

clinics, a new testing and experimenting laboratory in civil engineering, new machine shops in mechanical engineering, and an entirely new establishment for the department of chemistry, where the great increase in the number of students taking the work has created serious embarrassment even necessitating the exclusion from the already overcrowded laboratory of undergraduates in whose courses chemistry is a prescribed or elective subject. A new chemical laboratory entirely adequate for the purpose would, as President Schurman estimates, cost from \$300,000 to \$400,000.

*THE DELOS ARNOLD COLLECTIONS OF
NATURAL HISTORY SPECIMENS*

HON. DELOS ARNOLD, of Pasadena, has presented to the department of geology of Stanford University his great collection of fossils, shells, corals, minerals, ethnologic materials, etc. This collection is a gift to the university on the condition that it be kept intact, and that it be properly cared for, labeled and exhibited. It represents the work of a lifetime by an enthusiastic student and collector, and is one of the finest private collections of fossils in the country. It is especially valuable on account of the large amount of recent and Tertiary material collected on the west coast of North America. For the use of students of the geology of California and the west coast generally, it is without an equal.

The collection was begun by Mr. Arnold in 1860 when he lived in the state of Iowa, and besides the constant work done upon it by him, it has received many acquisitions up to 1908, and it is stipulated by the donor that still further additions may be made to it in the future. Most of the minerals were collected in Colorado in the seventies and in Arizona in the eighties.

The collection of recent marine shells so necessary in the study of Tertiary geology is one of the finest in this part of the country, and it embraces a large amount of material collected on the Atlantic coast from Maine

to the West Indies. It includes most of the common forms both of shells and corals and a large number of the rarer ones collected by Mr. Arnold at Jacksonville, Key West, St. Augustine and New Orleans. Of the west coast materials, it embraces collections made by Mr. Arnold and his son Dr. Ralph Arnold almost continually all the way from Puget Sound to Panama, and includes both the littoral species and the deeper water forms obtained by dredging. There are also a good many shells obtained by exchange and purchase from Europe and other parts of the world, and especially from the Mediterranean Sea, from the coasts of France, and from the Hawaiian Islands. A representative collection of fresh-water shells from various parts of the United States is also included in the materials.

The fossils, however, form the most important part of the collection. These embrace Paleozoic, Mesozoic, Tertiary and Pleistocene forms. The paleozoic materials include one of the best collections ever made from the famous crinoid-bearing Kinderhook beds (Carboniferous) at Le Grand, Iowa. Many of these fine specimens are types, and are figured in Wachsmuth and Springer's monograph on the crinoids. Of especial interest in connection with the collection of fossil crinoids is a beautiful specimen of a living crinoid from the China Sea.

The Mesozoic materials of the collection come from different parts of North America, notably from California, and the Dakotas, and from Europe.

The collection of Tertiary and Pleistocene fossils is among the best of the kind in existence, and, in many respects, it is unique. It includes a number of types and a large number of specimens that have been figured in publications upon the Tertiary and Pleistocene of the Pacific coast, notably in the papers published by Dr. Ralph Arnold, the distinguished son of the donor. Getting together this particular part of the collection has occupied Mr. Arnold's time for twenty-two years. At San Pedro, one of the richest and most important localities where collecting

has been done, the collecting ground has been encroached upon by the sea and carried away for ballast until the fossil-bearing beds have now been nearly destroyed, and similar collections thus made impossible. There are besides full collections from all the known Pleistocene localities from Puget Sound to Scammon's Lagoon in Lower California. The collections from Santa Barbara and San Diego are large and especially fine. There is also much valuable material obtained by exchange from Dr. M. Cossman and Jean Miguel, of France, and from Dr. Koto, of Japan. Representative Tertiary and Pleistocene materials of the eastern United States have been received from Professor Gilbert D. Harris, of Cornell University, from T. H. Aldrich, of Birmingham, Alabama, from the Chicago Academy of Sciences, and from many other persons and institutions. It is estimated that the collection contains 30,000 species and considerably more than 30,000 duplicates.

The new exhibition cases in the geological department will be used for the display of the collection. It will occupy part of the large museum room on the ground floor adjoining the geological lecture room. It will be kept together, and will be known as the "Delos Arnold Collection."

Hon. Delos Arnold, of Pasadena, who made the collections of fossils, shells, minerals, etc., known as the "Delos Arnold Collection" lately presented by him to the department of geology in Stanford University, was born July 21, 1830, in Chenango County, N. Y. He was educated in the common schools of that state, and at Fredonia Academy in Chautauqua County, N. Y. He studied law at the Albany Law School, from which he graduated in 1853. In that same year he moved to Marshalltown, Iowa, and lived there until 1886. For several years he was district attorney and treasurer of Marshall County. He was appointed United States Assessor of Internal Revenue for the Sixth Iowa District by President Lincoln, and served four years. For twelve years he was a member of the Iowa legislature, having been four years member of

the general assembly, and eight years member of the senate. He was also special state auditor to examine the accounts in connection with the state capitol of Iowa. In 1886 Mr. Arnold moved to Pasadena, California, and has lived there ever since. For ten years he was a member of the school board of the city of Pasadena.

*THE DEPARTMENT OF MICROSCOPY OF
THE BROOKLYN INSTITUTE OF
ARTS AND SCIENCES*

THE regular meetings of the department of which Mr. John J. Schoonhoven, M.A., is president, and Miss Agnes Vinton Luther, secretary, will be held during the season on the second and fourth Tuesday evenings of each month. The proceedings at the meetings are as follows:

October 13—Conference on "The City's Water Supply," to be conducted by Mr. Daniel D. Jackson, S.B., director of the Mount Prospect Laboratory of the Division of Water Supply. The subject of the conference will be illustrated by lantern photographs.

October 27—Lecture by William H. Park, M.D., of the Research Laboratory of the Department of Health, New York City, on "The Recent Research Work of the Department of Health."

November 10—Conference on "Textile Fibers," to be conducted by Miss Agnes Vinton Luther, secretary of the department.

November 24—Lecture by Professor William Campbell, Ph.D., of Columbia University, on "The Microscopical Structure of Metals and Alloys, Native and Artificial."

December 8—Conference on "The Use of the Microscope in the Detection of Poisons in Chemical Analysis," to be conducted by Mr. Herbert B. Baldwin, chemist for the Board of Health, Newark.

December 22—Lecture by Professor Herbert W. Conn., Ph.D., of Wesleyan University, on "Rabies."

January 12—Conference on "Photography Applied to Microscopy," to be conducted by Messrs. George E. Ashby and J. P. Wintringham, members of the executive committee of the department.

January 26—Lecture on "The History and Recent Improvements in the Projection Microscope," with demonstrations, by Professor Simon Gage, Ph.D., of Cornell University.

February 9—Conference on "The Use of the