earliest known conifers were well-developed trees, with woody structure and fruits as highly differentiated as those of the living types. The oldest dicotyledons yet found, those of the Cretaceous formations, contain representatives of three great divisions of *Apetalæ*, *Monopetalæ*, and *Polypetalæ*, in the same deposit. These "are not generalized types, but differentiated forms which, during the intervening epochs, have not developed even into higher generic groups." [30]

Prof. A. Agassiz has drawn attention to the parallelism between embryonic development and palæontological history. Taking the sea-urchins as an illustrative group, he points out the interesting analogies between the immature conditions of living forms and the appearance of corresponding phases in fossil genera. He admits, however, that no early type has yet been discovered whence star-fishes, sea-urchins, or ophiurans might have sprung; that the several orders of echinoderms appear at the same time in the geological record, and that it is impossible to trace anything like a sequence of genera or direct filiation in the palæontological succession of the echinids, though he does not at all dispute the validity of the theory which regards the present echinids as having come down in direct succession from those of older geological times.[31] In the case of the numerous genera which have continued to exist without interruption from early geological periods, and have been termed "persistent types," it is impossible not to admit that the existing forms are the direct descendants of those of former ages. If, then, some genera have unquestionably been continuous, the evolutionist argues, it may reasonably be inferred that continuity has been the law, and that even where the successive steps of the change cannot be traced, every genus of the living world is genetically related to other genera now extinct.

Prof. A. Hyatt, who has closely studied the Cephalopoda, regards them as furnishing clear evidence of evolution. Returning to some of the ideas of Lamarck on development, he concludes that "the efforts of the orthoceratite to adapt itself fully to the requirements of a mixed habitat, gave the world the Nautiloidea; the efforts of the same type to become completely a littoral crawler, developed the Am-

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[30] Carruthers, Geol. Mag. 1876, p. 362.

[31] Ann. Mag. Nat. Hist. Nov. 1880, p. 369. "Report on Echinoidea," "Challenger" Expedition, vol. iii. p. 19.