In the next place the researches of Barrois, Kent, and Heider make it clear that the characteristic choanocytes appear in the larval Sponge at an early stage of development (in the blastula). In no larval forms of the Cœlentera or Turbellaria have similar cells been observed.

Further, while the Sponges are distinguished by the presence of choanocytes, the Cœlentera are equally distinguished by the possession of cells bearing nematocysts; I do not know whether any Cœlenterate has yet been described in which nematocysts are not present; it is true that these structures are also present in the Turbellaria, but that only points to a common ancestry for this group and the Cœlentera.

If we derive the Sponges and Cœlentera from a common Metazoic ancestor, the simplest hypothesis will lead us to regard this as possessing both choanocytes and nematocysts; as the two groups diverged, one might be supposed to lose the choanocytal character and the other the nematocysts. I do not deny that this is possible, but it seems to me that a simple and wider reaching explanation may be found.

It is generally admitted that it is to the Infusoria that we must look for the origin of the Metazoa; if now we turn to this we find already existing collared flagellate individuals having a remarkable similitude to the choanocytes of the Sponge, and ciliated individuals possessing nematocysts and resembling the ciliated nematocyst-bearing cells of the Cœlentera and Turbellaria. The genera in which trichocysts or nematocysts have been observed are *Epistylis* and *Bursaria* among the Ciliata, *Polycricos* among the Dinoflagellata, and in the Microsporidian division of the Sporozoa. The Choanoflagellata do not possess them. The genera just mentioned as possessing nematocysts are so related that there is no reason for supposing that the nematocysts have independently originated.

The conclusion to which so far I am led is, therefore, that the Sponges have their origin in the Choanoflagellata, and the Cœlentera in Ciliata furnished with nematocysts.

It may, of course, be suggested that if the Choanoflagellata have arisen from the Ciliata, then both Sponges and Cœlentera might have been produced somewhere about the point of transition, and it is quite conceivable that this might have been a point at which some large ciliate cell remained attached or in continuity with choanoflagellate cells to which it gave rise, and in this way we might attempt to explain the early distinction of the choanoflagellate cells from the large granular cells in the amphiblastula of the Calcarea (Megamastictora). It will be found on consideration, however, that this view presents serious difficulties.

For the purposes of this Report the Sponges will be regarded as the only phylum of the separate subkingdom Parazoa—