from which he derives (1) *Pyrosoma* through *Distaplia*, (2) the Botryllidæ, and (3) the Social Ascidians through the Diplosomidæ and the Didemnidæ.

There are several points in that scheme which I cannot agree with. It seems to me that the passage from *Appendicularia mossi* through *Anchinia rubra* to *Doliolum*, and through the ancestral Doliolidæ to *Salpa*, is so natural and simple that it becomes very improbable that the Thaliacea have ever been fixed forms. It is extremely unlikely that they are, as Uljanin supposes, a group of Simple Ascidians, which after being fixed betook themselves again to a free-swimming mode of life and underwent great modification.

I think it is more probable that the Simple and the Compound Ascidians were both derived from a common ancestor, than that the Compound were evolved from the Simple; and I object strongly to Uljanin's view, that the Social Ascidians are a group derived from the Compound forms and having no close connection with the Simple Ascidians. This is opposed to all we know as to the very close relationship[1] between the Clavelinidæ and the Ascidiidæ. There can, I think, be no doubt after the examination of such a series of forms as *Diazona*, *Clavelina*, *Ecteinascidia*, and *Ciona*, that the Social Ascidians (Clavelinidæ) are intermediate between the least modified of the Simple Ascidians and the least modified of the Compound Ascidians, and ought therefore to be regarded as closely allied to the ancestral form from which both Simple and Compound Ascidians were derived (see E. in table, p. 150).

Finally, I may point out the two most important conclusions at which I have arrived, as the result of this investigation into the Phylogeny of the Tunicata :—

1st, *Pyrosoma*, although now a pelagic free-swimming organism, was derived from the fixed Compound Ascidians. The discovery of *Cœlocormus huxleyi* shows the relationship between *Pyrosoma* and the primitive Didemnidæ, and the latter were derived from the primitive Distomidæ; consequently *Pyrosoma* is directly related to the most typical of the Compound Ascidians.

2nd, The Ascidiæ Compositæ or Synascidiæ are polyphyletic, having been derived from the Simple Ascidians or their ancestors at three distinct points. The result of this is that the Compound Ascidians form three groups (see table, p. 150),—(1) the Polystyelidæ, (2) the Botryllidæ, and (3) the remainder, which are more nearly related to particular groups of Simple Ascidians than they are to one another.

[1] See this Report, Part I. pp. 237 *et seq.*; and Sluiter, *Natuurkund. Tijdschr. v. Nederl. Indië*, Dl. xlv. p. 160, 1886.