

**A POPULAR MINERALOGY AND
GEOLOGY. PREPARED FROM THE
LATEST AND BEST AUTHORITIES
IN EUROPE AND AMERICA**

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A Popular Mineralogy and Geology. Prepared from the Latest and Best Authorities in Europe and America by Katherine E. Hogan

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KATHERINE E. HOGAN

**A POPULAR MINERALOGY AND
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IN EUROPE AND AMERICA**

A POPULAR
MINERALOGY
AND
GEOLOGY.

*Prepared from the latest and best authorities in
Europe and America.*

BY
KATHERINE E. HOGAN,
GRADUATE OF
COLUMBIA COLLEGE SPECIAL COURSE.

NEW YORK:
A. LOVELL & COMPANY,
1895.

ILLUSTRATIONS.

The Earth in its Nebulous State.
Mount Vesuvius.
Geyser.
Metallic Vein.
Coral Islands.
Glacier.
Devonian Fish.
Plants of the Coral Measures.
Reptiles (3).
Mammals (3).

AUTHORITIES CONSULTED.

Barrande.
Bunsen.
Dana.
Figuier.
Geikie.
Hayden.
Hopkins.
Huxley.
Liebig.
Le Conte.
Lyell.
Murchison.
Newberry.
Owen.
Roscoe.
Thomson, Sir William
Tyndall.

For the engravings the author is indebted to the French of M. Figuier, except in the case of the *Geyser*, which, by the courtesy of Messrs. Appleton & Co., was taken from *Le Conte's Geology*.

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PREFACE.

As its title expresses, this little book is an outline of the history of the earth, from its creation up to the present time.

The structure of our planet is explained as well as the action of the agents—air, water and heat—that have made it assume its present appearance.

The successive forms of life are taken up, and their most striking characteristics pointed out. We have also considered the causes, so far as known, that lead to their extinction or modification.

Thus we say that the invertebrates and fishes first appeared, because the lately cooled earth was incapable of supporting any higher forms of life. Next, that the coal-measures were laid down, because in certain localities the nature of the soil and the superabundance of carbonic acid in the atmosphere rendered possible a rank vegetable growth whose decay made the coal.

The partial exhaustion of carbonic acid made the air more fit for breathing, and reptiles were introduced.

Then, the conditions being favorable, mammals—the highest form of life—appeared on the scene.

We know that, owing to causes about which the scientists still dispute, this gradual progression stopped. The mammals, with every other form of life, were almost all swept away by the desolation of the *Ice Age*.

Those that escaped death were driven far to the south, till, the rigor of the arctic climate having abated, a slow migration northward again took place.

The mammals having re-established themselves, some of them developed into brutes of extraordinary size, and some into brutes of extraordinary ferocity.

Man is the last to appear, and weak as an infant in com-

parison with the animals about him, yet he, by his intelligence, exterminates the monsters, or tames them, and makes them the servants of his will.

This part of the history cannot fail to be of the highest interest. The only regret is, that the limits of the book forbid its being anything more than a mere sketch.

The minerals, of which the rocks are composed, are also briefly described.

It would be a great advantage to the children if in every school there were a collection of at least twenty common minerals, plainly labeled. The pupils should then be encouraged to make collections for themselves, verifying their *guesses* by comparison with the labeled specimens. Thus an interest in the mineral kingdom will be awakened in the child's mind. He will not forget what he learns in this way; there is a fascination about it; he has collected the stones himself, compared them with the specimens in the class-room, and *knows* if they are or are not of the same kind.

He has learned by doing.

THE AUTHOR.