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ON THE LAURENTIAN ROCKS OF BAVARIA.

By DR. GUMBEL, Director of the Geological Survey of Bavaria; with a plate containing figures of two species of Eozoon.

*Translated from the Proceedings of the Royal Bavarian Academy for 1866, by Professor Markgraf.**

The discovery of organic remains in the crystalline limestones of the ancient gneiss of Canada, for which we are indebted to the researches of Sir William Logan and his colleagues, and to the careful microscopic investigations of Drs. Dawson and Carpenter, must be regarded as opening a new era in geological science.

This discovery overturns at once the notions hitherto commonly entertained with regard to the origin of the stratified primary limestones, and their accompanying gneissic and quartzose strata, included under the general name of primitive crystalline schists. It shows us that these crystalline stratified rocks, of the so-called primary system, are only a backward prolongation of the chain of fossiliferous strata; the elements of which were deposited as oceanic sediment, like the clay-slates, limestones and sandstones of the paleozoic formations, and under similar conditions, though at a time far more remote, and more favorable to the generation of crystalline mineral compounds.

In this discovery of organic remains in the primary rocks, we hail with joy the dawn of a new epoch in the critical history of these earlier formations. Already, in its light, the primeval geologic time is seen to be everywhere animated, and peopled with new animal forms, of whose very existence we had previously no suspicion. Life, which had hitherto been supposed to have first

*EDITOR'S NOTE.—In revising and preparing this for the press, the original paper has been considerably abridged by the omission of portions, whose place is indicated in the text. Some explanatory notes have also been added.—T. S. H.