

the question of the Coronium Spectrum still open.

We have during the last winter and summer attempted several times to excite the spectra of gases under a variety of conditions to look for the Coronium Spectrum. While it is difficult to say how far our experiments have been successful, we have observed a few facts which need recording. In all our discharge tubes when the pressure becomes very low, of the order of $\cdot 01$ mm. or less and a powerful electrodeless discharge is passed, the whole visible region becomes practically free from lines, except for a few belonging to the secondary spectrum of hydrogen. As must have been observed by many, the production of these lines does not necessitate an external source of hydrogen supply and the minute traces of hydrogen evolved from the grease, etc., are enough to impart considerable intensity to them. One of these lines—one of the strongest in the secondary spectrum of hydrogen—is $5303\cdot 15$ and another is 6375 . We identify these lines with the two corresponding lines of Corona. There is *a priori* a strong case for the presence of hydrogen in the solar Corona, this being the lightest element, which, therefore, is expected to reach great heights. An examination of the spectroscopic data for the innermost transitions of most of the lightest elements on the basis of selection radiation pressure theory did not help us in any way except to strengthen the suggestion made here with regard to the presence of hydrogen.

The correspondence between $5303\cdot 15$ and the coronal line is very close but the difficulty of the explanation of other lines still remains.

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October 31, 1932.

The Affinities of Chætognatha.

In upholding the theory of the Annelidan ancestry of Chætognatha, Dr. John* attempts to explain the absence of a Trochophore stage in their development as due to the fact that they are pelagic. This explanation ignores the existence to-day of several pelagic forms (such as pelagic Mollusca and Crustacea) with a larval history. His analogy with the Oligochæta will not stand, for the

Oligochæta have become so terrestrial that they do not go to water to lay their eggs and a free-swimming larval stage is not possible. Yet, even in them, a stage which can be compared to the free-swimming larvæ of other Annelids can be distinguished. The developing embryo bursts the vitelline membrane and floats in the albumen of the cocoon, feeding independently on it. A ring of delicate cilia surrounding the mouth and comparable to the prototroch has been distinguished in a species of *Lumbricus* and an adoral ciliated zone is recorded in the embryo of another genus (*Criodrilus*.) The embryos of the Oligochæta have in fact been described as degenerate larval forms.

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Studies in the Life-History of *Balanophora indica*.

THE study of *Balanophora indica* was undertaken three years ago with the object of working out the life-history, germination of the seed and its further development.

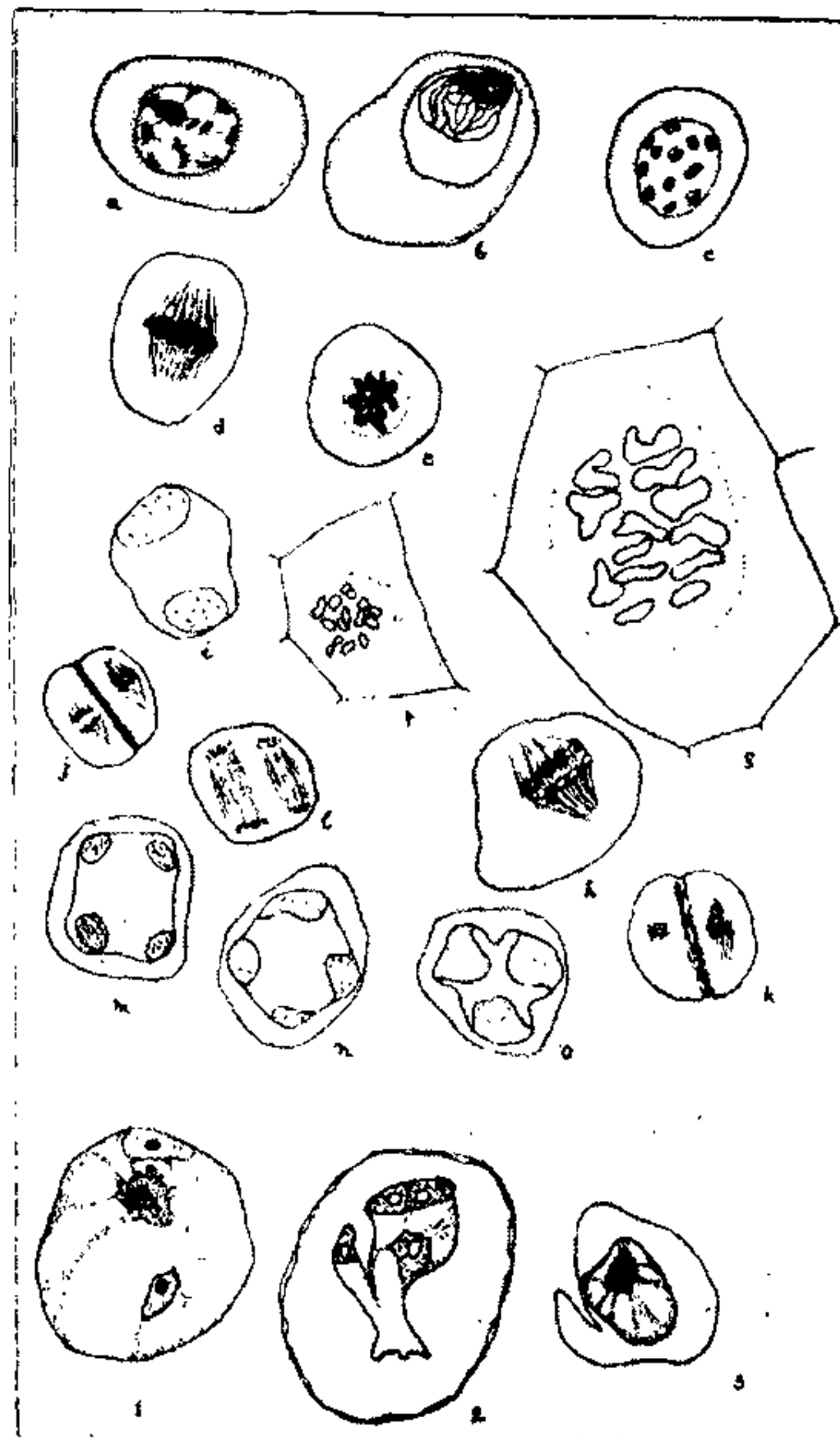


Plate I.

*Current Science, 1, 66, 1932.