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PRECAMBRIAN OF FINLAND

Geologic maps, airborne geophysical surveys, and radiometric age determinations of Precambrian strata in Finland have been made. As a result, new information is available on the geologic evolution and the Precambrian rocks in Finland and neighboring countries.

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MIDDLE AND UPPER CAMBRIAN OF NORTHERN PART OF CENTRAL SIBERIA

Within the central part of the Soviet Arctic a set of sections exposing successive strata from the Lower Cambrian to the Ordovician has been studied in detail. On the basis of rock composition and fossils, detailed lithostratigraphic and biostratigraphic subdivisions have been established.

From the Yenesey River on the west to the right bank of the Lena on the east, lateral and vertical heterogeneity of facies is found in Cambrian deposits. However, regularities in the evolution of trilobites and distinctive changes in their assemblages with time permit subdivisions of the Cambrian into stages, zones, and horizons.

Middle Cambrian strata are underlain conformably by rocks of the Lenian Stage containing three faunal zones in the Siberian north. The boundary between the series is determined by the disappearance of the Protolenidae and the appearance of numerous Oryctocephalidae and Agnostidae. The Middle Cambrian, according to the accepted stratigraphic code of the USSR, is divided into the Amganian and Maiyanian Stages. The Amganian deposits, in spite of their facies complexity, are characterized by similar trilobite assemblages and may be subdivided into 3 zones.

The boundary between the Amganian and Maiyanian Stages is distinguished by the disappearance of characteristic Amganian species and the appearance of representatives of Anomocarioides, *Metanonocare, Anopolenus,* and *Dorypyge.* The Maiyanian beds are lithologically uniform and richly fossiliferous; this stage also includes 3 zones.

Throughout the area there was continuous sedimentation across the Middle-Upper Cambrian boundary. This boundary is based on the disappearance of *Lejopyge, Anomocarina,* and *Bonneterrina* and the appearance of species of *Homagnostus, Agnostus, Damesella, Buttsia, Proceratopyge,* and other genera.

Upper Cambrian deposits in the central Siberian north contain several facies each with different trilobite assemblages but, due to the presence of many common species, their contemporaneity may be established easily. Upper Cambrian trilobites are grouped into 3 large assemblages, the duration of each corresponding to a stage. Within each assemblage, fossils are grouped by species and genera into a total of 6 zones.

It is difficult to determine the Upper Cambrian boundary in continuous sections because of monotonous rocks and the undifferentiated nature of the faunas.

Middle and Upper Cambrian deposits of the Siberian north are well correlated with contemporaneous formations both within the USSR and beyond its boundaries. The mutual occurrence of forms typical of different paleozoogeographical provinces within these deposits suggests that these correlations are valid.

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NEW BATHYMETRIC CHART OF ARCTIC OCEAN

(No abstract submitted)

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FORAMINIFERAL BIOSTRATIGRAPHY AND CARBONIFEROUS MICROFACIES, NORTHERN ALASKA AND YUKON

Eight major carbonate types are widespread in the Lisburne Group of northern Alaska and Yukon: (1) bryozoan-crinoidal recrystallized packstone; (2) bryozoan-crinoidal mudstone and wackestone; (3) crinoid-pelletoid recrystallized packstone and grainstone; (4) pseudo-oolitic grainstone; (5) oolitic grainstone; (6) bryozoan grainstone; (7) spiculite packstone; and (8) dolomitic limestone and dolomite. These facies are present in the Wachsmuth, Alapah, and Wahoo Limestones, and the Kogruk and Nasserak Formations.

The most favorable facies for foraminifers is the pseudo-oolitic grainstone which abounds in the Wahoo Limestone. Crinoid-pelletoid recrystallized packstones and grainstones also yield a good archaediscid fauna. Endothyrid assemblages are present in the bryozoan-crinoidal wackestones of the Wachsmuth Limestone. Spiculites are usually devoid of foraminifers; hence zonation of the Lisburne Group in the western part of Alaska must be based mostly on macrofaunal evidence.

Twelve consistent foraminiferal assemblages can be recognized in the northern part of the American Cordillera: (1) a late Tournaisian (Zones 8 and 9) tournayellid assemblage (*Septatournayella-Tournayella*); (2) an early Viséan (Zones 10–11) *Earlandia* facies (first appearance of *Globoendothyra*); (3) an early middle Viséan (Zone 12) *Eoendothyranopsis spiroides* microfauna; (4) a late middle Viséan (Zone 13) *Eoendothyranopsis pressa-rara* assemblage; (5) an early late Viséan (Zones 14–15) *Brunsia* facies; (6) a Meramec-Chester boundary assemblage (Zone 16_1), characterized by the elimination of many "Meramecian" elements such as *Eoforschia, Eoendothyranopsis, etc.;* (7) a latest Viséan (Zone 16_2) *Neoarchaediscus-Planospirodiscus* assemblage; (8) an earliest Namurian (Zone 17) *Asteroarchaediscus* fauna; (9) an early Namurian (Zone 18) *Biseriella* assemblage; (10) a middle Namurian (Zone 19) *Quasiarchaediscus?-Eosigmoilina?* assemblage; (11) a late Namurian (Zone 20) *Lipinella-Millerella-Globivalvulina* assemblage; and (12) Zone 21, the youngest assemblage recognized in the Lisburne Group, characterized by the outburst of numerous fusulines including *Eoschubertella* and *Pseudostaffella.*

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GEOLOGIC STRUCTURE OF BAFFIN BAY AND DAVIS STRAIT DETERMINED BY VARIOUS GEOPHYSICAL TECHNIQUES

Between 1963 and 1966, approximately 10,000 mi of sea-magnetometer and bathymetry data was collected in the Baffin Bay, Davis Strait, and Labrador Sea areas. The analysis of these data has shown no clear northward continuation of the linear magnetic anomalies which are associated with the Mid-Labrador Sea