of the advisory board recently brought into existence in England, should be attempted in India, and referred to the need of further expansion of the Indian Institute of Science on its practical side.

As president of the Chemistry Section, Dr. J. L. Simonsen, of the Presidency College, Madras, said in the course of his address to that body:

> I do not think that we can say that all is well with chemistry in India. I would submit for your consideration what I consider to be the four main causes of the paucity of research: (1) That in many colleges the staff are insufficiently trained. I do not intend to throw any aspersions on a hard working and worthy body of men; it was not their fault that when at college they received a training which did not fit them for higher teaching or research and for reasons which I shall mention they have had no subsequent opportunity to improve their knowledge. (2) That the majority of colleges are very much understaffed. This, in my opinion, is the most serious defect and the main cause of the present state of affairs. (3) The low rate of pay in academic posts. (4) The present method of promotion by seniority and not by merit. Of the other causes to which lack of research has from time to time been ascribed, I may perhaps mention two, namely, the want of library facilities and the want of a scientific atmosphere. I can not bring myself to believe that these are really serious factors. It is always a somewhat delicate matter to discuss the question of the pay offered in the various collegiate appointments. It appears to me, however, that unless the scale of pay is improved it will be impossible for us to attract the best intellects. The tendency for teaching and research to deteriorate is further announced by the fact that in practically all cases promotion is made by seniority and not by merit. I am quite willing to admit that in the larger services, such as the various government educational services, it will be a matter of considerable difficulty to make any change in the system, but I really can not imagine that it is beyond the wit of man to devise some more satisfactory scheme than the present one. One can but too well understand the feelings of a brilliant young investigator when he sees a colleague promoted to a higher post who has done nothing to render himself worthy of it, beyond putting in a certain number of years of service. This system must be radically altered if we are to see research really develop.
>
> I have dealt with the question of the staffs of the colleges at some length because I feel it to be of vital importance. We have to meet in this country the same opposition as has to be met in England. The heads of colleges, the managers of schools, in short, the authorities in charge of education, have, as a rule, little or no appreciation of the importance of science or of its requirements. It is, perhaps, too late in the day for us to educate them, but we must make sure that the rising generation is not similarly steeped in ignorance. We must insist that our science shall be given a fair chance and that our schools shall not be sweated. I use this strong word with intent, but that they shall be given an opportunity for original work, for I very strongly hold the view that no man can remain a first-class teacher or inspire his students who

is not actively engaged in research. The future is in our hands, let us prove ourselves worthy.

THE GORDON McKAY ENDOWMENT FOR APPLIED SCIENCE

In the *Harvard Alumni Bulletin* the situation in regard to the McKay bequest is reviewed. It was a little more than three years ago that the agreement of cooperation between Harvard University and the Massachusetts Institute of Technology for instruction in the field of the engineering sciences was announced. The funds for putting these plans into effect are drawn from the great bequest of Gordon McKay to Harvard University, made for the purpose of establishing a school of applied science. This fund is held by trustees who, under the terms of Mr. McKay's will, have already transferred about two million dollars to the university and are expected, on the death of all the annuitants provided for, to bring the total payments to $22,000,000. The cooperative arrangement between Tech and Harvard was no sooner made known than the McKay trustees, of whom the late James J. Myers, '69, was one, objected to it on the ground that it would not fulfil the wishes of Gordon McKay, who might have bequeathed his fortune to Technology, but deliberately committed it to Harvard instead. Accordingly the plan of cooperation has been put only into provisional practise in the new buildings of Technology. To ascertain whether the arrangement could be made permanent, the Harvard authorities, after introducing certain changes into the agreement, designed to meet some of the objections of the McKay trustees, petitioned the Supreme Court of Massachusetts to pass upon the legality of the arrangement.

The case has now come before Judge Pierce of that court for a hearing to determine the facts on which the court's interpretation of the law must be based. Charles F. Choate and Mr. John G. Milburn, of New York, appeared as chief counsel, respectively, for Harvard University and the McKay trustees. There was much reading of documents. President Eliot, President Lowell, President Maclaurin of the Institute, and Mr. Frank F. Stanley, one of the trustees, appeared as witnesses. The testimony presented bore upon the history of the negotiations between Harvard and Tech, and of instruction in applied science at Harvard; also upon the method and extent of the control secured to Harvard, under the agreement, in the expenditure of the McKay bequest. The hearing lasted three days. In due time the case will go to the full bench for argument.

The provisions of Mr. McKay's will include the following:

> The net income of said endowment shall be used to promote applied science:
>
> *First.* By maintaining professorships, workshops, laboratories and collections for any or all of those scientific subjects, which have, or may hereafter have, applications useful to man, and
>
> *Second.* By aiding meritorious and needy students in pursuing those subjects.
>
> Inasmuch as a large part of my life has been devoted to the study and invention of machinery, I instruct the president and fellows to take special care that the great subject of mechanical engineering in all its branches and in the most comprehensive sense, be thoroughly provided for from my endowment.
>
> I direct that the president and fellows be free to provide from the endowment all grades of instruction in applied science, from the lowest to the highest, and that the instruction provided be kept accessible to pupils who have had no other opportunities of previous education than those which the free public schools afford.
>
> I direct that the salaries attached to the professorships maintained from the endowment be kept liberal, generation after generation, according to the standards of each successive generation, to the end that these professorships may always be attractive to able men and that their effect may be to raise, in some judicious measure, the general scale of compensation for the teachers of the university.
>
> I direct that the professors supported from this endowment be provided with suitable assistance in their several departments, by the appointment of instructors of lower grades, and of draughtsmen, foremen, mechanics, clerks or assistants, as occasion may require, my desire being that the professors be free to devote themselves to whatever part of the teaching requires the greatest skill and largest experience, and to the advancement of their several subjects.
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> I direct that the president and fellows be free to