10-5. - LATE CENOZOIC BIOSTRATIGRAPHIC AND PALEOECOLOGIC STUDIES OF MEDITERRANEAN DEEP-SEA CORES

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Quantitative planktonic faunal analysis yield interesting information on the cyclic character of Pleistocene climatic changes. My paleoclimatic curves based on these data closely match the calculated Milankovitch solar radiation chronology curve and hence lend strong support to the Milankovitch Astronomical Hypothesis of climatic changes.

Deep-sea cores from the Mediterranean yield significant evidence of alternating cool and warm environments during late Quaternary time. Biostratigraphic and lithologic correlations between cores supplemented by radiometric datings and $^{18}/_{16}O$ determinations, were utilized to estimate ages and sedimentation rates as well as to reconstruct the climatic and hydrologic history of the Mediterranean.

The time interval represented by the longest core exceeds 100,000 years. It includes the Holocene, the Last Glacial, and the Last Interglacial. The Holocene had a fauna similar to that of the present ; one short period of stagnation occurred about 8,000 years ago, and was observed in the Eastern Mediterranean cores. There is no evidence of Postglacial stagnation in the studied Western Mediterranean cores.

The Last Glacial began about 70,000 years ago ; several mild oscillations of varying lengths and amplitudes interrupted this cold period. In the Eastern Mediterranean, repeated evidence of stagnation in the upper part of the Last Glacial, distinguishes late from earlier glacial deposits. In Western Mediterranean cores, stagnation of the deep water was not detected.

One Ionian Sea core penetrates and ends in sediments deposited during the Last Interglacial : $^{18}/_{16}O$ determinations of planktonic foraminifers and pteropods suggests that mean surface-water temperatures during this time were similar to those of the Holocene.

In the Eastern Mediterranean the percentage of warm water planktonic foraminifers and pteropods is higher than in Western Mediterranean throughout the time interval represented by the studied cores.

Biostratigraphic correlations accompanied by radiometric datings indicate that climatic oscillations in the Mediterranean were synchronous with those in the Atlantic Ocean and Red Sea.