

composed of numerous upgrowths; such examples differ in many respects from the forms described by Cohn and Billroth. The ultimate morphological elements into which they can be divided are, as in the former species, gelatinous spheroids with enclosed Bacteria.

All the properties of the "Frog-spawn," and nearly all the phenomena which accompany its formation, are in harmony with the supposition that these jelly-masses of the sugar factories are produced by Bacteria. Only in the extraordinary rapidity of their production (half an hour according to Feltz), do we come upon a difficulty, the explanation of which can only be looked for when we have a fuller knowledge of the developmental history of Bacteria. As a starting-point for further researches in this direction the following facts are of value:

(1) That in very viscid saccharine solutions all the Bacteria, without forming individualised Zooglyca-masses, are embedded in a common gelatinous substance which is coagulated by alcohol. (2) The capability possessed by the Bacteria of forming balls of this substance around themselves. (3) That a mechanical movement of the nutrient fluid appears to act favorably on the formation of the ball-like masses. A very viscid decoction of beet takes, as Cienkowski says he has often seen, a marked gelatinous consistence almost immediately when agitated. The mechanical movement of the beet-juice during the process of squeezing it out of the roots, will probably enough prove in this way to be one of the essential conditions of the rapid formation of "Frog-spawn."

Cienkowski's observations show then, that the "Frog-spawn" of the sugar-factories is no peculiar isolated phenomenon, but without any difficulty can be assigned a place in the category of the processes of jelly-formation so widely spread among the Algæ.
—E. RAY LANKESTER.

Stein's 'Organismus der Infusionsthier.'—The first volume of the third part of this great work has just appeared, consisting of 150 pages of letterpress and 24 folio plates. The third part is devoted to the Flagellata, and in the present volume we have an exhaustive history of the discoveries and writings of previous observers, from Ehrenberg to Carter, Busk, Williamson, Hicks, and James-Clarke. The plates are accompanied by full explanations; the systematic description of genera and species will follow. Forms allied to those described in Professor Bütschli's paper, an abridged translation of which appears in the present number of this Journal, are figured in profusion. A most remarkable form is the *Rhipidodendron splendidum*, a tube-making Flagellate, the tubes of which are aggregated in dense

flabelliform masses. The genera *Volvox*, *Pandorina*, *Chlamydococcus*, &c., as well as *Euglena* and *Phacus*, are included by the author among the animal *Flagellata*, and are copiously illustrated. The antherozoids of *Volvox* are regarded merely as a smaller generation of *Flagellate* individuals. The Ritter von Stein regards this as probably the most interesting and important section of his great work, and all will agree that its appearance is most opportune.
