

COCCOLITHS AND DISCOASTERS FROM THE BOTTOM SEDIMENTS OF THE ADRIATIC

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As part of a geological investigation of the Adriatic by staff members of the Geological Institute of the State University of Groningen, a number of grab samples were examined as to their content of coccoliths and discoasters.

Coccoliths are the calcareous plates covering the cell of the coccolithophorids, which are planktonic unicellular algae. The size of the coccoliths ranges usually between 2 and 30 μ . The coccolithophorids are living at present in all seas; they have been found in marine sediments as far back as the Jurassic. The systematic position of the Discoasters is uncertain, but they too are probably the skeletal remains of nanoplanktonic organisms.

A great number of different species of coccoliths have been found to be living today in the Adriatic. The present investigation concerns the remnants of both fossil and Recent forms, which were found on the bottom of the Adriatic. It could be demonstrated, that the number of fossil coccoliths and discoasters decreased in samples with increasing distance from the Italian coast. This could be proved, when a great number of specimen were counted in samples located in cross-sections in a general NE/SW direction. The influx of material from the east or Yugoslavian side of the sea turned out to be non-existent.

It could be proved, that the fossil forms were eroded from the Apennines by rivers and brought down to the sea from where they were transported farther out by sea-currents. The fossil forms showed a peculiar extinction in polarized light between crossed nicols probably as a result of diagenetic processes, which took place when they formed part of the rock. Besides, they have been found in rocks as old as the Jurassic and Cretaceous in Italy and many parts of the world. As to the Recent species, their numbers increased when samples were observed with increasing distance from the (Italian) coast; they behaved just opposite from their fossil relatives. The resulting pattern shows some relation to that of the present sea-currents in this area.

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Discussion.

M. GLANGEAUD fait remarquer que des remaniements de microfaunes se produisent depuis le Crétacé; dans l'Appennin méridional, dans les flyschs miocènes supérieurs et pliocènes inférieurs de la région des Pouilles, on trouve remaniées des microfaunes d'âge jurassique, crétacé, et eocène dans la même couche et parfois dans la même plaque mince. Le mouvement de déplacement des sédiments, par suite de la tectonique, a ainsi lieu dans leur ensemble de la Mer Tyrrhénienne vers l'Adriatique.

Il y a là un phénomène Géodynamique général.
