nal communication). These two areas were covered systematically, with 2.5 km line spacing, in order to produce aeromagnetic maps. An interesting anomaly (1200 gammas) in the nunatak zone just west of Shackletons Bjerg (72°50'N), probably associated with metamorphosed sediments, was delineated. A detailed survey with 1–1.5 km line spacing was undertaken over an approximately 30 km wide section along the western, slightly mineralised, fault boundary between the post-Caledonian sediments and the crystalline complex to the north of Scoresby Sund.

Ground work

Only the Pasterze Gletscher area was visited this year. The rocks causing the anomalies were found to be highly metamorphic gneisses with a general, but economically uninteresting, magnetite enrichment.

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Photo-reconnaissance of the Blosseville Kyst between Steward Ø and Søkongens Bugt, central East Greenland

Margrethe Watt

The basalt area between Steward Ø and Kap Dalton, and the inland region south of Kap Dalton, is one of the least known parts of central East Greenland. The following remarks are a result of a one day photo-reconnaissance flight over the area, made with the object of providing sufficient photographic material to show the most important tectonic features (fig. 21). No samples were collected.

From the air the basalts have the same general appearance as described from the

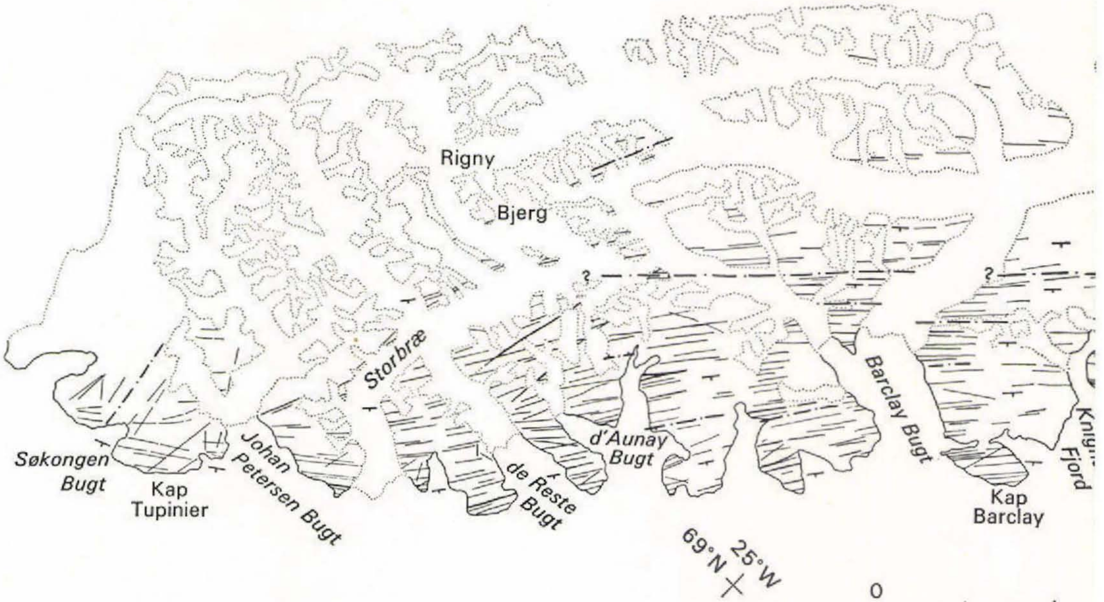


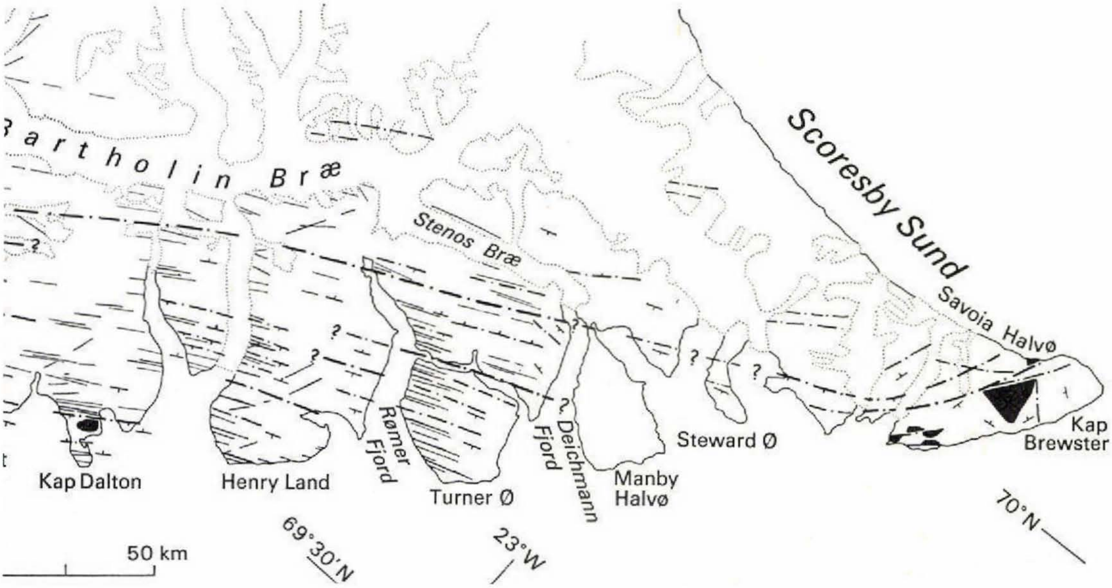
Fig. 21. Sketch map of the main structures and dyke swarm on the Blosseville Kyst, central East Greenland.

Scoresby Sund area (Watt & Watt, 1971). Not until reaching the inland areas south-west of Rigny Bjerg (about 69°N) do the lavas gradually lose their characteristic step-like weathering as a result of metamorphism, according to observations made by Wager (1934, p. 31) on the coastal region south of Kap Johnstrup. The bays and headlands from De Reste Bugt to Søkongens Bugt are less affected by metamorphism than the inland area.

Fault pattern

In the area north of Kap Dalton the fault pattern differs radically from the gentle flexure described by Wager (1934, p. 30). Three zones may be distinguished. North-west of a fault line running parallel to the coast roughly through the head of Rømer Fjord, undisturbed masses of almost horizontal lava flows occur. South-east of this fault there is an 8–10 km wide zone of inland dipping lava flows (dip approximately 10°NW). South-west of Rømer Fjord this zone gradually widens. Its south-eastern limit is formed by another major fault showing a stepwise (en echelon) displacement of the fault plane to the south, leaving Turner Ø and the outer part of Henry Land as tilted blocks with a dip of about 40° SE. Details of this fault system are partly obscured by a several kilometre wide shatter zone.

The zone of inland dipping basalts extends from Deichmanns Fjord southwards to include the fjord north of Kap Dalton. Kap Dalton consists of an outer zone of north-west dipping lava flows broken by small antithetic faults and cut by a moderate



number of dykes. The central part of the Kap Dalton peninsula is a graben-like structure where the Kap Dalton Sedimentary Series is seen, near the western limit of the downfaulted block, as poorly exposed yellow patches. Downthrow of the bounding faults is shown by the accompanying drag folds (fig. 22). Wager (1935) explained the preservation of the sediments on the basis of the one large fault on the north–west of the graben. He probably missed the fault on the south–east side as the lavas have the same dip on both sides of the fault and exposure is rather poor on the north side where he worked (Wager, 1935).

South of Kap Dalton the picture is more simple with a fairly constant south–easterly dip of about 10°–15°.

A NE–SW trending fault with an undetermined throw is seen at the inner part of Knighton Fjord and continues southwards in the region inland from Barclay Bugt. The change of dip across this fault is about 10°. In addition, the area is cut by a number of minor faults with a general trend parallel to the coast.

Dykes

The dyke swarm in the coastal region south of Kap Dalton was described by Wager (1934, p. 44) although its inland extension has remained largely unknown. It has now been confirmed that the swarm continues uninterrupted in the area north of Kap Dalton. The dyke swarm between Barclay Bugt and Kap Grivel to the south was described by Wager & Deer (1938, p. 41) as of 'moderate' density.

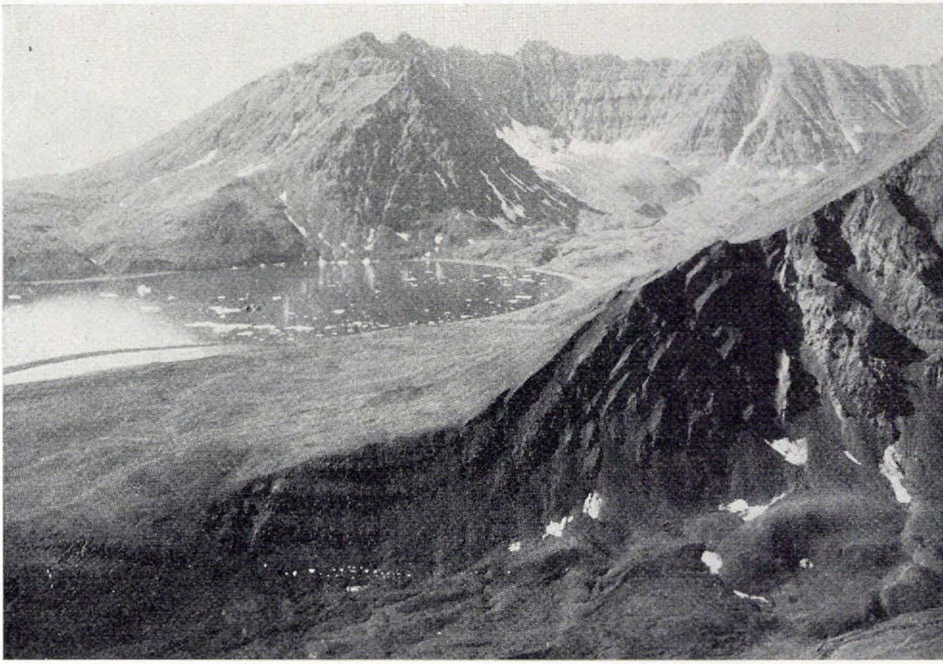


Fig. 22. Drag fold (viewed from the north) associated with the main fault downthrowing basalt in a graben-like structure at Kap Dalton. The marine Tertiary sediments form a lighter coloured patch on the far side of the bay.

An estimate of the density of dykes in the coastal region ranges from less than 5 % at Kap Tupinier and parts of d'Aunay Bugt to near 20 % at Kap Ewart. North of Kap Dalton the maximum density lies in the region of 15 %–20 % on the tilted parts of Henry Land while inland from Barclay Bugt the dyke density is seen to decrease slowly over a distance of 30–40 km. Near Bartholins Bræ the density is about 1 dyke per kilometre. North–west of the glacier dykes are present but rare.

While the vast majority of dykes are parallel to the coast smaller groups and single dykes have a more N–S trend. At Stor Bræ (69° N) a small group seems to follow the southward bend in the glacier. In the area between Johan Petersens Bugt and Søkongens Bugt the number of N–S trending dykes almost equals the number parallel to the coast. At this point members of latter group appear to swing westwards following the bend in the coastline.

North of Kap Dalton the dykes are parallel to the en echelon fault system. The scarcity of dykes north–west of Stenos Gletscher and Steward Ø, as well as the reported absence of dykes on Savoia Halvø (Watt *et al.*, 1972, p. 81), confirms the impression that the dyke swarm swings out to sea north–east of Turner Ø.

The majority of the dykes were intruded perpendicular to the lava flows. However, occasional single dykes and small groups of dykes, particularly around Barclay Bugt and d'Aunay Bugt, have steep, inclined dips differing from those of the main group by about 15°.

The intrusion of dykes on Turner Ø and the outer part of Henry Land took place prior to the tilting of these blocks.

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C^{14} content of recent molluscs from Scoresby Sund, central East Greenland

Henrik Tauber and Svend Funder

C^{14} dating of subfossil marine shells presupposes a knowledge of the original C^{14} activity of the organisms while living. Due to the slow turn over of water masses, the C^{14} activity of marine bicarbonate and marine organisms is not the same in all parts of the oceans, but may show marked deficiencies in certain oceanic areas, especially at southern latitudes. In large areas of the North Atlantic the C^{14} activity seems to be fairly uniform and equal to or only slightly lower than that of 'pre-industrial' terrestrial plants (Broecker *et al.*, 1960; Mangerud, 1972; Krog & Tauber, 1974). In certain areas, however, a somewhat lower activity seems to occur; this has been noted for areas along the east coast of Greenland (Fonselius & Ostlund, 1959; Hjort, 1973).

In order to check the magnitude of the C^{14} deficiency in the Scoresby Sund fjord complex, and to obtain some control on previous datings of subfossil shells from this area (Tauber, 1970; Funder, 1971, 1972, 1973) six samples of shells from living bivalves from the area have been subjected to C^{14} analysis. The samples were selected to show a hydrographic cross section through the region, extending from the inner fjord ramifications to the outer coast. Since the subfossil shells are believed to represent shallow water sublittoral communities, recent shells from similar environments (7–25 m depth) were chosen for the analysis. To avoid possible dating errors due to C^{14} produced by nuclear testing, the shells have been selected from the collections of the early expeditions to the area in the period 1892–1933. The shells have been taken from the collections of the Zoological Museum, Copenhagen, and were kindly put at our disposal by G. Høpner