following passage:[1]—"Ainsi le plus grande nombre des *entonnoirs ciliés*, *l'organe spongieux*, *l'organe axial*, les chambres de *l'organe cloisonné*, ne forment qu'un seul et même système, à la fois l'analogue et l'homologue du système formé chez les Oursins, les Astéries et les Ophiures par la *plaque madréporique*, le *canal hydrophore* ou *canal du sable* et la *glande ovoïde* qui lui est constamment annexée."

The above statement harmonises admirably with the theory which Perrier has so long been advocating respecting the fundamental unity of what are generally known as the water-vascular and the blood-vascular systems of Echinoderms. This theory is by no means new, and appeared to receive confirmation from the results of Perrier's study of the circulatory apparatus of the Urchins.[2] But Koehler's later observations on the same subject[3] have shown that several important points in the anatomy of the vascular system of an Urchin entirely escaped Perrier's notice. Although he adopts Perrier's views, his observations are capable of an altogether different interpretation, as I have shown elsewhere;[4] while they afford a strong confirmation to Ludwig's description of the vascular system of the Asterids.[5] This was founded upon the most careful and elaborate observations which have yet been published; and although their correctness has been called in question by Messrs. Perrier and Poirier,[6] none of the French zoologists have published a single figure in proof of their assertion that what is generally called the blood-vascular system of a Starfish communicates with the exterior through the madreporite.

As regards both Starfishes and Urchins therefore, the latest and most detailed observations do not tend to support the views of the French school. With respect to the Crinoids, however, the results which Perrier describes himself as having obtained, fall in with his theory in a manner which leaves nothing to be desired for completeness. In the case of the Urchins, according to Koehler, Perrier saw too little; while his two hundred *Comatula*-sections have revealed more to him than has resulted from all the observations of Ludwig, Teuscher, Greeff, and myself; and we, not Perrier, have seen too little. His theory, however, breaks down completely unless he can prove to the satisfaction of his colleagues that the labial plexus and chambered organ of a Crinoid are in direct communication with the exterior through the water-pores of the disk.

Unless these points can be properly demonstrated, the doctrine that the water-vessels and intervisceral blood-vessels of a Crinoid are only parts of a "vaste système aquifère" will have to be abandoned; while it does not harmonise at all with the present state of our knowledge of the morphology of the Echinozoa, except in so far as this is based upon the observations of the French Zoologists.

[1] *Comptes rendus*, t. xcviii. p. 1449.
[2] Recherches sur l'Appareil circulatoire des Oursins, *Archives d. Zool. expér.*, vol. iv., 1875, pp. 605–643, pls. xxiii., xxiv.
[3] Recherches sur les Echinides des Cotes de Provence, *loc. cit.*, pp. 58–79.
[4] *Quart. Journ. Micr. Sci.*, 1883, vol. xxiii., N. S., pp. 597–609.
[5] Beitrige zur Anatomie der Asteriden, *Zeitschr. f. wiss. Zool.*, Bd. xxx. pp. 99–131.
[6] Sur l'Appareil circulatoire des Étoiles de Mer, *Comptes rendus*, 1882, t. xciv. pp. 658–660.