(Arctides-northern Alaska-Novosibirsk-Chukotsk) join the Pacifides along the zone of the Mackenzie-Lena deep-seated faults. They are characterized by a monocyclic and miogeosynclinal type of development.

Analysis of the available data permits identification of the mineralogenic character of the Pacifides and adjoining Arctides with their diverse late Mesozoic and Cenozoic ore-bearing deposits (gold, mercury, copper and polymetals, tin and tungsten—especially in the Arctides); low-temperature ore deposits prevail. It may be assumed that the possible oil and gas troughs of Arctic Canada, northern Alaska, Chukotsk, Chukotsk Sea, and the East Siberian Sea comprise a single Arctic oil and gas belt related tectonically to the formation of the Arctides. One may also infer the existence of a North Pacific belt of oil and gas accumulations, including oil- and gas-bearing troughs and depressions in the Kamchatka-Koryak and Cordilleran-Alaska areas.

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FRANKLIN IGNEOUS EVENTS, TENSION FAULTING, AND POSSIBLE HADRYNIAN OPENING OF BAFFIN BAY, CANADA

The Franklin intrusions are an extensive swarm of late Hadrynian (latest Proterozoic) diabase dikes that occur in a giant arc from Great Bear Lake eastward to Melville Peninsula, Baffin Island, and northern Ungava. They are chemically and petrologically classified as tholeiites and are probably co-magmatic. Paleomagnetic pole positions and numerous whole-rock of K-Ar age determinations indicate that the dikes were emplaced at low paleolatitudes 650 m.y. ago. They intrude Hadrynian sedimentary sequences that contain features indicative of deposition under warm climatic conditions.

The Baffin dikes are subparallel with the northeast coastline of Baffin Island and a pronounced northwest-trending fault system. Intermittent, mainly normal, movement along these faults persisted from the Helikian to the Quaternary and produced a series of graben structures which may be due to the same regional tension as the dikes. Thus Baffin Bay and Davis Strait may have started to form as early as the late Hadrynian and may contain Paleozoic strata.

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ARCTIC ORDOVICIAN CEPHALOPOD FAUNAS

The American Arctic has yielded: (1) generalized ellesmeroceroid faunas of Gasconadian age; (2) a series of later Canadian faunas, of which two from the Seward Peninsula of Alaska are anomalous; (3) a Chazy fauna from Alaska; (4) a Wilderness fauna from Greenland; (5) widespread Red River faunas of Eden-Cobourg age; and (6) less widespread Richmond cephalopod faunas. Correlating with the Baltic section involves many problems, but new evidence suggests that the beds from the Volkhov through the Lasnamägian may be of Whiterock age; and the Valhallfonna of Spitsbergen is equivalent to the Volkhov and, possibly, the earliest Kunda. Cephalopod evolution and some anomalies of ranges are discussed.

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TECTONIC IMPLICATIONS OF RECENTLY DISCOVERED "BLUESCHIST FACIES" METAMORPHIC TERRANES IN ALASKA

Recent field investigations have defined several Alaskan "blueschist facies" metamorphic terranes, including occurrences in the Baird Mountains, Seward Peninsula, Kaiyuh Hills, and on the shores of Seldovia Bay, confirming the presence of both high- and low-temperature "blueschist facies" metamorphic rocks in Alaska, on a previously unsuspected and unappreciated scale.

A regionally important belt of "blueschist facies" metamorphic rocks has been traced from the Seward Peninsula to the Baird Mountains; and the Seldovia terrane may be a segment of a second, and possibly younger "blueschist facies" metamorphic belt. These terranes may be analogous to the "blueschist facies" metamorphic belts of Japan, the Kamchatka Peninsula, and Siberia as discussed by Dobretsov *et al.*

The recognition of regionally important "blueschist facies" terranes will have some impact on present and future studies of the tectonic framework of Alaska, based on the physicochemical implications of "blueschist facies metamorphic terranes" and their relation to circum-oceanic and plate tectonic processes.

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REGIONAL GEOLOGY OF YUKON-TANANA UPLAND, ALASKA

The basic geologic framework of the Yukon-Tanana Upland, Alaska, a mountainous region of about 30,000 sq mi between the Yukon and Tanana Rivers, was delineated primarily by L. M. Prindle and J. B. Mertie, Jr., in the early part of this century. The subsequent recognition of large-scale offset along the Tintina fault, which bounds the eastern upland on the north, has required a reconsideration of the regional stratigraphic and structural relations.

The northwestern part of the upland is dominantly underlain by a sedimentary sequence consisting of rocks which range in age from Cambrian to Mississippian. Cretaceous and Tertiary sedimentary rocks unconformably overlie the older sequence. The Cambrian is apparently underlain by a thick section of grits, quartzites, phyllites, and quartz-mica schists. Pre-Silurian volcanic rocks, mafic and ultra-mafic rocks of probable Devonian age, and Permo-Triassic diabase and volcanic rocks are also present. These sedimentary