

biologists favour the theory and others oppose it; some of them have published the results of special studies, particularly of the nutrition-processes of animals, all of which have been of service to the cause of science, though they have not succeeded in deciding this question.

Lohmann and C. G. J. Petersen have maintained that organic detritus may be of intrinsic importance for the nutriment of animals, as well as plants, and they have demonstrated that organic detritus from the land is present in fairly large quantities in waters like the Baltic or off the coasts of Denmark. We have reason, therefore, to expect extremely interesting results from the work of the Danish biologists on organic detritus in the water and in the deposits at the bottom of the sea. But out in the open sea this detritus is only met with in inconsiderable quantities, as our centrifuge-samples showed us on board the "Michael Sars." I do not, of course, include inanimate organic substances, such as excrements or the empty chitin-coverings of copepods, which form a part of the circulation of nutritive substances through the pelagic organisms. Organic fragments, not actually derived from pelagic organisms, either do not occur at all in the open sea, or, if they do, are not worth taking into consideration.

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