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THE GEOLOGICAL SCIENCES AT HARVARD UNIVERSITY
FROM 1788 TO 1850'

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ABSTRACT

Formal course instruction in mineralogy and geology began in Harvard College in 1788 with Benjamin Waterhouse. He also assembled in the 1780's a reference and teaching collection of minerals, rocks, and ores--the first natural history collection at Harvard--that, following a gift by an English friend, J. C. Lettsom, became a cynosure of the College. Following Waterhouse's dismissal in 1812, the instruction was carried on by John Gorham until 1824. Waterhouse, his colleague Aaron Dexter, and Gorham all were professors in the Harvard Medical School, established 1782. The latter two men successively held an endowed chair therein, the Erving Professorship of Chemistry and Materia Medica. They produced some notable graduates: Parker Cleaveland in 1799, Lyman Spalding in 1797, Joseph Green Cogswell in 1806, John White Webster in 1811, John Fothergill Waterhouse in 1813, and Samuel Luther Dana and James Freeman Dana in 1813.

Following years of futile effort by the Administration to establish a professorship of mineralogy and geology, with Cogswell as the selected candidate, the instruction in mineralogy and geology fell to John White Webster in 1824 in the Chemistry Department. The Erving Professorship also passed to him, with a change in title to Professor of Chemistry and Mineralogy. Webster's death in 1850, following his conviction for murder in a famous trial, terminated the first period of development of the geological sciences at Harvard. In this period, in spite of the early start by Waterhouse, Harvard lagged much behind the developments at Yale and other colleges in New England and beyond. The main period of development of the geological sciences at Harvard come in the latter 1800's. It was a consequence primarily of the founding of the Lawrence Scientific School in 1848, with its emphasis on the applied aspects of the sciences, the appointments of Josiah Dwight Whitney and Raphael Pumpelly in 1865 and 1866, respectively to a School of Mines and Practical Geology endowed as a sub-unit therein, and the appointment of Josiah Parsons Cooke in 1850 as successor to Webster in the Chemistry Department.

A HISTORY OF GEOLOGY AND GEOLOGICAL EDUCATION IN CHINA
(TO 1949)'

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ABSTRACT

References to geology are in the earliest Chinese writings. However, the literature was little disseminated--and mostly unknown to the rest of the world until recently.

The purpose of the imperial examination system, which began in the Sui Dynasty (581-618), was to select government officials-- and thus greatly influenced topics studied by ambitious Chinese.

The natural sciences were not included, and even mathematics was eventually excluded. Therefore, education in the sciences was neglected and the study of geology was virtually ignored.

It was not until late in the Qing Dynasty (1644-1911) that the government formulated a policy to introduce foreign science and technology into China. Modern geologic ideas were introduced with the establishment of technical schools and the translation into Chinese of works by James D. Dana and Charles Lye¹¹ during the 1870s. Early in the twentieth century, foreign geology teachers were brought to China and Chinese students were sent to foreign countries to study geology. This infusion successfully developed the modern teaching and practice of geology in China.

THE INFLUENCE OF THE UNIVERSITY OF HEIDELBERG ON THE DEVELOPMENT
OF GEOLOGY IN NORTH AMERICA BETWEEN 1860 AND 1913'

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ABSTRACT

The University of Heidelberg, in Heidelberg, West Germany, had a significant influence on the development of the geological sciences in North America between 1860 and 1913. During these years, in a reversal of the current scene, the brightest young scientists of North America came to Europe to pursue graduate studies. Of these scientists, twelve came to Heidelberg to study the geological sciences and then returned to North America to make significant contributions in their field. For example, two students developed the CIPW normative calculations; one performed the first quantitative laboratory experiments, duplicating rock deformation in the earth's crust; another student became the first "geologist-in-charge" of the United States Geological Survey (USGS); and a fifth mapped Yellowstone before it was a national park. The students came to Heidelberg to learn the newest techniques from professors such as Rosenbusch, Bunsen, and Salomon-Calvi. They also learned to develop theories based on the technique of detailed and careful observation that these men used. They caught the excitement about the world around them exuded by these same men, and they, in turn, spread what they had learned in Heidelberg when they returned to North America as professors and members of the USGS.

JEAN BAPTISTE DE LAMARCK -- THE FIRST ENVIRONMENTALIST'

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In 1817, Jean Baptiste de Lamarck concluded that Man had the potential to destroy his own species by making the earth uninhabitable.

ON THE 1946 DISCOVERY OF THE PRECAMBRIAN EDIACARIAN FOSSIL FAUNA
IN SOUTH AUSTRALIA.'

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ABSTRACT

The discovery of the Ediacarian metazoan fossil fauna in South Australia on March 27, 1946, by the author represented the culmination of a decade of widespread and diligent search. It was not, as one authority has recorded,..."basically fortuitous." The find was made in the course of widespread mapping of the late Proterozoic-Cambrian succession and followed Sprigg's remapping, remeasurement and redefinition of Howchin's "Adelaide Series', through to the base of the fossiliferous Cambrian succession.