

siderable periods of time. Displacements may have been renewed after long intervals of quiescence as Holgate points out. Where a fault zone has several branches, movements may have occurred at different times on different branch faults.

Thus the whole situation is that the displacements which were found by Holgate to have occurred in Scotland before the deposition of the Middle Old Red Sandstone might have occurred in North America, without yet being detected; while the Lower Carboniferous movements found in North America could have their counterparts in the Minch fault without calling in question Holgate's observations along the Great Glen fault.

Thus, it is still possible to believe that the Cabot fault may be the same age as the Great Glen fault alone and even easier to maintain that it corresponds to the whole Great Glen-Minch fault zone.

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¹ Wilson, T., *Nature*, **195**, 135 (1962).

² Dearnley, R., *Quart. J. Geol. Soc. Lond.*, **118**, 143 (1962).

Devonian Conodonts in Stratigraphic Succession of Malaya

IN 1958, when correlating the pre-Tertiary stratigraphic successions then known in Malaya with those in Thailand, Alexander¹ indicated that no sediments of Devonian age had been yielded in either country at that time, although the possibility existed of their occurrence. During the course of a short visit to Malaya in July-August 1962, at the invitation of the Geological Survey, one of us (K. J. M.)^{2,3} was given and collected a number of rock specimens for conodont identification.

One random specimen picked up from the Government limestone quarry at Kanthan, Chemor, Perak, appears to have yielded three index fossils from the Upper Devonian⁴, namely, *Polygnathus normalis* Miller and Youngquist, *Palmatolepis minuta* Branson and Mehl⁵, and *Ancyrodella nodosa* Ulrich and Bassler. However, further work will be necessary for systematic checking and confirmation before full descriptions can be prepared and published.

It is too early yet to assess the full implications of the discovery, and this preliminary announcement is being made to indicate the increased probability of an almost complete succession without major break of strata from Upper Cambrian to Triassic in Malaya.

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¹ Alexander, J. B., *Nature*, **183**, 230 (1959).

² Müller, K. J., *Möglichkeiten der Conodonten Stratigraphie* (1959).

³ Müller, K. J., *Geologische Rundschau*, **49**, 83 (1960).

⁴ Müller, K. J., and Müller, E. M., *J. Paleontol.*, **31**, 1069 (1957).

Sponge Spicule Pebbles at Hut Point Peninsula, Antarctica

PEBBLES that range up to 20 mm in diameter composed entirely of sponge spicules, originally found by Priestley¹, are sparingly distributed over the loessic gravelly soil of the two square miles of ice-free area at the southern tip of Hut Point Peninsula, lat. 77° 51', long. 166° 48' E.

The pebbles are extremely resilient and appear to have been eroded out of loess by the wind. By experiment it was found that the pebbles readily pick up sponge spicules and build them on to their surface in continuity with those below.

Sponge spicules are not uncommon in the loess of Hut Point Peninsula, and are common in marine sediments dredged from the Antarctic sea-bed. Sponges make up a large part of the bottom fauna of the sea-bed around the peninsula.

The sponge spicules which form the pebbles are considered to have been blown from sea-bed that was exposed during the last glaciation when the level of the sea was lower, to have been concentrated on ice surfaces because of their high albedo relative to rock fragments, and to have aggregated into pebbles on the ice by wind action. The pebbles were probably blown to Hut Point Peninsula when the loess was being deposited.

I shall be interested to learn of other occurrences of such pebbles, either fossil or recent.

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¹ David, T. W. E., and Priestley, R. E., *Brit. Ant. Exp. 1907-9, Geol.*, **1**, 274 (W. Heinemann, 1914).

Transport of Pebbles over Smooth Ice in Antarctica

AT Hut Point Peninsula (lat. 77° 51' S., long. 166° 48' E.) pebbles of basalt up to 17 mm in diameter with some sand and silt have recently been blown half a mile up a snow-free ice slope to be stopped by snow cover 200 ft. higher than the foot of the slope. After being halted the pebbles melt their way down into the ice. The pebbles are probably transported during winter when southerly gusts reach a velocity of up to 120 knots.

At present only a small portion of the ice-covered part of the peninsula is free of snow, and the pebbles which are being wind transported now are entirely of local basalt. Widely distributed pebbles of granite and sandstone which are foreign to the peninsula are scattered through the gravelly loessic soil of the ice-free part. The pebbles have an unusual size distribution, already noted by David and Priestley¹, that is similar to that of the basalt pebbles, modal diameter being 16 mm, and maximum diameter, with the exception of a single pumice pebble, being not more than 18 mm. Because of their size distribution, it is considered that the pebbles were blown from the mainland some 30 miles to the west, probably during the last glaciation when there was more ice cover but less snow cover and the climate was colder, windier, and probably considerably drier than at present.

Pebbles with a similar shape, composition, and size distribution are abundant in dredgings from the nearby sea-bed, and wind transport of pebbles over smooth ice may have been of considerable importance in the past.

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David, T. W. E., and Priestley, R. E., *Brit. Ant. Exp. 1907-09, Geol.*, **1**, 274 (W. Heinemann, 1914).

CRYSTALLOGRAPHY

Crystal Structure of β -Tricaprin

THE triglycerides belong to a large class of compounds, the lipids, that are widely distributed in biological systems and frequently are structurally or functionally important. In spite of the interest in the part played by the triglycerides in such systems, no complete single crystal structural studies have appeared except that of Vand and Bell², who reported the chain structure and packing in β -trilaurin.