

A GEOLOGICAL HISTORY CHART BUILT OF ROCKS AND FOSSILS

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(READ BY W. M. KROGMAN)

About five years ago the thought came to me that the majority of the thousands of visitors at the Illinois State Museum—the ordinary tourist, the farmer, the miner, the business and professional man, the politician, and the even larger number of women and children who come—might be interested in some device which would present the geological story briefly, without too much detail and without the necessity of bending over a series of cases which required minute study and observation.

To present historical geology, wall charts have long been employed especially by the Germans and other European peoples, and these charts are familiar equipment in our university class rooms. But the average visitor at a museum comes to us to see objects rather than diagrams, and he may even be suspicious of diagrams. However, he is at once attracted to a large chart made of rocks and fossils.

In order that a world view rather than a local one might be presented we took into consideration much that is known of the geology of Australia and China, as well as that of Europe and America.

On a panel 22 feet high and 20 feet wide, built of spruce lumber covered with black cloth, 2 feet from the left side are angle irons 1 foot apart, between which is a rock column of the formations characteristic of each of the systems beginning with the Archean and extending up to the Pleistocene. The total thickness of known rock strata was assumed to be 400,000 feet, and since this is to be represented in a column 22 feet high a certain number of inches is assigned to each system in proportion to its typical thickness. It is, of course, difficult to decide what thickness should be chosen as typical, since conditions vary so greatly in different portions of the globe, and the question would also be whether to choose the maximum thickness reported or an average thickness. The conclusions were harmonized with the time element assigned to the various systems by paleontologists.

The rock column is now nearly completed and presents quite an attractive appearance. At the left of the column each system is labeled and the kind of rock with its locality is given. Simplicity in naming has been aimed at, overlapping terms avoided.

At the right of the rock column, in a space marked off by white tape, the fossils characteristic of each system will be placed. Naturally they will occupy the major portion of the chart, and will be the most striking feature of the exhibit. Nearest the rock column are the plants which mark any definite horizon. At their right in order are shown the sponges, corals, and molluscs, changing with succeeding millenniums. The time when fish became important will be marked by the fossil fish ascendent at that time, and similarly the age of amphibians, reptiles, birds, and mammals will stand out clearly.

When the work is completed our conviction is that it will make a very striking picture, so that he who runs may read and obtain a more convincing illustration of the major events in world history than he could obtain in similar space any place else.

To one who has not attempted such a project it might not seem difficult to obtain rock samples of strata that extend over thousands of square miles and that occur in beds hundreds of feet thick. But though we have given attention to this for more than two years, we still lack an example of Devonian sandstone, Triassic dolomite, Comanchean conglomerate, and Oligocene sandstone. The difficulty possibly indicates that theory rather than actual accomplishment still satisfies many geologists and that they are content to know that certain formations are a hundred miles away rather than to have at hand an illustration. If anyone can suggest where the missing rocks may be obtained we shall be obliged.