http://geology.19thcenturyscience.org/books/1902-Geikie-Geology/README.htm



corals, crinoids, and brachiopods abound in the limestones and accompanying shales, but grow fewer or disappear in the sandstones, ironstones, clays, and bituminous shales. An observer, meeting for the first time with an instance of this disappearance, and remembering what he had read about "breaks in succession," might be tempted to speculate about the extinction of these organisms, and their replacement by other and later forms of life, in the overlying strata. But further research would show him that, high above the plant-bearing sandstones and coals, lie other limestones and shales charged with the same marine fossils as before, and followed by still further groups of sandstones, coals, and carbonaceous beds and yet higher marine limestones. He would thus learn that the same organisms, after being locally exterminated, returned again and again to the same area when the conditions favorable for their migration reappeared and enabled them to reoccupy their former haunts. Such a lesson would probably teach him how largely the fauna entombed and preserved on any particular geological horizon has been influenced by the conditions of sedimentation, and that he should pause before too confidently asserting that the highest bed in which certain fossils can be detected marks really their final appearance in the history of life. An interruption in the succession of fossils may be merely temporary or local, one set of organisms having been driven to a different part of the same region, while another set occupied their place until the first was enabled to return.

The remarkable limitation of certain species to a restricted vertical range in a continuous series of stratified deposits, as in the case of the Silurian graptolites and the Jurassic ammonites already cited, affords a valuable basis