

Platte and Kansas. The western part of the basin is in the arid belt and the eastern part is in the semiarid and humid regions. Ten states of the Union are drained in part by Missouri River. Rising at the Red Rock Lakes, at an elevation of 6,700 feet above sea level, this stream descends through the Rocky Mountains and emerges on the broad prairie land a few miles below the city of Great Falls, Montana. From that point it is accounted a navigable stream with an easy grade, and in passing through the Dakotas and along the borders of Nebraska, Kansas and Iowa it receives the flow of great tributaries, so that as it crosses the State of Missouri and joins the Mississippi a short distance above St. Louis it becomes one of the large rivers of the world. Its total drainage area is about 492,000 square miles in extent and comprises, in addition to the states above mentioned, large areas in Wyoming and Colorado and a smaller area in the southwestern part of Minnesota.

THE Michigan College of Mines has received a collection of minerals from the Shattuck Cave, near Bisbee, Arizona, one of the wonders of the mining world. This cave was opened in 1913 by a drift on the third level of the Shattuck Mine. When the miner who had been drifting in this part of the level returned one night after a heavy blast, he found that the working face had entirely disappeared and that before him was a great opening reaching farther than his light would shine. Looking upward he could see tiny lights flashing and believing that they were stars he ran back to the shaft, declaring that he had blasted a hole clear through to surface. Mine officials investigated at once and found that a great natural cavern had been opened up, circular in shape, 340 feet in diameter and 175 feet high. It was a virtual fairyland of beauty, myriads of crystals in the roof reflecting back the lights from the miners' lamps. Walls, roof and floor were covered with great clusters of crystals, and near the center of the cavern a cluster of stalactites hung from the ceiling in the form of a great chandelier 40 feet long. The crystals were for the most part pure white, but in places where the filtering waters had contained

iron and copper, the beauty was enhanced by great transparent stalactites and stalagmites, some ruby red, others a clear emerald green or azure blue. The mining company illuminated the cave with electricity and has allowed thousands of visitors the privilege of seeing it. An attempt was made to have the Smithsonian Institution at Washington remove and reproduce a portion of the cave, but nothing came of it. It is because the mine operators have now found it necessary to fill the cave with waste rock that the Shattuck-Arizona Mining Company sent the specimens to the College of Mines. Superintendent Arthur Houle, of the Shattuck Company, is a brother of Professor A. J. Houle of the college.

UNIVERSITY AND EDUCATIONAL NEWS

THE Massachusetts committee on education voted unanimously on February 25 in favor of "taking initial steps toward the establishment of a state university."

ROBERT FLERSHEIM has left a bequest of a million marks to the University of Frankfurt.

DR. FRANK J. GOODNOW will be formally inaugurated president of the Johns Hopkins University on or about May 20. It is planned to give the occasion a double significance in inaugurating the third president of the university and formally dedicating the new site at Homewood.

AT Smith College the following promotions have been made: from assistant professor to associate professor, Inez Whipple Wilder, A.M., department of zoology; from instructor to assistant professor, Mary Murray Hopkins, A.M., department of astronomy, and Grace Neal Dolson, Ph.D., department of philosophy.

THE senate of the University of London has conferred, as we learn from *Nature*, the titles of professor and reader in the university upon the following: Dr. A. L. Bowley (London School of Economics), statistics; Mr. L. R. Dicksee (London School of Economics), accounting and business organization; Mr. J. E. S. Frazer (St. Mary's Hospital Medical School), anatomy; Dr. T. M. Lowry (Guy's

Hospital Medical School), chemistry; Mr. J. H. Morgan (University College and the London School of Economics), constitutional law; Dr. W. J. R. Simpson (King's College), hygiene and public health; Mr. J. H. Thomas (University College), sculpture; and Mr. G. Wallas (London School of Economics), political science.

DISCUSSION AND CORRESPONDENCE

HEADSHIP AND ORGANIZATION OF CLINICAL DEPARTMENTS OF FIRST-CLASS MEDICAL SCHOOLS

TO THE EDITOR OF SCIENCE: In the October 30, 1914, number of SCIENCE there is a very interesting and timely article by Dr. Meltzer, of the Rockefeller Institute, on the reorganization of clinical teaching in this country, "Headship and Organization of Clinical Departments of First-class Medical Schools." The subject is a very important one and I feel sure that it will interest the many medical men who have the opportunity of reading your journal. Dr. Meltzer refers in his letter, which is written to a university president, to the report of the Council on Medical Education of the American Medical Association made to the House of Delegates of the A. M. A. in June of last year. He takes occasion to criticize in his letter several statements made in this report, and especially the statement "that the medical school very properly demands that its clinical teachers be men who are recognized as authorities in their special fields, both by the profession and the community," and he further objects to the use of the term "grotesque" as referred to a plan in which it is proposed that clinical teachers may do private practise, but that fees from such practise are to be turned into the university treasury. He also questions in advance the value of a report on the reorganization of clinical teaching that is to be made by a committee of the well-known clinical teachers to whom this subject has been referred by the Council on Medical Education.

As chairman of the Council on Medical Education I am very glad that this important subject is being discussed in the columns of such an influential journal as SCIENCE and by such an able physician and research worker

as Dr. Meltzer. I feel, however, that the readers of SCIENCE and college presidents and trustees could not form an accurate view of the position taken by the American Medical Association from Dr. Meltzer's letter alone, and without reading the portion of the report of the Council on Medical Education referring to this subject, and therefore am enclosing this special part of our report from page 15 to page 17.

In the reorganization of our medical schools one of the most pressing needs is that of placing the clinical departments on a more satisfactory basis. Little has as yet been done in this country with this problem, and the time has arrived when the medical profession and the medical schools must take up this matter vigorously and formulate a general plan of organization of our clinical departments and urge its adoption. With this in view the Council on Medical Education has appointed a strong committee of ten clinicians, who have had great experience in teaching and who are regarded as authorities in their special departments and in medical education, to study this subject and report to the conference on medical education.

The organization of a clinical department is a more complex subject than that of a department like anatomy, or physiology, where teaching and research are the functions demanded.

In clinical work the head of the department and his associates must be three things; first, great physicians in their special field; second, trained teachers; and third, research workers. The medical school very properly demands that their clinical teachers be men who are recognized as authorities in their special fields, both by the profession and by the community. In the organization of a clinical department this fact must not be lost sight of and whatever plan is adopted must make it possible for the clinical teachers to remain the great authorities in their special fields both in the eyes of the profession and of the public.

The plan adopted by the German universities has been on the whole most satisfactory. There a professor in a clinical department is in every sense a university professor just as