

HISTORY OF GEOLOGY

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History of geology by Horace B. Woodward

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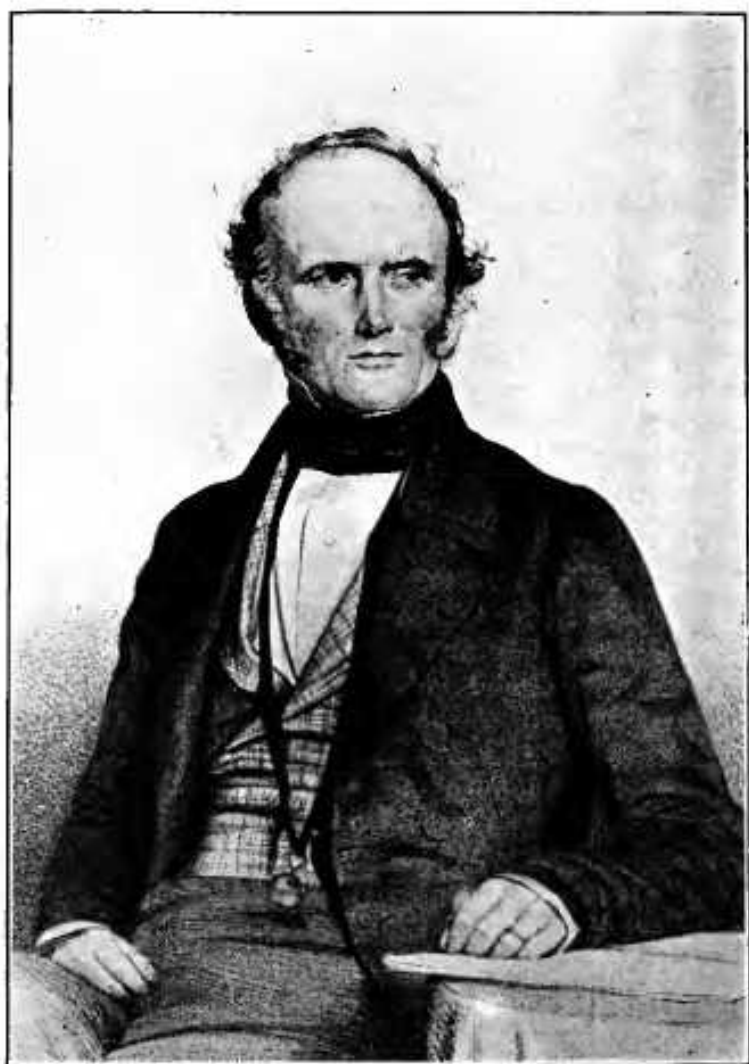
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HORACE B. WOODWARD

**HISTORY
OF GEOLOGY**



SIR CHARLES LYELL.
From a portrait by T. H. Maguire.

HISTORY OF GEOLOGY

BY

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CHAPTER I.

EARLY NOTIONS ABOUT THE HISTORY OF THE EARTH

GEOLOGY, as understood at the present day is the science which seeks to explain the structure and origin of the earth, and the successive changes in scene and life that have diversified its surface in past times. The story is written in the rocks, the minerals, and the fossils which form the solid outer portion, known as the earth's crust.

As a science, the birth of geology dates from the close of the eighteenth century, when the true method of interpreting the facts had been established. As in other branches of learning, the knowledge which led to the foundation of geology was acquired by degrees, sometimes at long intervals; but many of the observations on which are based the principles of the science were of necessity or even forcibly brought to the notice of mankind in the earliest days of human existence.

Thus the phenomena of volcanoes and earthquakes, the darkness caused by the dispersal of volcanic dust, hot springs, floods, landslips, and the waste of the land by sea, naturally came under observation; and eventually there arose notions about central heat, of waters under the earth, of successive catastrophes, and periods of destruction and creation.

Attention must have been given in early days to

various stones from beach, bed of stream, or bank of gravel, where materials suitable for weapons and implements could be obtained. There, too, bright precious stones and metals would also attract notice, and be used as ornaments and charms:

In course of time the digging of shallow pits for hut circles and of trenches for earthworks, the excavations for rock-shelters and others in the shape of shafts, to provide secret places of refuge and storage (Dene holes) or to extract flint for weapons, all gave ideas of the different kinds of earth and rock, and occasionally proved the presence of well-water.

The discovery in some places of huge fossil bones led to the supposition that there were giants in the days of old, as well as other fabulous creatures. Thus the inhabitants of Klagenfurt preserved in the Rath-Haus a fossil skull of Rhinoceros, believed at one time to be a remnant of their old enemy the famous Dragon, of which a bronze effigy adorns their public square.¹

The digging of clay for pottery, the quarrying of stone for building, as well as agricultural operations, gave knowledge of the soils and substrata; but the earliest industry connected with geology was doubtless the fabrication of stone weapons. No wonder that curiosity and interest in the origin of the earth and its inhabitants arose at the most remote times of which we have record; that speculations on cosmogony are found in the earliest writings of Oriental nations. Rich in interest, these early efforts of man to penetrate the mystery of the origin of the earth indicate that his aims and aspirations differed in no essential features from those of later and more enlightened generations.

¹ *Geol. Mag.*, 1864, p. 38.