

fossils. Still it would be obviously incorrect to say that the two sandstones were of the same age. This would be equally true were each of the beds represented in the figure a series of similar beds, instead of a single one.

When the exposures are far removed from the obdland shore, and there is very little doubt that the old landward extension of the beds is completely gone, the order of superposition in the cliff, or across country in a region of lightly inclined dips, may be taken as the order of succession. Such a series as that represented by the Medina-Niagara series in Central Ontario and Western New York will serve as a case in point. In areas *adjacent* to the margin of the ancient sea the correlation of the widely separated deposits on lithological or even palaeontological grounds must be made with great care. Where lithologically similar deposits carry similar fossils contemporaneity of epoch may generally be postulated. On the contrary, the forms are not identical, and the deposits are lithologically unlike, they may still be contemporaneous deposits of different zones.

Where a small exposure of rock is found carrying fossils which are normally considered to be characteristic of two different terranes, and as a consequence the beds are inferred to be transitional ones between the two terranes, it must also be recognized that this portion of the bed may mark a transition in a horizontal direction, being but a portion of a synchronous bed of varying members.

Applying these considerations to the correlation of the sedimentary deposits along the margin of the Frontenac axis, so far as the writer is aware, no single bed has been traced through various zones. Whether it is possible to do this is problematical, because of the discontinuity of the outcrops. Inasmuch as this has not been done, there must be a factor of uncertainty in any conclusions which may be reached. There remains, however, the question as to what interpretation does the balance of probabilities