

ADDITIONAL EVIDENCE ON THE ORIGIN OF CONODONTS

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Samples collected near LaSalle, Illinois, from black shales of Pennsylvanian McLeansboro age have yielded, in addition to an associated fauna of *Lingula*, *Orbiculoidea*, and fragmentary vertebrate remains, a number of excellent conodont assemblages.

Study shows that without doubt a typical assemblage consists of an anterior pair of Polygnathids, a pair of Bryantodids, and a posterior group of several pairs of Hindeodellids, arranged in a linear series. In addition to this relatively common type, one specimen shows the presence of three Polygnathids, and two others, the presence of individuals belonging to the "genera" *Distacodus*, *Lonchodina*, and *Hibbardella* or *Euprioniodina*.

The evidence afforded by the assemblages regarding the zoological affinities of the conodonts is not wholly positive. From their general aspect it seems unlikely that they are representatives of any known group of vertebrates, and equally improbable that they represent the radular teeth of gastropods or cephalopods. Rather they seem to be a part of the pharyngeal apparatus of some Paleozoic annelid.

The group is apparently not homogeneous. This is attested to by the fact

that one of the many assemblages possesses three Polygnathids, and two other assemblages possess teeth of a radically different nature.

The taxonomic problem raised is one of no mean dimensions. Inasmuch as a system of taxonomy should be so constructed as to represent the evolutionary relationships of the animals involved, and because the evidence presented in this material shows that structures which have been referred to different families may in reality belong to the same individual, considerable revision of the taxonomic treatment of the group seems necessary. To correct the present terminology by orthodox means would be extremely difficult and would require years to execute.

The solution which seems most feasible is the complete transfer of the present nomenclature to the "Ordo militaris" advocated by Carey Croneis for use in just such cases. This scheme would remove the necessity of a complete revision of the present classification, would allow the further study of conodonts as tools for the stratigrapher, and, at the same time, would permit the separate development of another classification based upon biological relationships.