

deep canals. On the left-hand side of the figure portions of the plates of hard tissue forming the lateral walls of the tubular cavities are shown (A, A), with their natural upper margin. Two systems of canals are seen in section near the surface of the coral. The most superficial canals (V, V, V) lie almost immediately beneath the external ectodermal layer; they are more numerous and much smaller than the deeper canals (V', V'), which form communications between the adjacent tubular cavities passing over the summits of the lower parts of their walls as is seen on the right-hand side of the figure. Both sets of canals are lined with endodermal cells.

A A. Portions of the walls of the tubular cavities.

C T. Calcareous tabulæ.

P. Projecting points of calcareous tissue.

E. External layer of ectoderm.

E N. Endoderm.

C. Mesodermal layer of homogeneous connective tissue.

D. Layer of connective tissue cells.

T. Tentacles introverted, seen in longitudinal section.

T'. Tentacles introverted, viewed directly into their mouths.

S. Cavity of stomach.

R M. Retractor muscle.

M F. Mesenterial filament.

T C. Tubular cavities of cœnenchym.

V. Superficial smaller vascular canals.

V'. Deep larger vascular canals.

Fig. 2. Section vertical to the upper surface of *Sarcophyton* sp., showing three autozooids and a number of siphonozooids.

The autozooids are represented in the contracted condition; they occupy three large elongate cavities in the general transparent sarcosome. The tentacles here are not introverted but simply retracted. The sarcosome between the autozoid cavities is traversed by an elaborate network of canals belonging to two systems, a transverse one, and a vertical one, which, however, freely anastomose. The transverse canals lead directly from one autozoid cavity to another, with a course nearly parallel to the surface plane of the *Sarcophyton*, or from the autozoid cavities to the siphonozooid cavities. The vertical system of canals has a tortuous, branching, freely anastomosing course. The siphonozooid cavities contract at their lower extremities, and pass directly into this system of canals. Prolongations of the vertical system of canals pass up to the surface between the siphonozooid cavities, and between these and the autozoid cavities.