

With the more crystalline terranes correlation is extremely difficult. This is owing to the absence of fossils; to the uncertain value of the criterion based on kinds of rocks; and to the fact that no subdivision admits of being traced to any great distance, except the kind which depends on unconformity in bedding. Since this kind of unconformity is a consequence of an orographic upturning, and mountain ranges have usually great length, it will theoretically exist for long distances. Subdivisions based on other kinds of unconformity, and on the characters of the rocks, are the most common, and are necessarily of only local value. The study of a region with reference to unconformity in bedding involves a complete investigation of the positions of the planes of bedding, or foliation, wherever the rocks are exposed to view.

The beds of iron ore and the graphite-bearing schists of Wisconsin are proved to belong to the later part of Archæan time—the Huronian; and this is probably true for the associated Archæan beds and schists, whether massive, gneissic, or thin schists, and hence beds of iron ore are a great help in correlation. The beds of limestones may yet be found to give aid in the same direction.

The study of the Archæan rocks has difficulties, but not so great as are implied in the term “Basement Complex,” sometimes used for the more crystalline kinds, — an expression that sounds like a wail of despair on the part of those that use it.

3. Source of the material of later fragmental rocks. — The Archæan rocks, and rocks made from them, are the main source of the material of subsequent non-calcareous fragmental rocks. Volcanic eruptions have added a little to the supply; chemical depositions also a little; and the siliceous secretions of the lowest orders of plants and animals have contributed silica to some extent; but all these sources are small compared with those of the Archæan terranes. Even the limestones have derived much of their material from the same source, through the dissolving waters. The areas were well distributed over the continent for supplying, through the help of the ocean, mud, sand, and gravel for the deposits that were in progress as the next era opened—better even than is now apparent, since many once exposed are now covered, especially along the sea-borders, where the later rocks have often great thickness. And their contributions have continued ever since to be used in rock-making, both directly and through the strata which had been made from them.

4. The first of living species. — Science has no explanation of the origin of Life. The living organism, instead of being a product of physical or chemical forces, controls these forces for its higher forms, functions, and purposes. Its introduction was the grandest event in the world's early history.

It is probable that the first species were of the simplest kinds; that the animals were devoid of special organs of *sense*, and of *motion*, excepting