

A detailed graphic logging method which shows *all* sedimentary properties in a semi-quantitative way has been developed and used in studies of various formations. Field and laboratory data are shown. Paleontological, petrographical and other data as Schlumberger logs can be added. It can be used for presentation of well logs.

At present our main purpose is to collect a series of standard detailed graphic logs of known fossil environments. They will form a base for comparison. Logs taken from similar environments have the same petrographic and paleontological properties. A second aim is to determine if petrological properties alone will be sufficient to fix the kind of environment.

A number of profiles taken from shallow and deep water environments will be shown. They include the Molasse from Switzerland, Upper Devonian from Germany and Belgium, turbidity current deposits (Flysch) from the South of France and the Apennines in Italy, coal measure deposits from Belgium and modern estuarine deposits from Holland.

The study of recent sediments should be made by borings from which undisturbed, oriented cores have been collected. Lacker or plastic films show the structures very well, and enable to draw graphic logs for comparison with old deposits.

STRIKE-SLIP FAULTS

MASON L. HILL

The San Francisco earthquake of 1960 attracted attention to strike-slip faulting. Later work indicates the possibility of accumulative right lateral-slip of at least 350 miles on the San Andreas. There are many other examples of faults on which geologic evidence shows similar displacements of great magnitude. Seismic solutions show a preponderance of strike-slip in causing large earthquakes. Correlation of magnetic surveys has suggested many miles of strike-slip on oceanic faults. Paleomagnetic pole positions might (?) be explained by strike-slip faulting. Accelerated progress in geotectonics requires a revamping of fault classifications.

STRATIGRAPHY AND STRUCTURAL HISTORY OF THE CANADIAN ARCTIC ARCHIPELAGO

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The Arctic Archipelago has a land area of about 525,000 square miles of which some 300,000 are Phanerozoic rocks.

Seven major structural elements are recognized: they are described from southeast to northwest.

(1) A probably Tertiary volcanic province, covering a small part of southeastern Baffin Island.

(2) The Precambrian Shield that is exposed over large areas of southeastern and eastern parts of the Archipelago. Extensions of Shield form two and possibly three cratonic arches within the Arctic Lowlands.

(3) The Arctic Lowlands which are characterized by essentially undisturbed and relatively thin coverings of Cambrian, Ordovician, Silurian and Devonian strata. Cretaceous to early Tertiary rocks are exposed in the Lowlands of Banks Island. The Arctic Lowlands are situated between exposures of the Shield and the Franklinian