PLATES

Plate I

In the southern arms of the *Scoresby Sund* system, the stumps of the Caledonian fold belt are overlain by a thick pile of Tertiary flood basalts. The aerial photograph, taken at an altitude of some 4,000 m, shows *Gaasefjord* and in the very background to the left Kap Brewster. To both sides of Gaasefjord, a light-colored, deeply truncated gneiss-complex is seen at the base of the flood basalts.

Geodætisk Institut Eneret Nr. 650 B-SØ/4,186.



Plate II

Aerial view of Antarctics and Sofia Sund (73° N), looking eastwards. It shows the landscape of the outer fjord region of Central East Greenland with a *gipfelflur* sloping slightly towards the sea. The area mainly consists of sedimentary formations of both pre-Devonian and Devonian age. In the fore and middle-ground, Precambrian beds are thrown into a very open anticline trending N–S.

Figures 5 to 8 refer to subdivisions of the *Upper Eleonore Bay Group*: 5 = lower Quartzite Series, 6 = upper Quartzite Series, 7 = Multicolored Series, 8 = Limestone-Dolomite Series; 9 = represents the *Tillite Group*. In the background the formations are entirely of *Old Red Sandstone*: 12 = Middle Devonian, 13 = Upper Devonian beds. f indicates fault lines.

Phot. F. Schwarzenbach, 1956.

(Formation symbols correspond to the "Geological Map of East Greenland, 72°–76° N", 1:250,000; Medd. Grønland **183**).

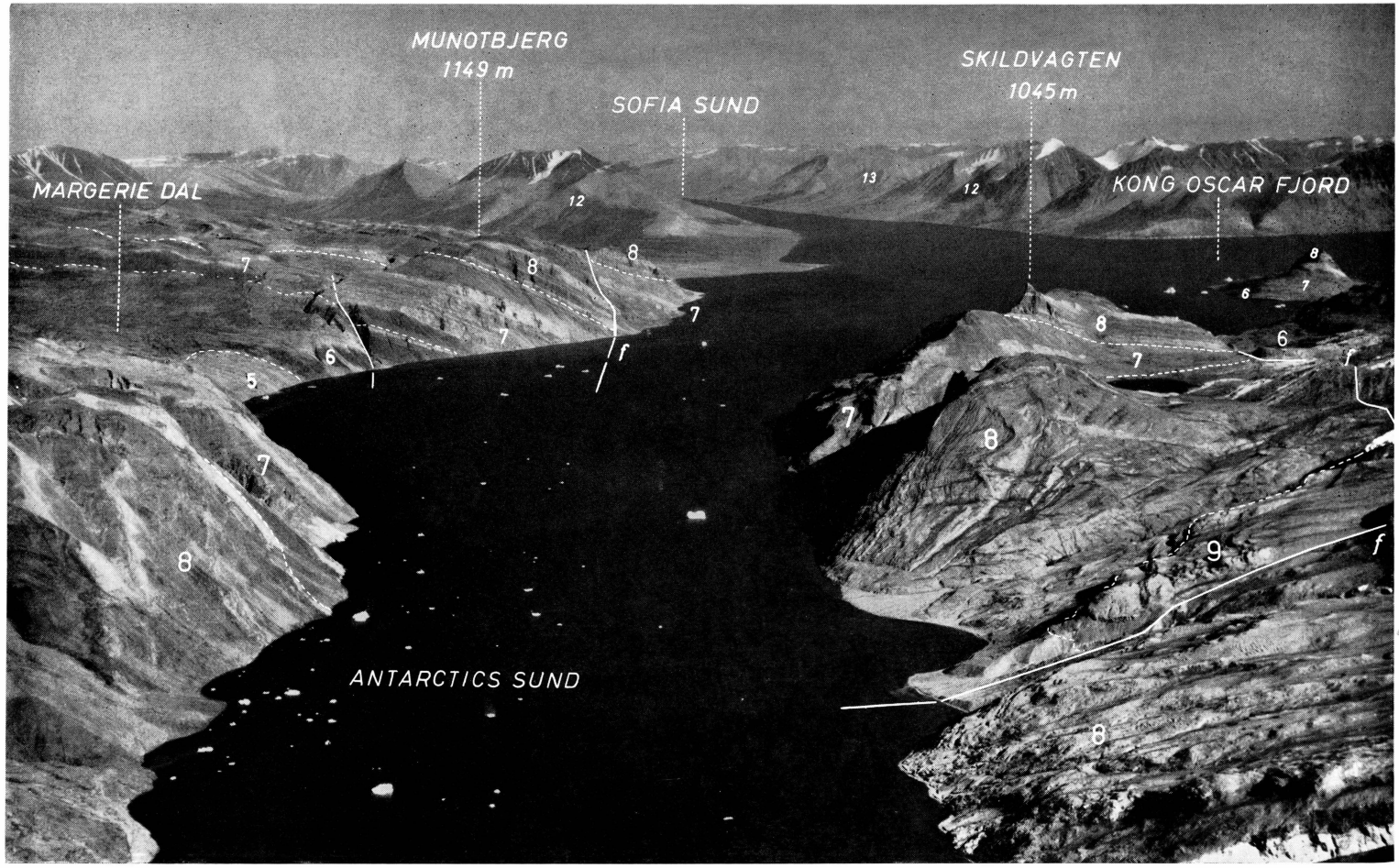

MUNOTBJERG
1149 m
SOFIA SUND
SKILDVAGTEN
1045 m
MARGERIE DAL
KONG OSCAR FJORD
ANTARCTICS SUND
13
12
12
8
7
6
5
9
f

Plate II

Plate III

In the inner fjords of Central East Greenland, the *gipfelflur* climbs up to some 2,500 meters. The fjord valleys are narrow and deep. Their steep walls reveal deep-seated structures of the metamorphic interior zone of the Caledonides.

The aerial photograph shows the southern flank of "Niggli Spids migmatite dome", the outer shell of which consists mainly of a thick sequence of augengneiss. (For symbols see Pl. XLVI).

Phot. F. Schwarzenbach, 1956.

PAYER TINDE
2320 m
KAP PAYER
KEJSER FRANZ JOSEPH FJORD
Ga-p
J
H
E
F
P

Plate IV

Display of deep-seated structures in the metamorphic belt of the Caledonides.

A

Vertical cliff exposure, some 1,700 meters in height, showing a recumbent fold structure of the "Gletscherland migmatite complex". Suess Land coast of outer Dicksons Fjord (72°50′ N).

Air-phot. J. HALLER, 1956.

B

Horizontal exposure along a glacially stripped valley bottom. The outcrop, some 1 sq. km in size, displays a slightly plunging synform in the gneiss complex of Ad. S. Jensens Land (76°10′ N).

Air-phot. W. DIEHL, 1955.



A



B

Plate V

The *inland ice* butts against the mountains of Central East Greenland and divides into great streams pushing down towards the fjords. This aerial view looking south, taken at the 73rd parallel, shows Shackletons Bjerg (2,880 m) in the foreground, Verenahorn (2,185 m) in the middleground. In the background left is Cecilia Nunatak and beyond it Ismarken. In the background to the right lies Charcot Land, that is the vicinity of Nordvest Fjord.

Geodætisk Institut Eneret Nr. 668 D/6.186

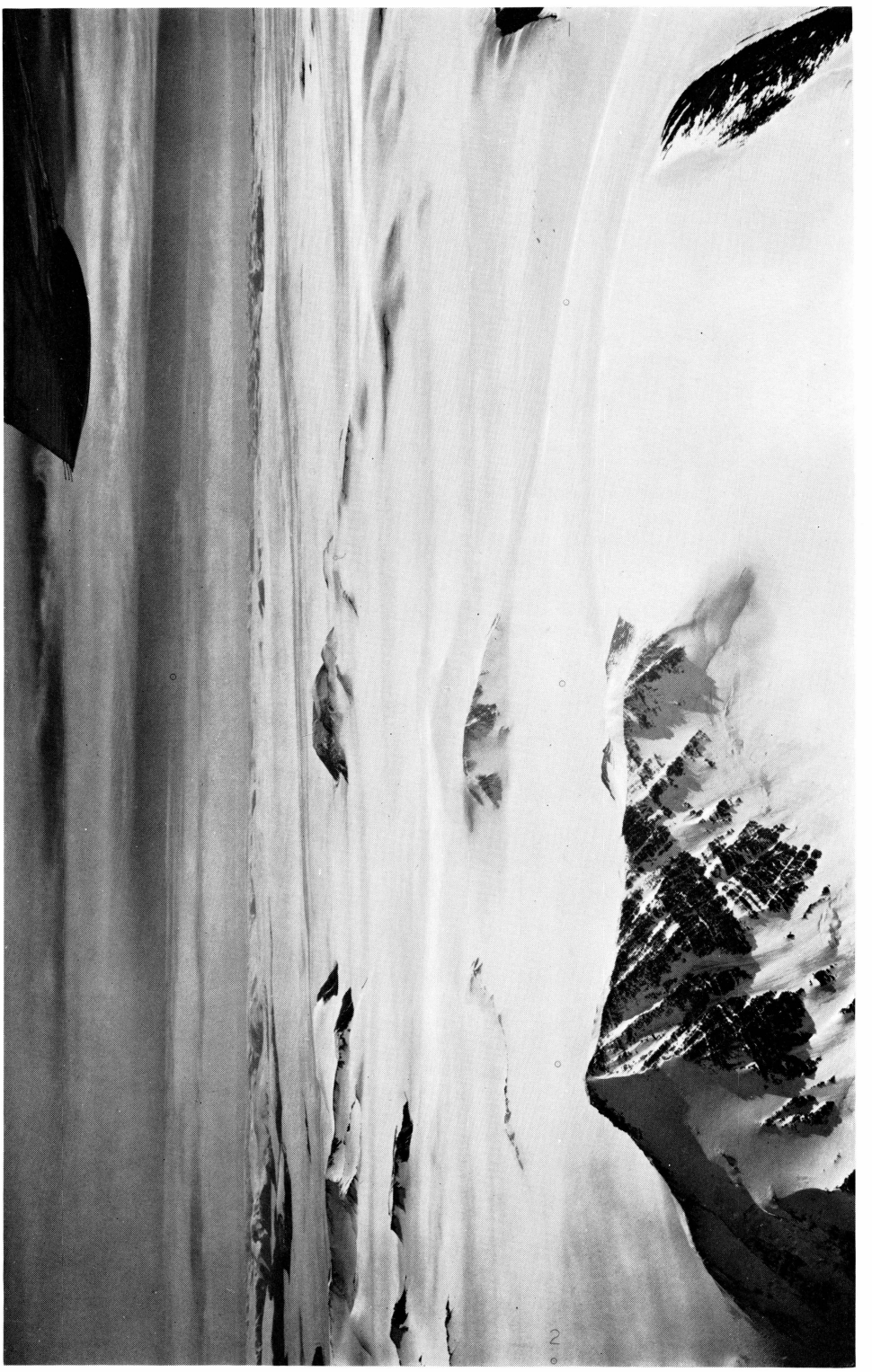


Plate VI

Daugaard-Jensen Gletscher (71°55′ N) is calving vast volumes of ice into the innermost part of Nordvest Fjord.

Opposite the mouth of this conspicuous inland icestream, lies H. G. Backlunds Bjerg (1,830 m). The bulk of this mountain mass consists of reworked basement rocks. From the mantling cover rocks, however, a succession of whittish marbles and dark amphibolites (basal beds of the Eleonore Bay Group, including ophiolites) is preserved to both sides of this somewhat lopsided "mantled gneiss dome". The trend of major fold axes is roughly parallel to the fjord wall.

Air-phot. E. Hofer, 1951.



Plate VII

Aerial view of *Dronning Louise Land*, seen from the inner ramifications of Dove Bugt (76°30′ N). In the westernmost part of this extensive nunatakker land, but particularly in the southwest, the mountains rise as high as 2,500 m.

Geodætisk Institut Eneret Nr. 656 B–NV/7,954.

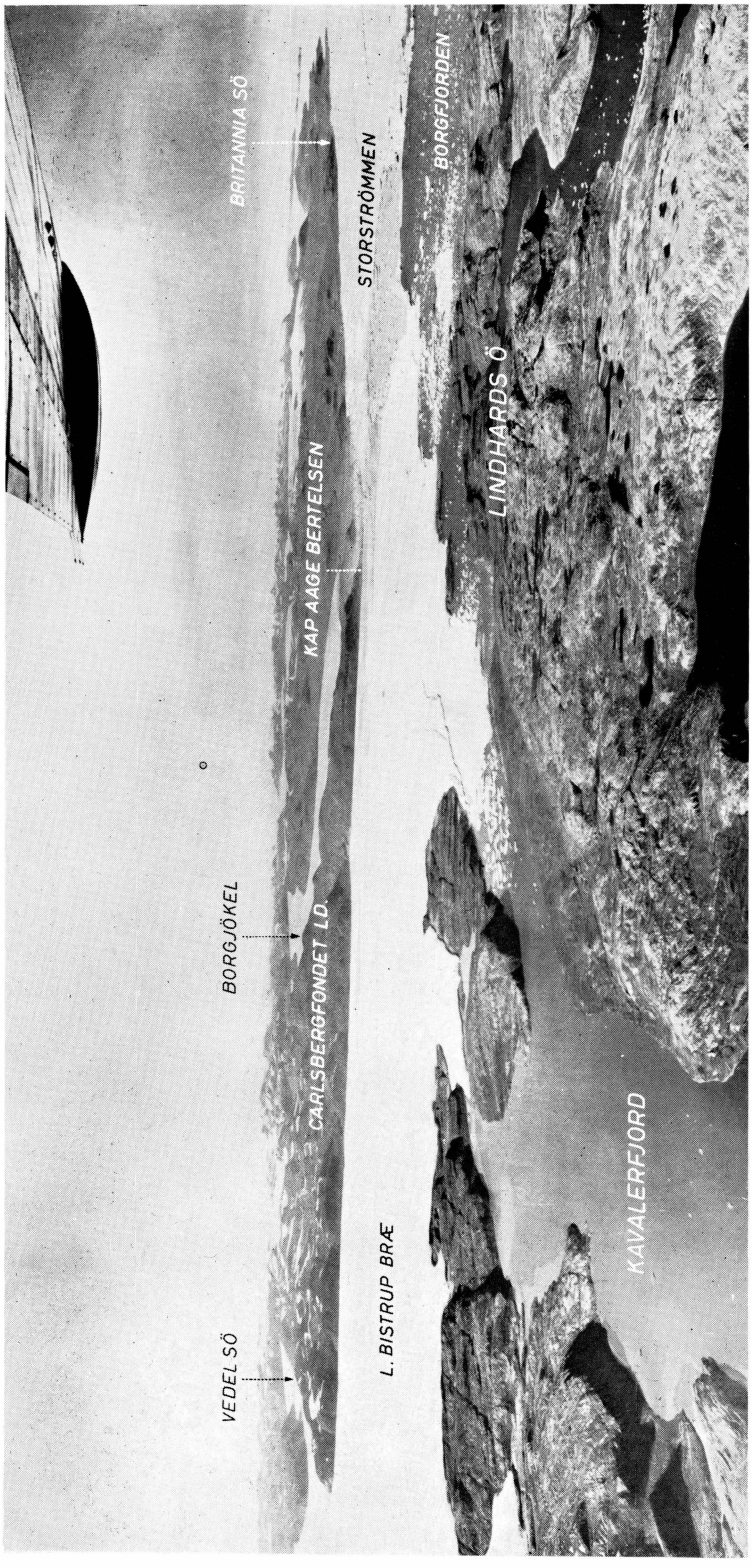

BRITANNIA SØ
STORSTRØMMEN
BORGFJORDEN
KAP AAGE BERTELSEN
LINDHARDS Ø
BORGJØKEL
CARLSBERGFONDET LD.
VEDEL SØ
L. BISTRUP BRÆ
KAVALERFJORD

Plate VIII

Tuborgfondets Land (78°40′ N) seen from the west. In the very background a group of islands is seen aligned parallel to the mainland coast.

At Gardes Nunatakker and Grönne Nunatak, the marginal thrust belt of the Caledonides is exposed. The amount of lateral displacement along the thrusts (*t*) is unknown. However, the exposures in the foreground are likely to represent parts of the unaffected foreland block, consisting of Precambrian basement rocks (*A*) and Precambrian sandstones and basalts of the Thule Group ($P\mathcal{C}_T$). The same type and set of rocks occur also in the thrust mass, which makes up the higher tops of the Gardes Nunatakker. From this it was concluded that this marginal thrust slice is likely to represent a parautochthonous unit. Another belt of thrusts supposedly occurs between Gardes Nunatakker and the coastal mountains.

Geodætisk Institut Eneret, Nr. 659 C–Ø/8,272.


DE GERLACH BJERG
GAMMEL HELLERUP GL.
JÖKELBUGTEN
GARDES NUNATAKKER
GRÖNNE NUNATAK
A
P€T
P€T

Plate IX

North of the 76th parallel, in Caledonian times, the afflux of orogenic heat and the transfer of granitizing matter were mainly restricted to mobile strips and zones of thrusting which separate the more stubborn units, which predominantly consists of Precambrian crystalline series.

The aerial photograph, taken at the northern tip of Ad. S. Jensens Land (76°20′ N) with Soranergletscher in the very background to the right, shows a migmatitic flow fold remodelling Carolinidian gneisses by Caledonian mobilization.

Phot. W. DIEHL, 1955.



Plate X

Aerial view of Central *Kronprins Christian Land* (80°25′ N) looking northeast over the entire mass of Caledonian nappe and thrust sheets.

The plateau of autochthonous Ordovician-Silurian sediments (*OS*), seen in front of the nappe structures, was subjected to minor thrusting (*f*) and weak folding as well. In the middleground, a few 'window' exposures reveal overridden foreland rocks also in the zone of nappes. The 'window' at the foot of the *Prinsesse Caroline-Mathilde Alper* includes an autochthonous Hagen Fjord succession ($P\mathcal{C}_H$). The rugged massifs in the background consist of parautochthonous thrust blocks made up of Thulean rocks ($P\mathcal{C}_T$).

Allochthonous Hagen Fjord strata ($P\mathcal{C}_N$) which were carried westwards on the major thrust (*t*) occupy the hilly country in front of the alpine scenery. At Taagefjeldene (middleground center) at least two large nappe units rest upon each other. The emplacement of this nappe assemblage is interpreted as partly gravitational gliding tectonics.

In the very foreground, the uppermost bed groups of the foreland succession are indicated as:

di = "Centrum Limestone" (Upper Canadian to Niagaran, *i.e.* Lower Ordovician to Middle Silurian);

dk = "Drömmebjerg Limestone" (*Niagaran, i.e.* Middle Silurian);

dl = "Profilfjeldet Shales" (*Niagaran* to *Cayugan, i.e.* Middle to (?) Upper Silurian). These shales evidently form the top of the autochthonous sequence and are immediately capped by the Caledonian nappe sheet. Hence, the graptolites found in these shales provided a reliable lower age limit for the Caledonian event in Northeast Greenland.

Geodætisk Institut Eneret, Nr. 665 A–NØ/15,113

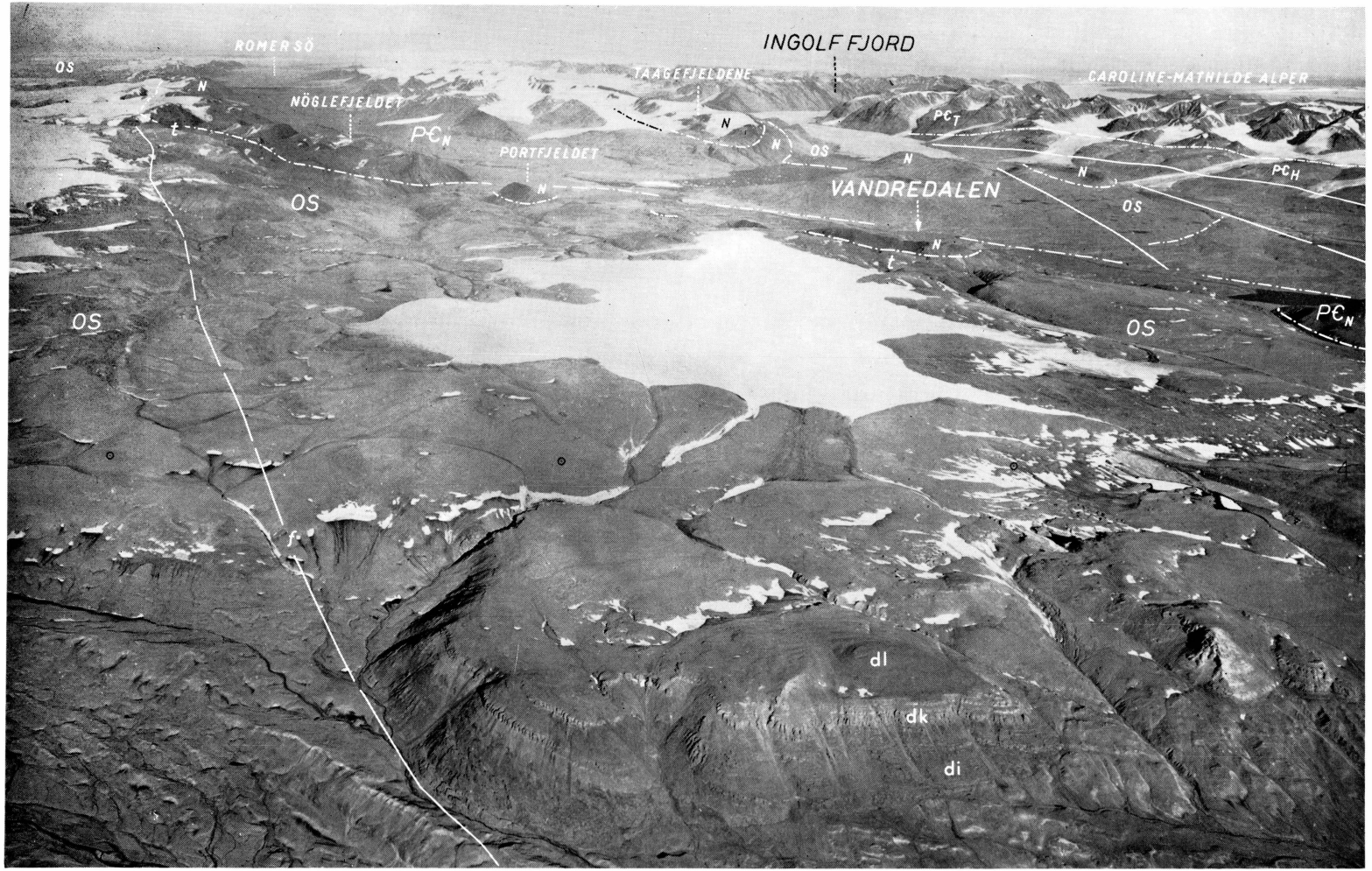

INGOLF FJORD
ROMER SÖ
TAAGEFJELDENE
CAROLINE-MATHILDE ALPER
NÖGLEFJELDET
PORTFJELDET
VANDREDALEN
OS
N
t
f
dl
dk
di

Plate XI

Aerial view of *Prinsesse Elisabeth Alper* (80°30′ N), seen from the south. The bend of Ingolf Fjord coincides with the boundary between two physiographic-tectonic units, the "central chain" (right) and the "zone of nappes" (left).

The *central chain* of alpine scenery is made up of wedges and blocks of the Carolinidian trunk, split up by Caledonian thrusts (*t*) which dip eastwards. $P\mathcal{C}_T$ = Thulean beds, B = Carolinidian metamorphites, b_2 = post-Carolinidian Thulean basalts.

The *nappe structures* exposed to the west of Hjørnegletscher consist of allochthonous Hagen Fjord beds. ($P\mathcal{C}_N$) underlain by marmarized Ordovician-Silurian (*OS*) and Hagen Fjord beds ($P\mathcal{C}_H$) of the autochthonous foreland blanket.

Late to post-Caledonian faults are indicated by (*f*).

Geodætisk Institut Eneret, Nr. 665 F–NØ/5,016.

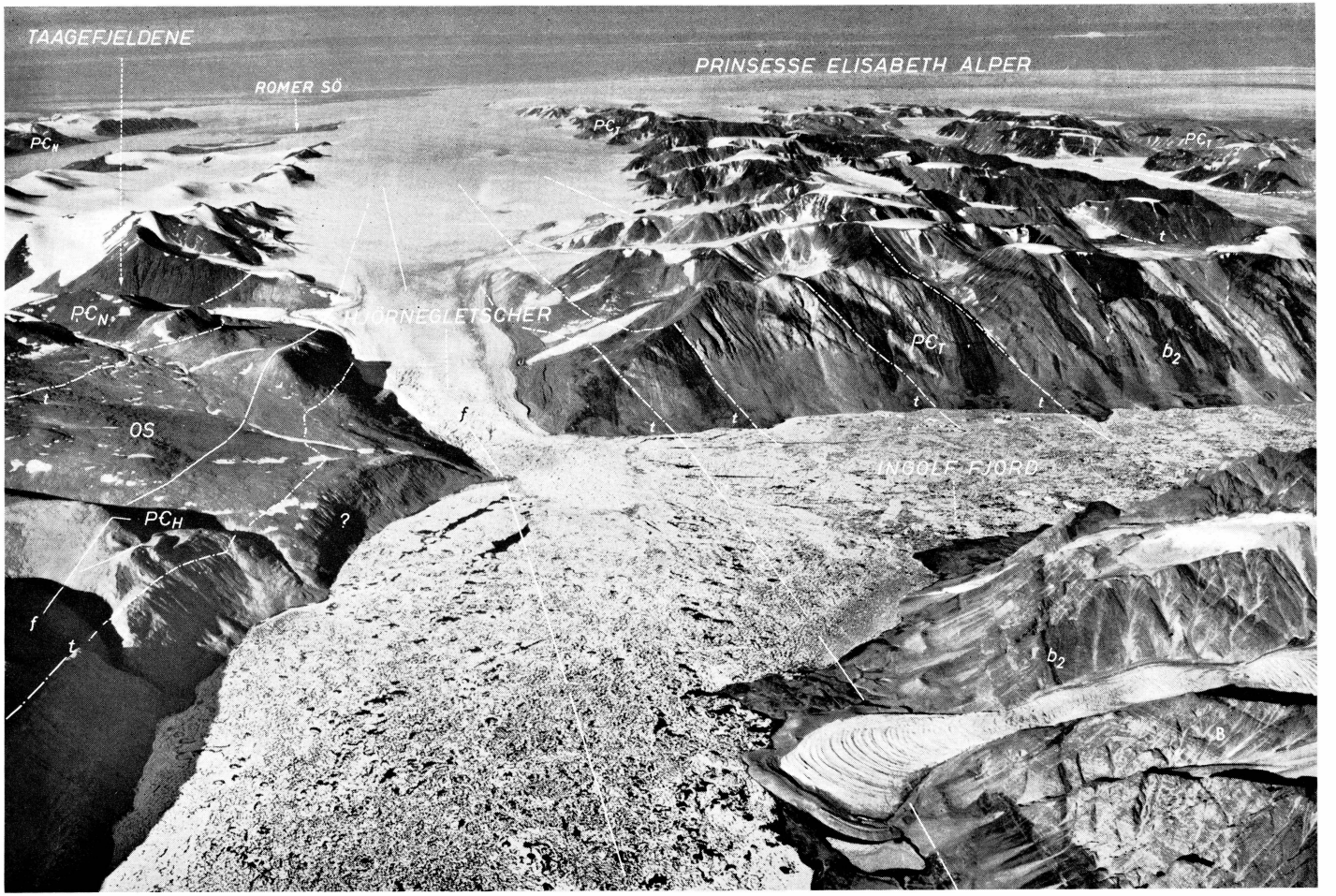

TAAGEFJELDENE
ROMER SÖ
PRINSESSE ELISABETH ALPER
PЄN
PЄT
PЄT
PЄN
HJÖRNEGLETSCHER
PЄT
b2
t
OS
f
INGOLF FJORD
PЄH
?
f
t
b2
B

Plate XI

Plate XII

Cliff at the east coast of inner Ingolf Fjord, Prinsesse Caroline-Mathilde Alper (80°35′ N). In the coastal mountains of Kronprins Christian Land as well as on Lambert Land, where the effect of the Caledonian regional metamorphism was not great, two generations of Precambrian basalts (Thulean basalts) can clearly be distinguished:

(b_1) Older intrusions, mainly sills often of considerable thickness, were affected by Carolinidian distortion and metamorphism as well. They underwent mechanical and chemical transformation, and their weathering color has usually a greenish tinge.

(b_2) The younger generation succeeded the Carolinidian orogeny. This dike generation was emplaced mainly along post-orogenic fracture systems, producing vertical to steeply dipping sheets. The younger basalts cutting clearly across the distorted older ones, have a remarkable black cast.

(Air-phot. W. DIEHL, 1958).

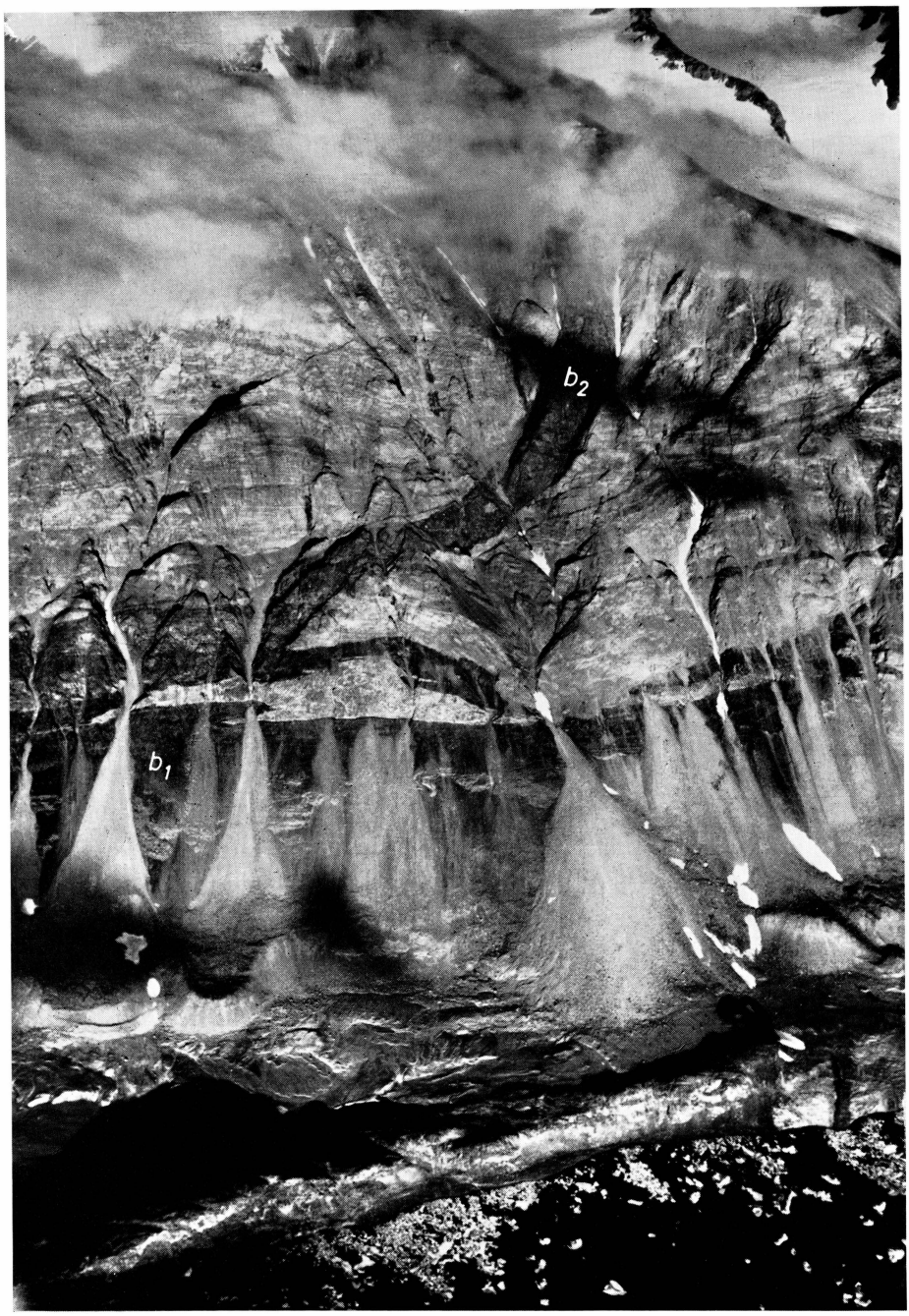

b_2
b_1

Plate XIII

Gustav Thostrup Bjerge, Hovgaard Ø (80° N), seen from Dijmphna Sund. This cliff, some 800 meters high, reveals a complex set of Thulean rocks including Carolinidian metamorphites. In the center intensely folded psammites with early intrusives are seen; to the right they are overlain with tectonic contact (Carolinidian thrust-fault) by semi-pelites (?) tentatively referred to the Lower Thule Group.

Air-phot. W. Diehl, 1958).

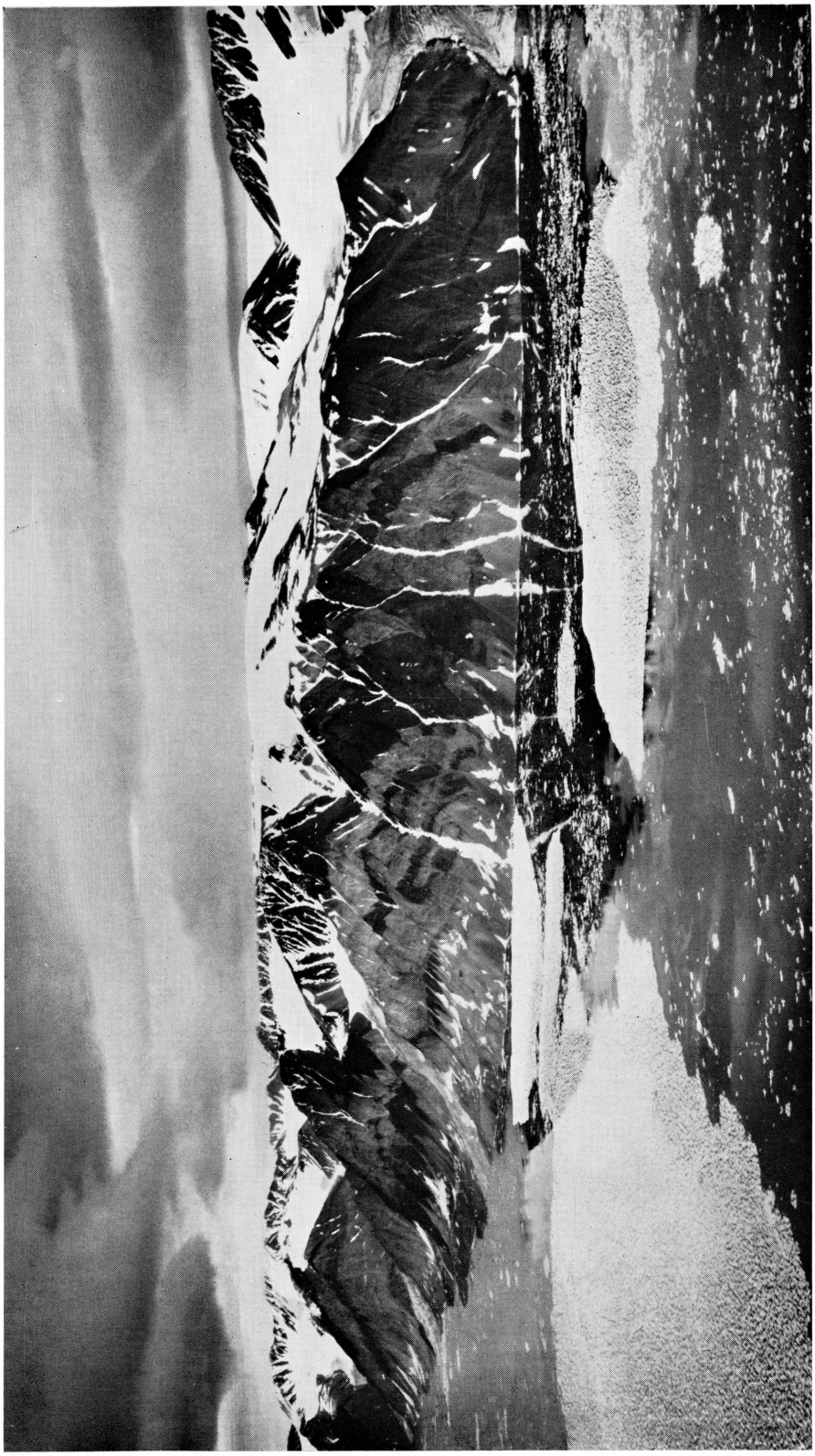


Plate XIV

Lower Paleozoic and Upper Eleonore Bay beds exposed at the 1,200 m high cliff of Hammeren (Kejser Franz Josephs Fjord coast of Gunnar Anderssons Land, 73°25′ N), view towards south.

The Precambrian succession is extremely well stratified and uniformly developed over all of Central East Greenland. Owing to lack of fossils its subdivisions were simply numbered, starting with No. 1 for the lowermost bed exposed at Eleonore Bay (C. TEICHERT, 1933). This was a lucky break, however, since by chance, Bed 1 actually turned out to be the basal member of the Upper Eleonore Bay Group, so that TEICHERT's numbering could continue to be used. S. EHA (1953) completed this numbering upwards and designated the top bed of the Limestone-Dolomite Series No. 20. On the photograph parts of all three major divisions are seen: *Quartzite Series* (Beds 1–6), *Multicolored Series* (Beds 7–13), *Limestone-Dolomite Series* (Beds 14–20).

The Eleonore Bay succession seen participates in a very open anticlinal structure, which rose during the Caledonian main folding.

In middleground right, a pre-Middle Devonian E–W fault of minor throw f_1 is seen. In foreground left, f_2 is a Middle to Upper Devonian N–S fault, which caused a down-throw of several thousand meters so that Cambro-Ordovician limestones and dolomites came to lie immediately beside Eleonore Bay beds. (*DP*) Dolomite Point Fm. represents Middle (?) Cambrian; (*CF*) Cass Fjord Fm. and (*KW*) Kap Weber Fm. are of Middle Orovician age.

Air Phot. F. SCHWARZENBACH, 1956.

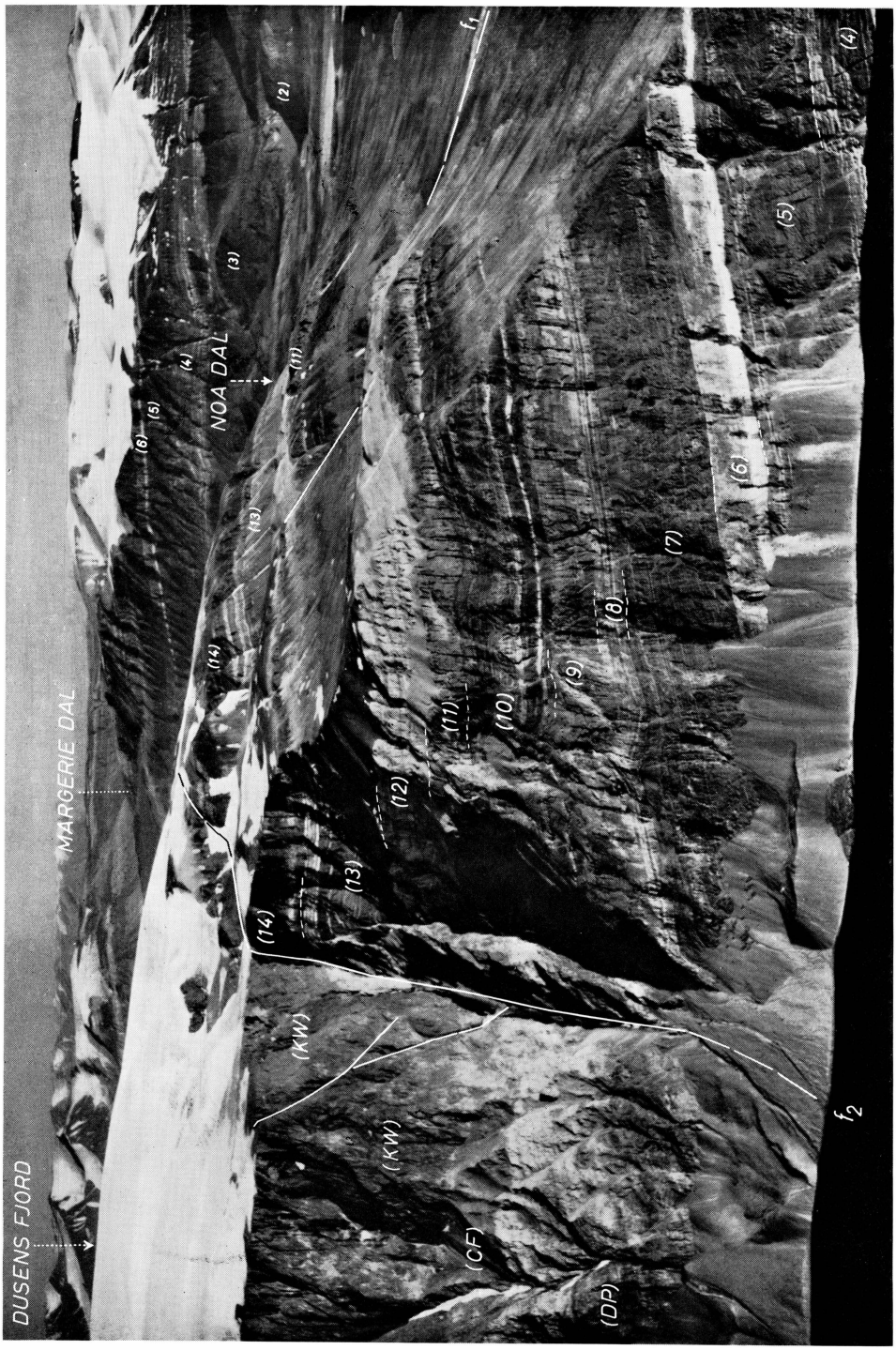

DUSENS FJORD
MARGERIE DAL
NOA DAL
(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8)
(9)
(10)
(11)
(12)
(13)
(14)
(KW)
(KW)
(CF)
(DP)
f1
f2

Plate XV

Aerial view of southern Andrées Land (73°15′ N) showing the style of suprastructural folding in Upper Eleonore Bay strata (Beds 1–18). The main Caledonian structure pattern, however, is somewhat complicated by a late Caledonian thrust (*t*) and by a northerly running fault (*f*) of similar age.

Air-phot. M. Brenneisen, 1949.


BLAABÆRDAL
ALPEDAL
BENJAMINSDAL
HVIDEVÆGGEN
(1)
(2)
(3)
(4)
(5)
(6)
(7)
(10)
(11)
(12)
(13)
(14)
(15)
(16)
(17)

Plate XVI

Aerial view of Marmorbjerg (Gletscherland, 72°35′ N), showing the metamorphosed basal beds of the Eleonore Bay Group involved in the "Gletscherland migmatite complex". *F* = Caledonian recrystallized basement gneisses (migmatites), *J* = mica-schists, *Ga* = amphibolites; *H* = Basal Series, predominantly marbles intercalated with ferruginous quartzites.

Air-phot. W. DIEHL, 1958.

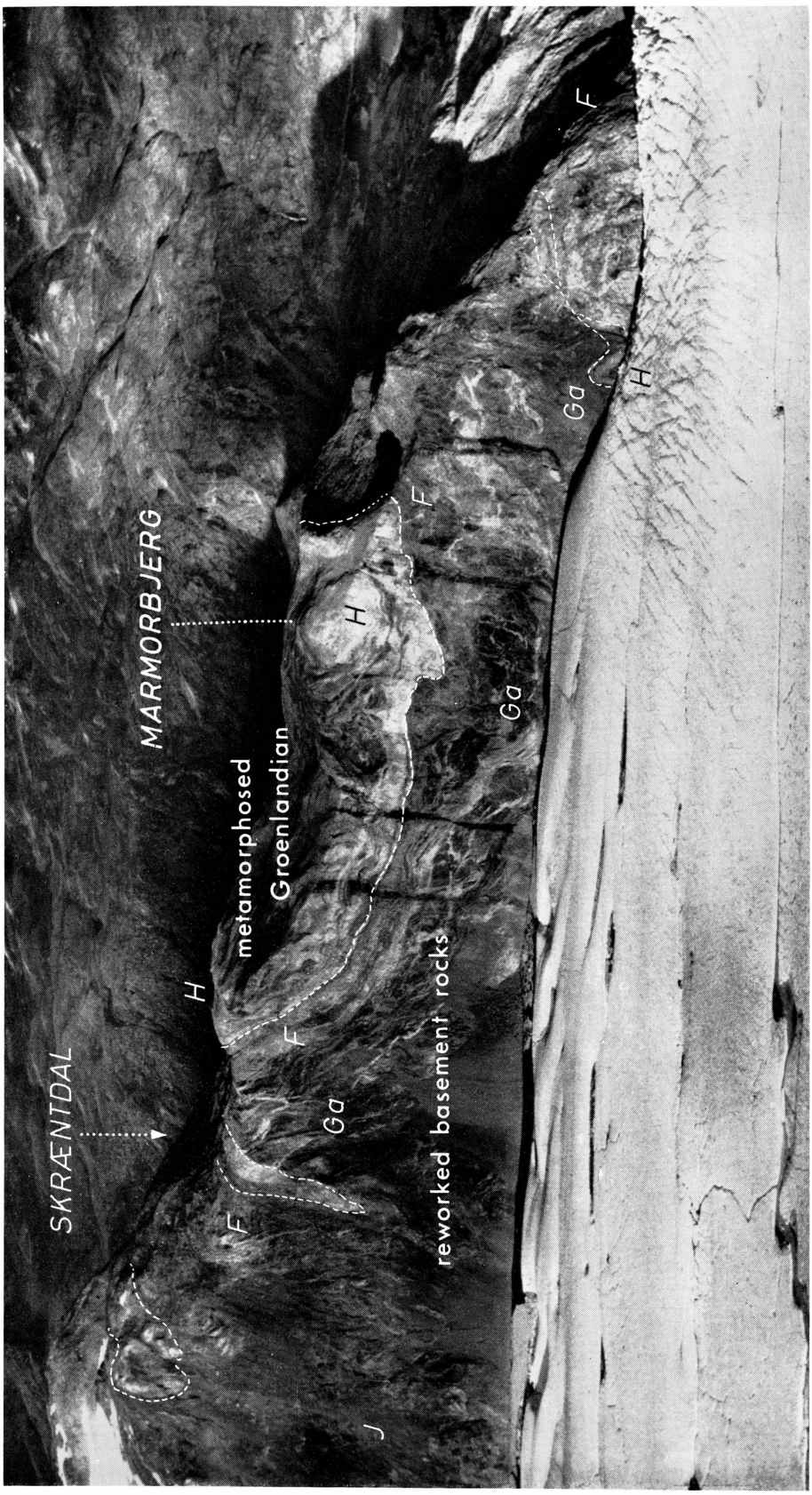

SKRÆNTDAL
MARMORBJERG
H
metamorphosed
Groenlandian
reworked basement rocks
F
Ga
J
H
F
Ga
F
Ga
H

Plate XVII

Cliff at Tvillingerne (southern Dove Bugt, 76°20′ N). The photograph depicts precisely the junction of the Caledonian *infrastructure* (including plastically reactivated basement rocks) and the *superstructure* (semi-plastically sheared basement rocks, invaded by mobilizers).

Air-phot. W. Diehl, 1955.

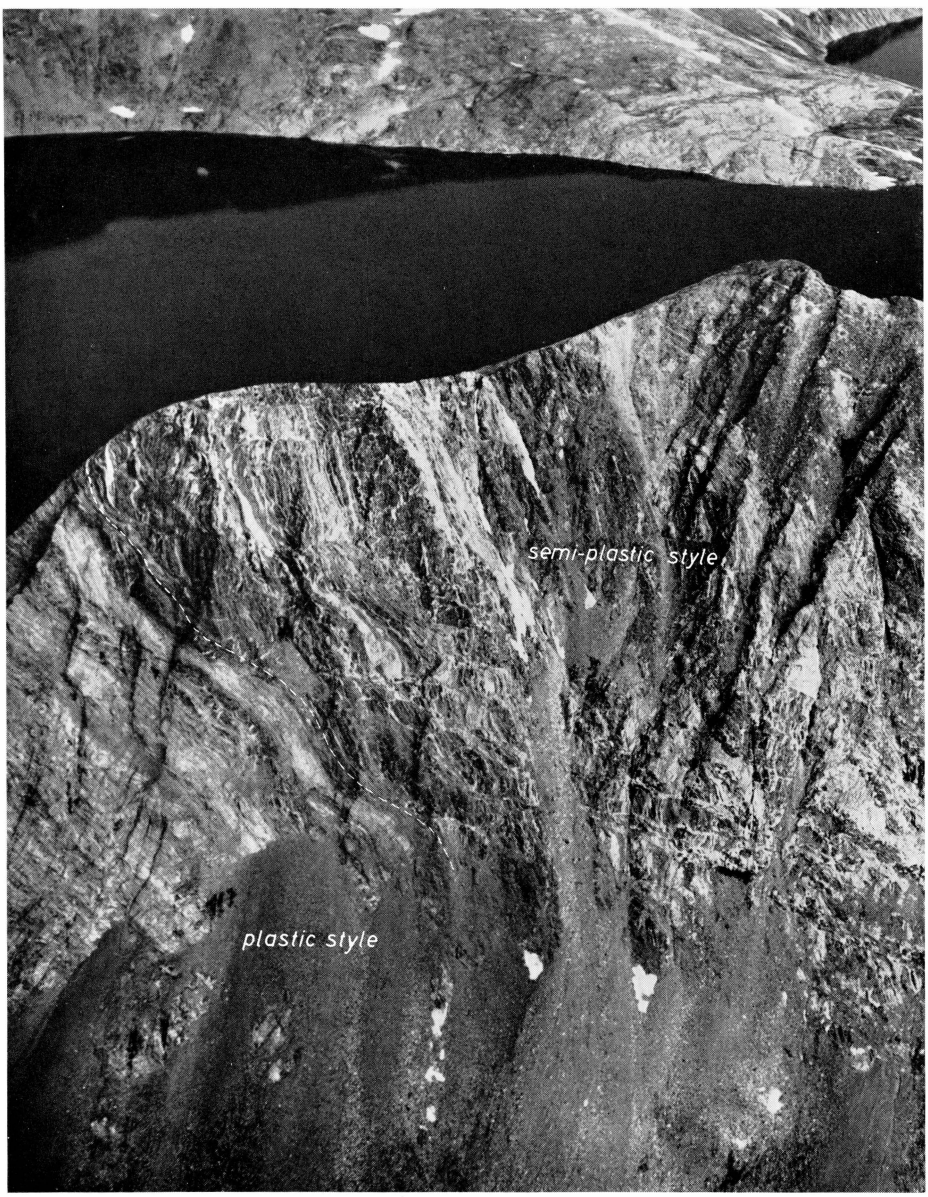

semi-plastic style
plastic style

Plate XVIII

Superimposition of Caledonian infrastructure on Carolinidian gneiss complexes.

A

Nanoks Ø in southern Dove Bugt (76°20′ N) seen from southeast. The mountain some 740 m in height, shows superimposed folding on a large scale. The cliff in the foreground displays fold axes plunging some 60°; in the middleground there is a distinct decrease in inclination. The resistant mass of Carolinidian gneiss (background) is folded about subhorizontal axes.

Air-phot. W. Diehl, 1955.

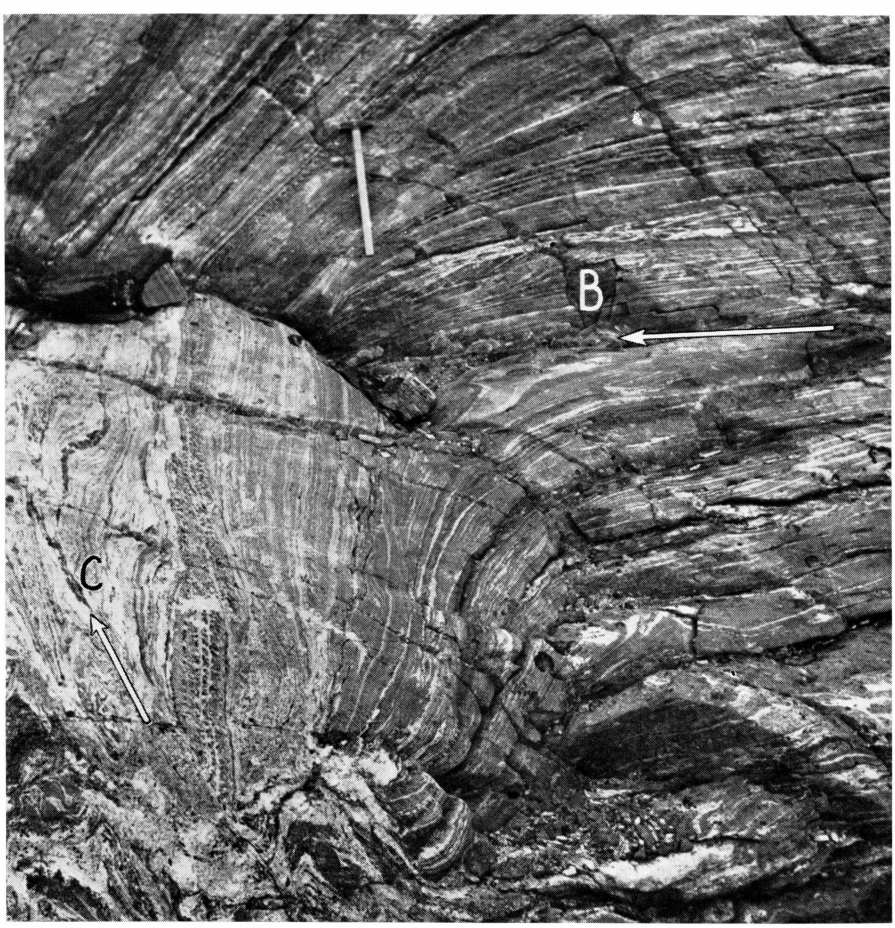
B

Type of superimposition on a small scale. The photograph made from an exposure in northwestern Dove Bugt shows the end of a resistant pre-Caledonian gneiss block, some 15 meters in length. The lineation and small folds of the relic gneiss mass lie almost perpendicular to those in the Caledonian granitized adjacent rock. Axis "B" (Carolinidian relic structure) plunges 4° towards east-southeast; axis "C" (Caledonian overprint) plunges 10° towards south-southwest.

Phot. J. Haller, 1955.



A



B

Plate XIX

Ejective cross-folding exposed at the left side of Soraner Gletscher, southern part of Rechnitzer Land (76°10′ N). The resistant pre-Caledonian gneiss mass "B" has been buried by the outgrowth of the Caledonian infrastructure, which formed here the prominant flow fold "C" on top of the old block. The root of the tongue-like migmatite welling is hidden by the glacier. Both fold-systems have subhorizontal axes lying perpendicular to each other.

Air-phot. W. Diehl, 1955.


B
C
B

Plate XX

Spindle-shaped shear lenticles, welded by recrystallized gneiss material. Caledonian reactivation structures in northeastern Germania Land (77°23′ N).

Air-phot. W. Diehl, 1955.

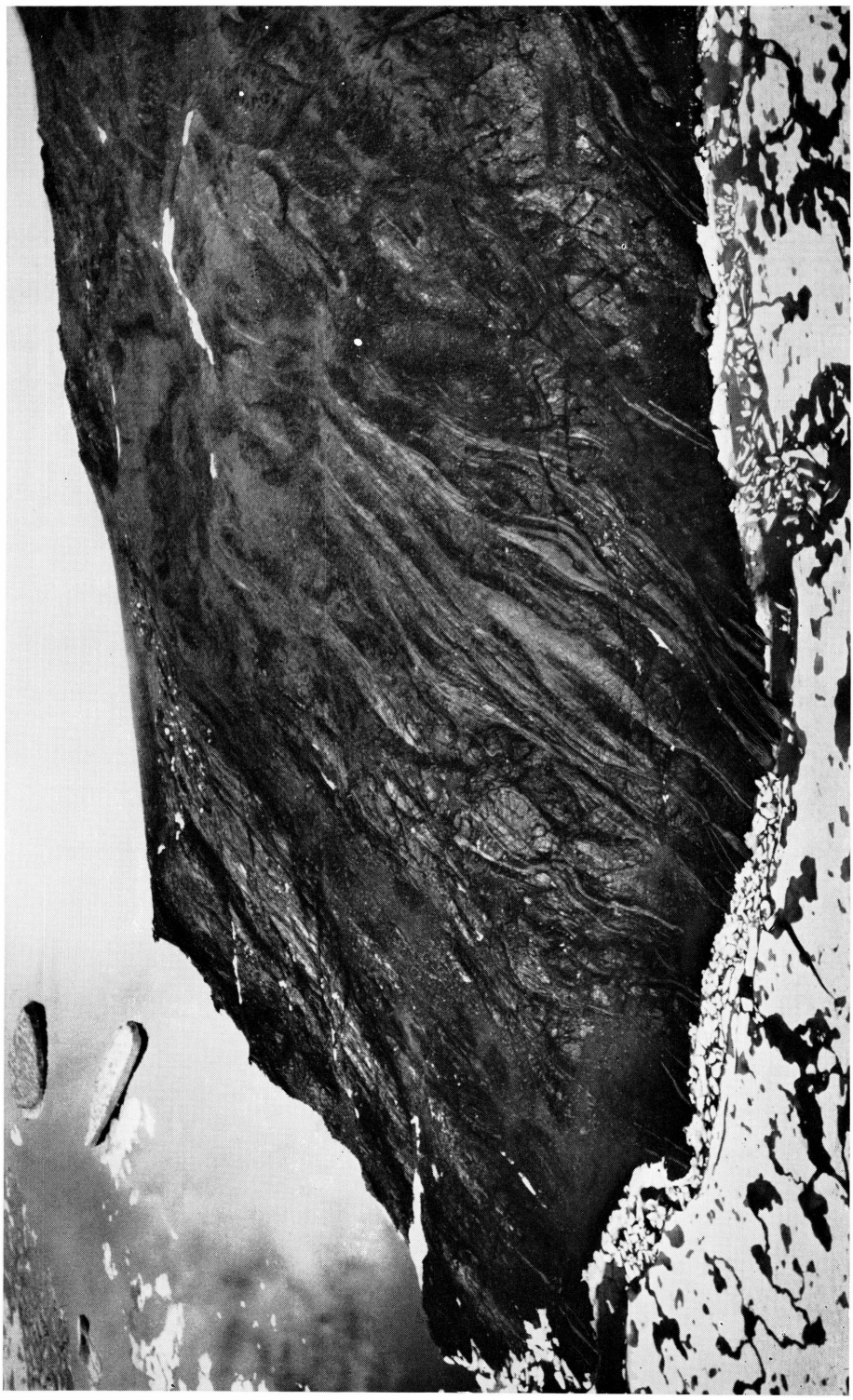


Plate XXI

Cliff some 500 meters in height at the south side of Kavalerfjord (Dove Bugt, 76°25′ N). The outcrop shows lenticular acute-angled flow folds, indicating that prior to the ascent of the Caledonian migmatite front, the substratum of Carolinidian gneisses had been fractured and transposed into a plexus of shear lenticles.

Air-phot. W. DIEHL, 1955.



Plate XXII

Northern wall of innermost Grandjeans Fjord. The cliff, some 1,300 meters in height, runs largely parallel to the young fold axis (D). This peculiar type of recumbent fold with the limbs dipping southeasterly is repeatedly found along this fjord cliff. The fold opens towards the southwest or tectonic transport is towards northeast (*i.e.* direction of view).

Air-phot. W. DIEHL, 1955.


GRANDJEANS FJORD
D

Plate XXIII

Aerial view of Gunnar Anderssons Land showing the Old Red Sandstone resting unconformably upon folded and faulted Lower Paleozoic. Dusens Fjord in foreground.

8 = Limestone-Dolomite Series, *9* = Tillite Group, *10* = Cambrian, *11* = Ordovician, *12* = Middle Devonian (basal sequences), *13 a* = "Kap Kolthoff Series" (Upper Devonian); *f* = faults.

Air-phot. M. Brenneisen, 1949.

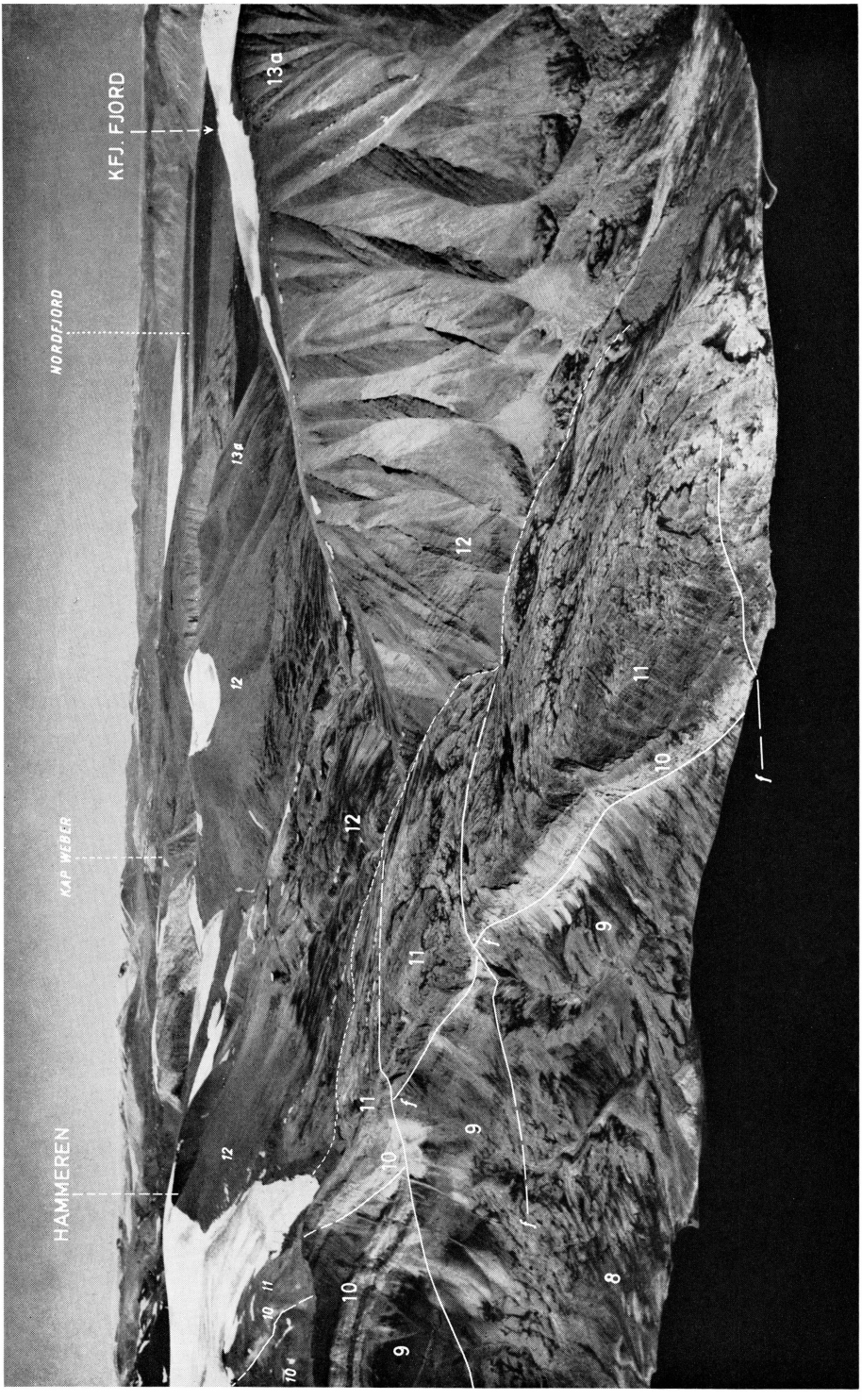

HAMMEREN
KAP WEBER
NORDFJORD
KFJ. FJORD
13a
12
11
10
9
8
f

Plate XXIV

Complex sheets of massive, through-breaking granite, which forms an extensive intrusive system following the keel of the "Knækdalen-Syncline". The exposure along Nordenskiölds Gletscher (73°03′ N) shows the plutonic epicentre of a predominantly lateral injection of batholithic dimensions.

Air-phot. E. Hofer, 1951.

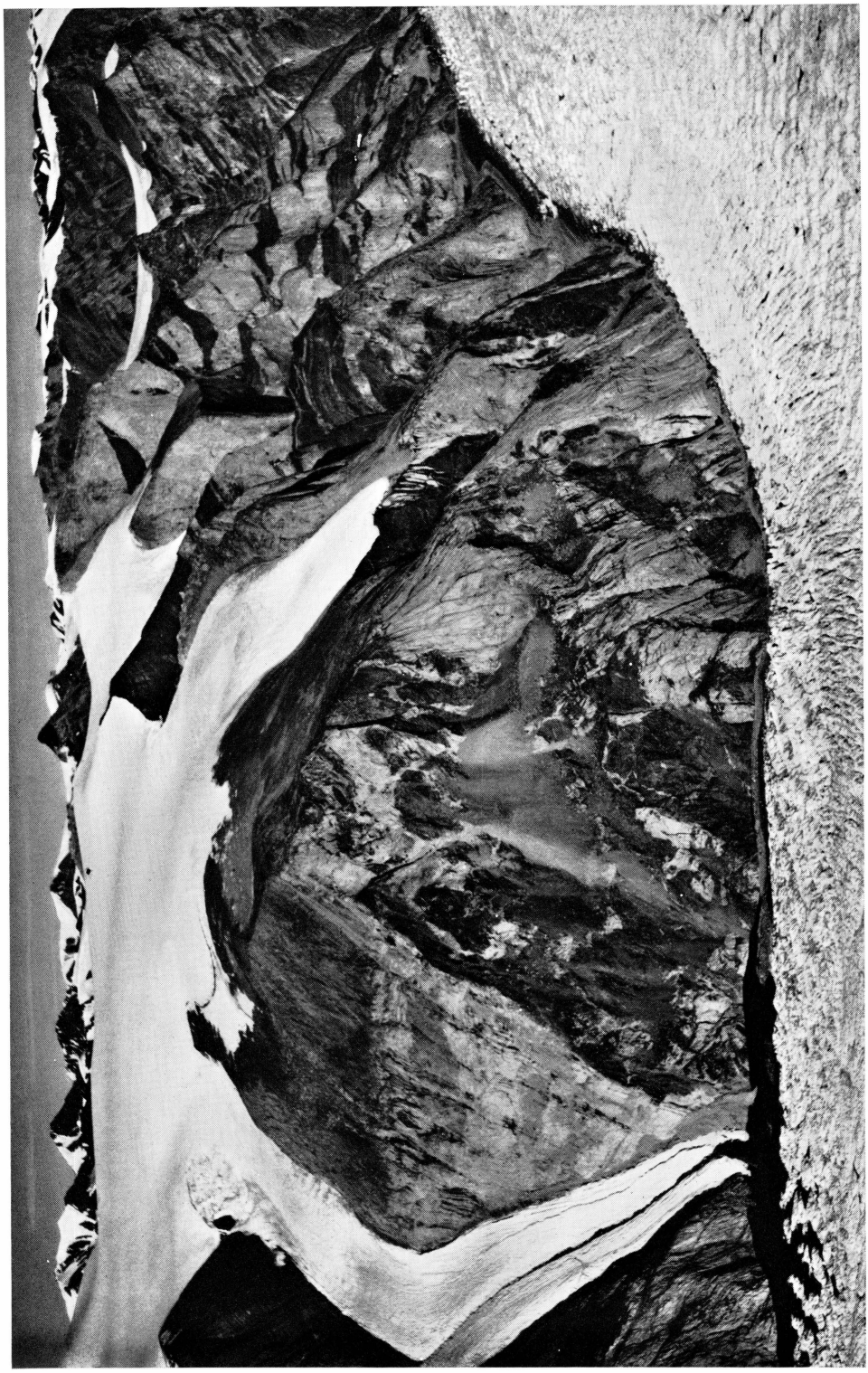


Plate XXV

Twisted and plastically folded sheets of syntectonic intrusive granite (N) which was injected into metasediments (K = bedded quartzites to gneiss, J = mica-schists to gneiss). A narrow zone of detachment (dash-dot line) separates the odd flow structure from its solid bench.

Taarnfjeld seen from northwest, Faustsøen in foreground (northern Andrées Land, 73°45′ N).

Air-phot. F. Schwarzenbach, 1956.


K
K
K
N
J
N
J
N
K

Plate XXVI

Young Caledonian thrust system (*t*) invaded and lubricated by syntectonic intrusive granites (*N*). Apart from a narrow belt of nonmetamorphic Eleonore Bay quartzites around Holger Danskes Tinde (in the very background) the rocks to be seen are gneisses and metasediments. In the middle-ground, however, a stock of post-tectonic intrusive granite (*O*) was emplaced as well. (For explanation of other symbols see Plate XLVI). Bartholins Land (74°20′ N).

Air-phot. F. Schwarzenbach, 1956.

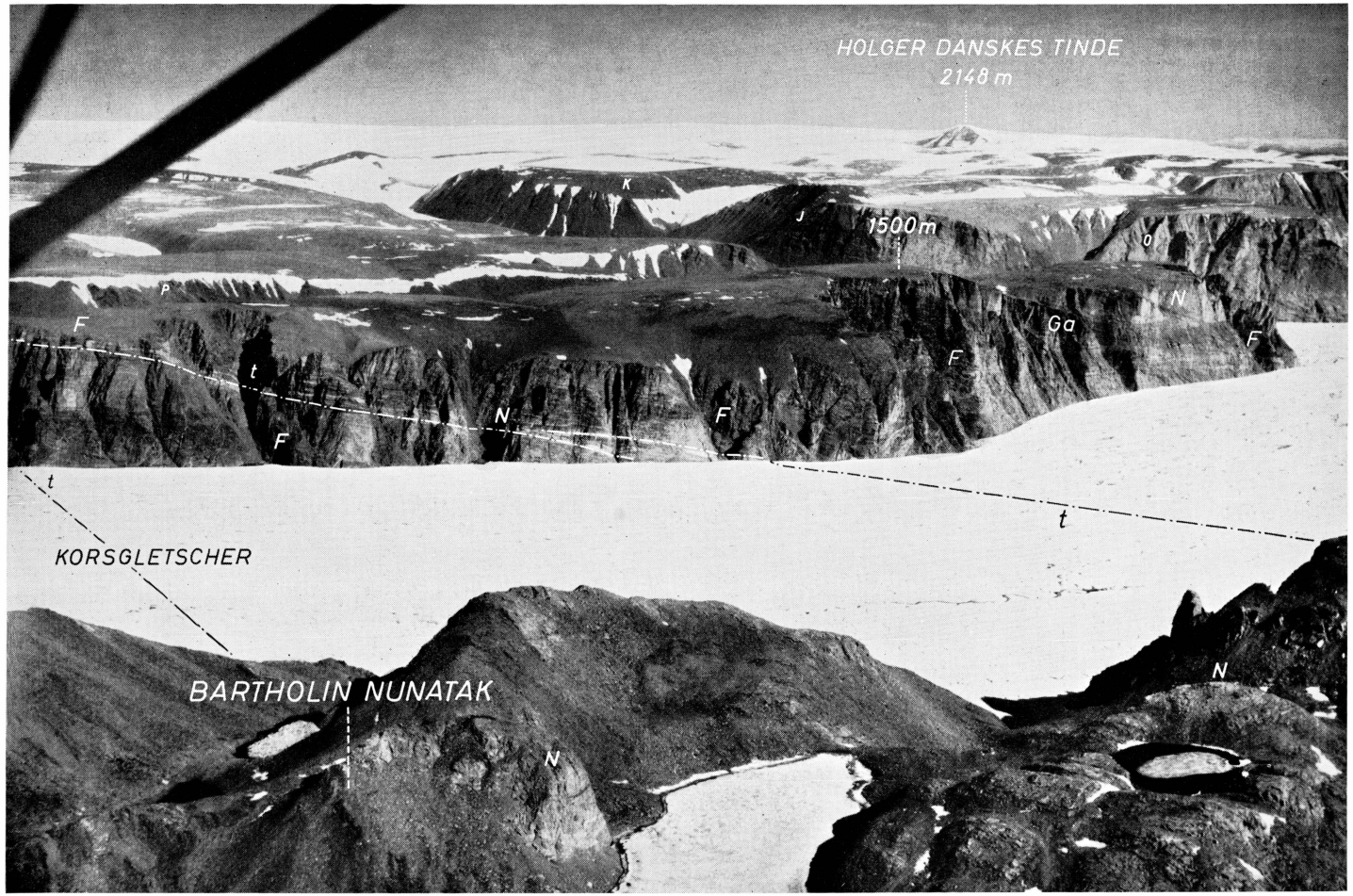

HOLGER DANSKES TINDE
2148 m
1500 m
K
J
O
P
F
t
N
Ga
KORSGLETSCHER
BARTHOLIN NUNATAK

Plate XXVI

Plate XXVII

Cliff at the north side of Bartholin Nunatak the upper edge of which appears on Plate XXVI. The lower part of this outcrop displays the breaking up of the old Caledonian gneisses near the sole of the thrust. Above is the sheet of intrusive granite which acted as a lubricant but then also occupied and armed the thrust zone proper.

Photograph taken from helicopter flight by F. SCHWARZENBACH, 1956.



Plate XXVIII

Late Caledonian low-angle tension faults, displayed over a length of 10 kilometers along the north coast of Kempes Fjord (Suess Land, 72°55′ N). The well-bedded strata are from the Upper Eleonore Bay Group and the conspicuous banding makes the displacement clearly visible.

6 = Upper Quartzite Series, 7 = Multicolored Series, 8 = Limestone-Dolomite Series. The figures in parantheses refer to individual beds of the series.

Air-phot. M. Brenneisen, 1949 (Photo-montage by Messrs. R. & W. Eidenbenz).

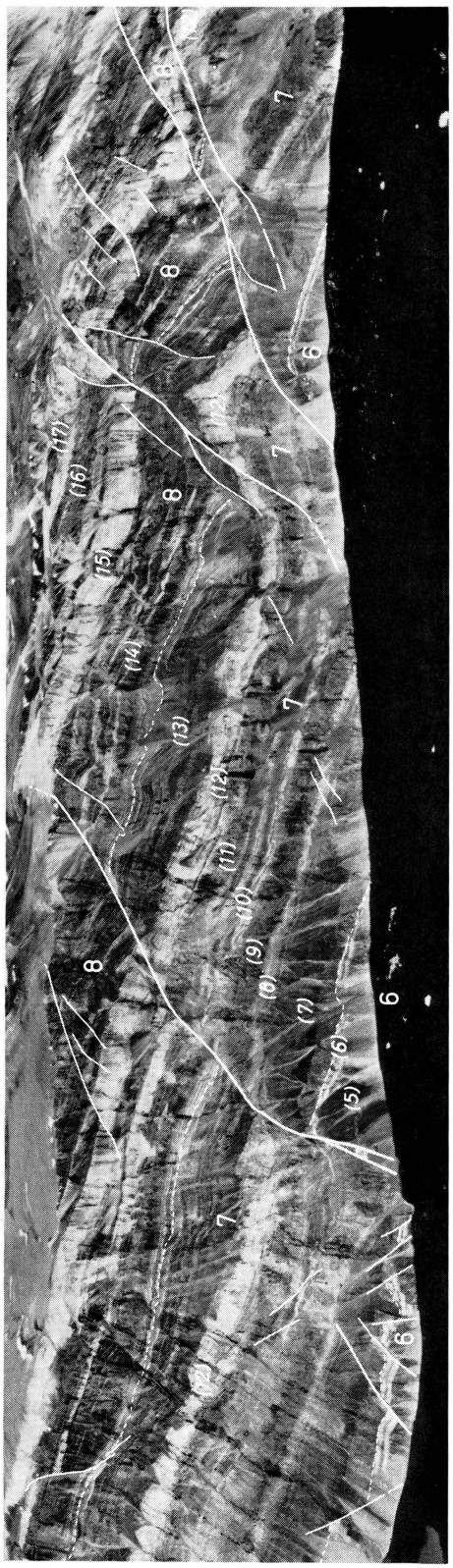

6
7
8
(5)
(6)
(7)
(8)
(9)
(10)
(11)
(12)
(13)
(14)
(15)
(16)
(17)

Plate XXIX

Late Caledonian faults (*f*) and overthrusts (*t*) in southern Andrées Land. "*s*" as well as the ornament "*v*" indicate a postglacial slide. *Upper Eleonore Bay Group:* 5 = Lower Quartzite Series, 6 = Upper Quartzite Series, 7 = Multicolored Series, 8 = Limestone-Dolomite Series (7M and 8M refers to slightly metamorphic beds); 9 = *Tillite Group.*

Eleonore Bugt is in the background to the right, the mouth of Junctiondal is very close to the left lower corner of the photograph.

Air-phot. M. Brenneisen, 1949.

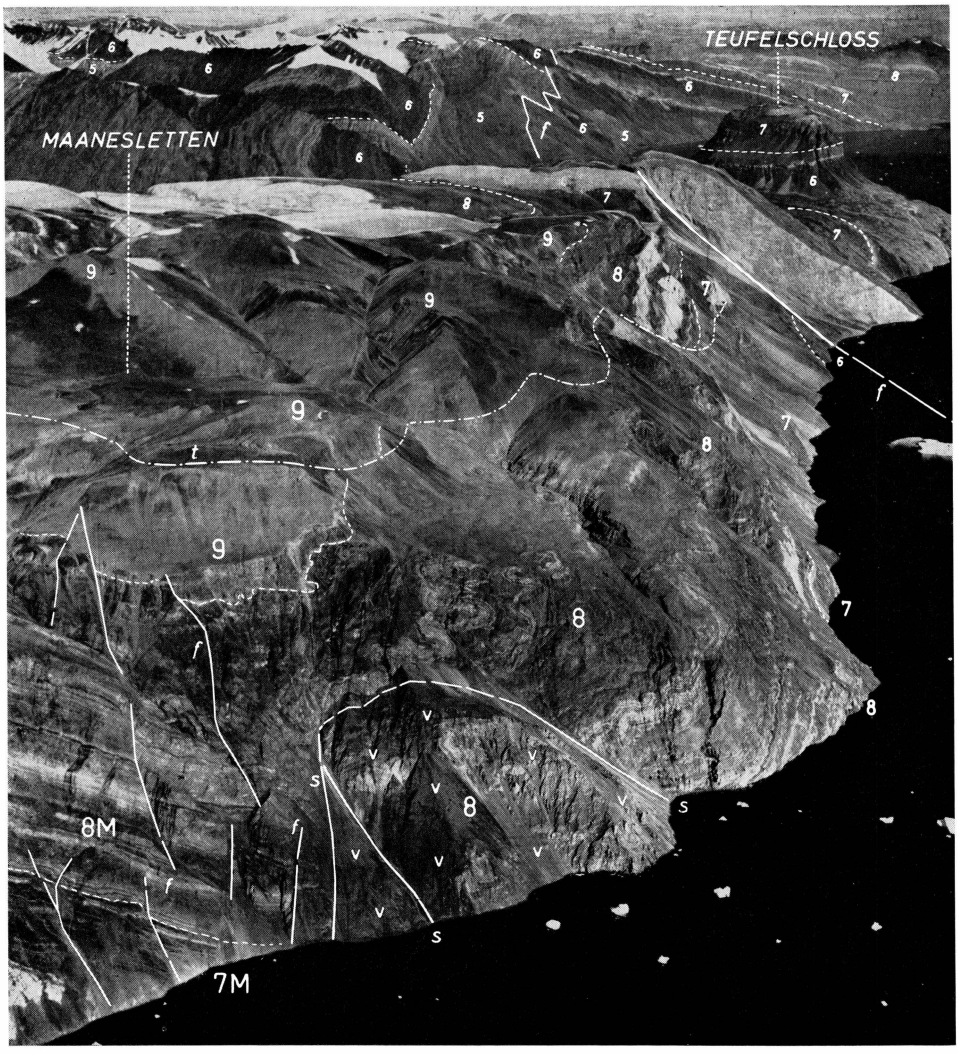

TEUFELSCHLOSS
MAANESLETTEN
8M
7M

Plate XXX

Eastern flank of a tightened and partly overturned synclinal structure at Kiledal (western part of Ymers Ø, 73°15′ N) with Kejser Franz Josephs Fjord coast in foreground. Here, an open and relatively simply built fold of the old Caledonian superstructure was compressed by young Caledonian movements acting from the east. The well stratified succession of the Upper Eleonore Bay Group (figures in parantheses indicate standard numbering of bed groups) reacted differentially to the superimposed folding, from which a conspicuously disharmonic structure resulted. The massive white dolomite Bed 12 was crumpled into coherent loops while the thinly stratified quartzitic shales Bed 13 were disrupted by a thrust-fault (*t*).

Air-phot. F. Schwarzenbach, 1956.


KILEDAL
(8)
(9)
(10)
(11)
(12)
(13)
(13)
(14)
(15)
(16)
(17)
(18)
(19)
(15)
(17)

Plate XXXI

Western flank of the synclinal structure at Kiledal which was tightened and overturned by young Caledonian movements acting from the east (cf. Plate XXX).

8 = Limestone-Dolomite Series of the Eleonore Bay Group; 9 = Tillite Group, Lower and Upper Tillites are indicated by (*LT*) and (*UT*) respectively; 10 = Lower Cambrian quartzite (Klöftelv Formation); *t* = thrust.

Air-phot. F. Schwarzenbach, 1956.


ANTARCTICS SUND
KILEDAL
KEJSER FRANZ JOSEPH FJORD
KONG OSCAR FJORD
10
9
8
(VI)
(II)

Plate XXXII

Main Caledonian synclinal structure which has been considerably compressed and tightened by young Caledonian movements acting from the east (*i.e.* from the right). The structure displayed involves Beds (3) to (5) of the Upper Quartzite Series. Blaabærdal, (southern Andrées Land, 73°30′ N).

Air-phot. F. Schwarzenbach, 1956.

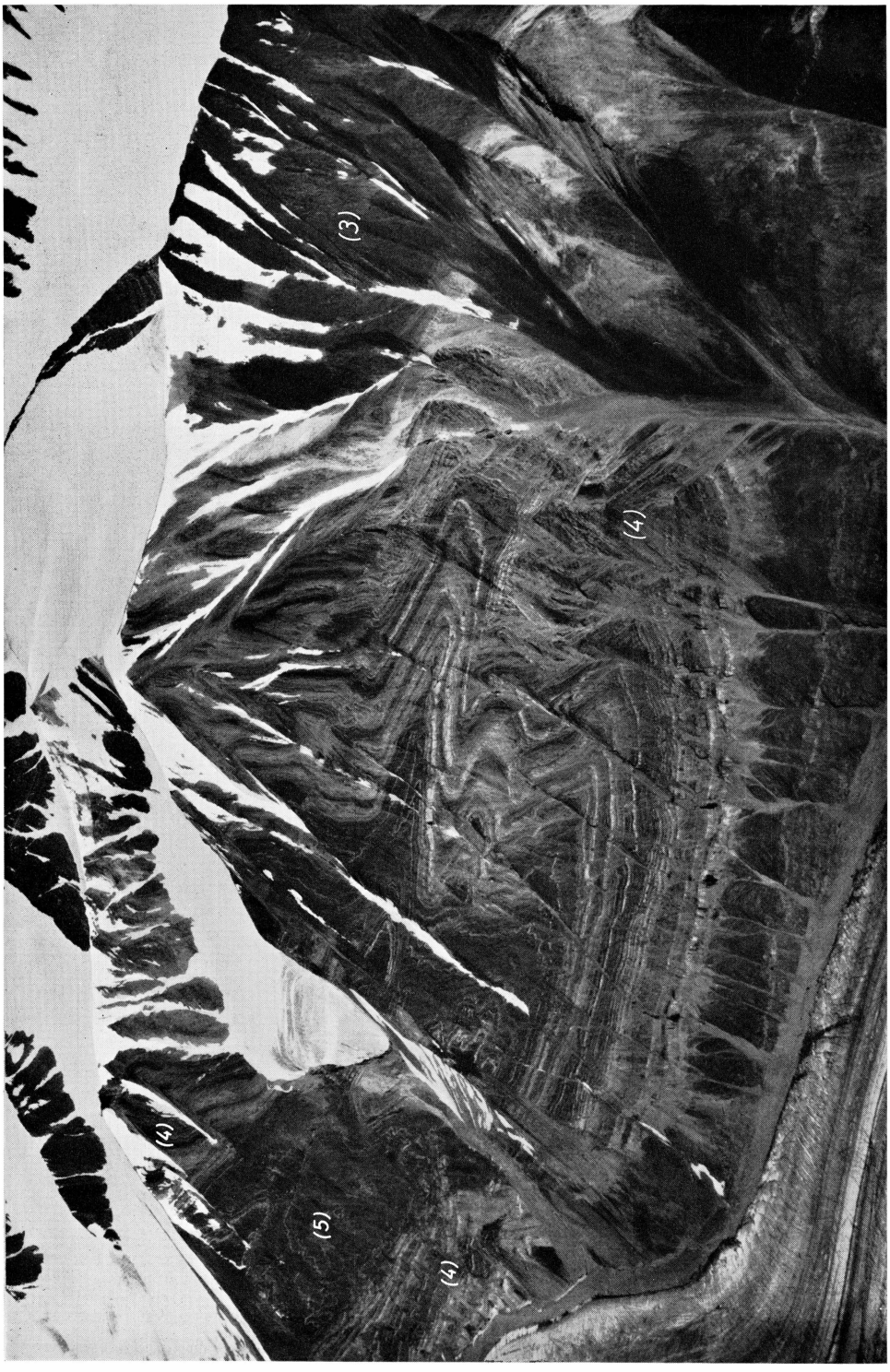

(3)
(4)
(4)
(4)
(5)

Plate XXXIII

Late Caledonian fault (*f*) running northerly straight across Scotstounhill, a nunatak emerging in the very wide terminus of Wordies Gletscher (74°15′ N). A vertical displacement of several thousand meters caused Middle (and? Upper) Devonian Old Red Sandstone (12–13) as well as a splinter of Cambrian (10) to lie beside a block of massive gneisses (*F*) of the old Caledonian infrastructure. The situation seen at this exposure probably no longer depicts the early Upper Devonian displacement, but a subsequently reactivated fault structure. Yet in contrast to many other places, this fault plane was exempted from involvement in subsequent Upper Devonian folding and thrusting.

Air-phot. J. Haller, 1956


f
F
12-13
10

Plate XXXIV

Upper Devonian distortion of a graben structure in western Hudson Land (74°00′ N). 6 = Upper Quartzite Series; 7 = Multicolored Series; 8 = Limestone-Dolomite Series; 9 = Tillite Group; 10 = Cambrian; 11 = Ordovician; 12 = Middle Devonian molasse.

Due to superimposed stress acting from the southeast a marginal part of the graben filling was thrown into folds and partly thrust upon its western abutment (see thrust "*t*", which developed from a former normal fault, and axial plunge of folded molasse in middleground).

Air-phot. F. Schwarzenbach, 1956.

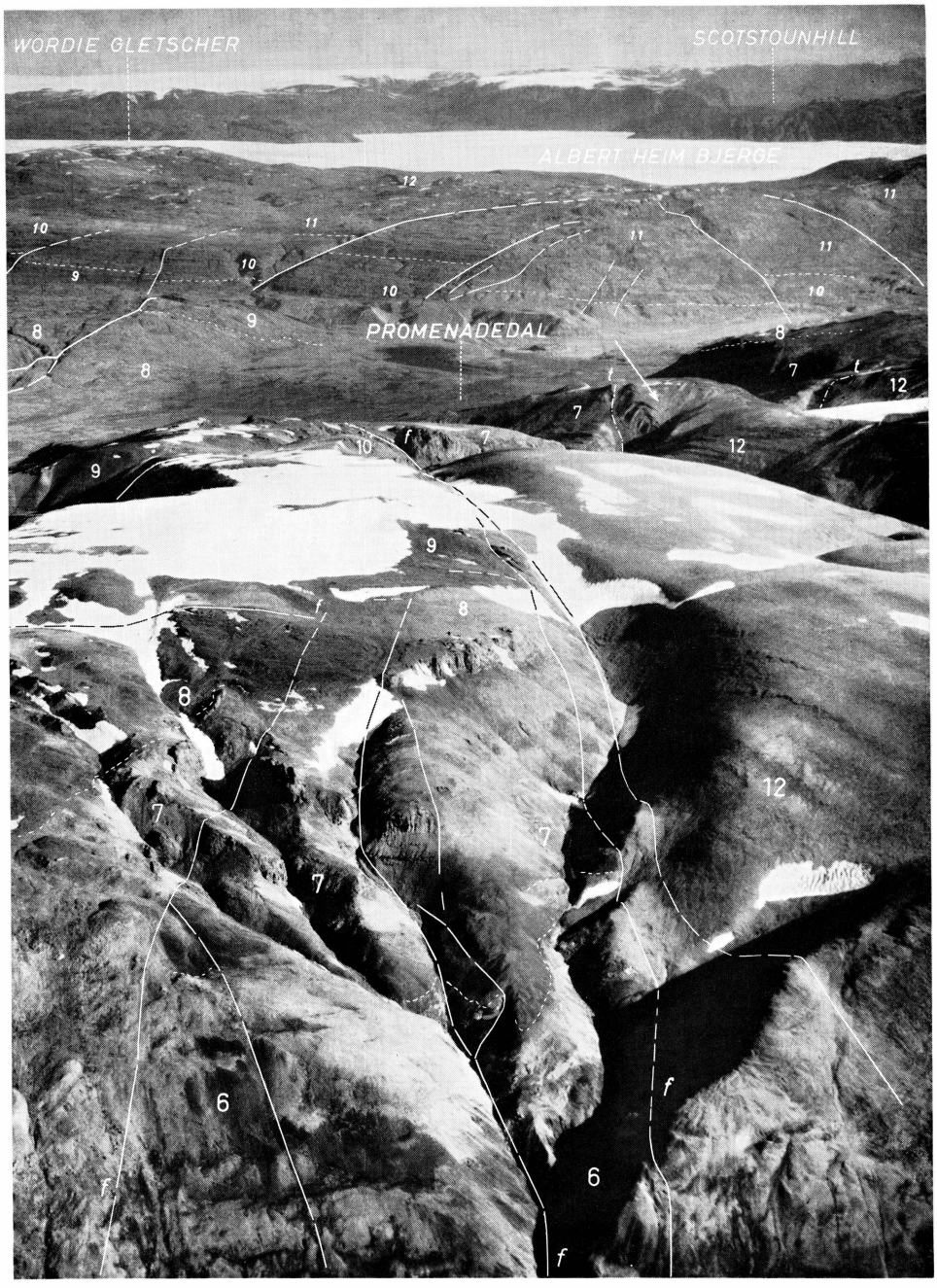

WORDIE GLETSCHER
SCOTSTOUNHILL
ALBERT HEIM BJERGE
PROMENADEDAL
12
11
10
9
8
7
6
f
t

Plate XXXV

Collapse structure at Klipperne, part of Tagbjergene in northwestern Hudson Land (74°00′ N).

Due to underthrusting or pinching acting from the east the abutment of the northerly running graben structure was thrown into an apparently tight fold which then collapsed and slid eastwards over the graben. The broken down highground was made of *Eleonore Bay beds*: 4 = Lower Eleonore Bay Group; 5, 6 = Quartzite Series (italics indicate bed numbers); 7 = Multicolored Series; 8 = Limestone-Dolomite Series; 9 = *Tillite Group*; 10 = *Cambrian*; 11 = *Ordovician*. The graben area involved Middle Devonian Old Red Sandstone (12).

In the background to the right, the overthrust eastern side of the graben structure is seen. (*f*) indicate faults, (*t*) thrusts and slides. The major slide caused a "klippe" of massive Ordovician limestones to lie on pre-Ordovician as well as on molasse beds. The mountain displaying this conspicuous structure was thus called Klipperne.

Air-phot. F. Schwarzenbach, 1956.



Plate XXXV

Plate XXXVI

Theodolitplateau, western Clavering Ø (74°25′ N), seen from the north. The photograph shows light-colored fluvio-lacustrine Carboniferous beds (15) transgressing across a complex of deeply truncated Caledonian crystalline (C_F).

The ancient peneplain surface as well as the molasse cover slope to the west (*i.e.* the right) due to a presumably late Lower Permian tilting of the "Clavering Ø fault block" (cf. Fig. 70, p. 153).

In the background to the right, horizontally lying Tertiary flood basalts (Z) mark the base of the early Cenozoic truncation plane.

Air-phot. F. Schwarzenbach, 1956.

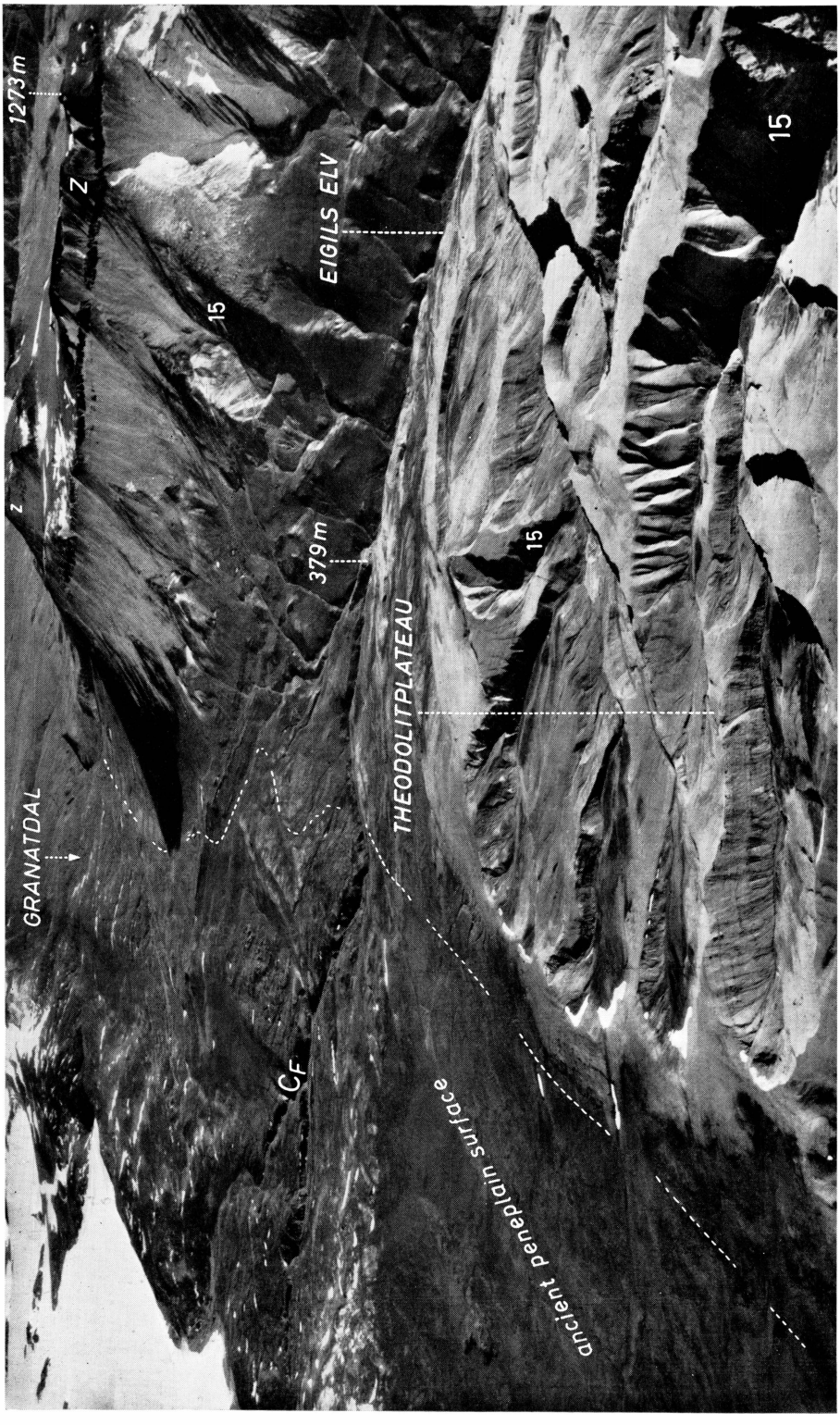

1273 m
Z
z
15
EIGILS ELV
379 m
15
15
GRANATDAL
THEODOLITPLATEAU
CF
ancient peneplain surface

Plate XXXVII

Aerial view of the Werner Bjerge massif, a composite Tertiary intrusion in northern Scoresby Land (72° N/24° W). The wide valley in the background is drained by Schucherts Flod, flowing south into Scoresby Sund. The rugged mountains in the background right are part of the late-Caledonian Staunings Alper granite massif.

Air-phot. M. Brenneisen, 1949.



Plate XXXVIII

Aerial view from a height of 4,000 m over southeastern Gauss Halvö showing post-Caledonian block fault tectonics. In the center lies the "Giesecke Bjerge block". This is bounded to the west by the "*post-Devonian main fault*" (f_1), a fracture zone along which considerable displacement commenced in Carbono-Permian time and which was renewed in Mesozoic and Cenozoic times (cf. Fig. 82). Towards the east the block is bounded by the prominent scarp of the "*Giesecke Bjerge fault*" (f_3), which consists of an *en echelon* pattern of fault splinters and steps. Cretaceous beds (*24*) and Tertiary basalts (*Z*) have been affected alike so that the major displacement is apparently post-basaltic. In the north, a post-basaltic *transverse fault* (f_4) separates the northwards sloping "Giesecke Bjerge block" from the similarly northwards tilted "Nordhoeks Bjerg block". The area to the east, *i.e.* the Hold-with-Hope basalt plateau including the wide Badlanddal, is part of another fault block that has been slightly tilted westwards after the emplacement of the volcanics (see A. VISCHER, 1943, p. 165).

The "Giesecke Bjerge block" in its present outline is essentially the result of Cenozoic fault tectonics. Its internal structure includes a highly complicated pre-Permian basement and a cover of Upper Permian (*17*), Eotriassic (*18*), and Lower Cretaceous (*24*) sediments as well as Tertiary basalts (*Z*), both flood-type surface lavas and dolerite intrusions, mainly sills. The pre-Permian basement, best exposed around Kap Franklin, has been the source of important information on Middle Devonian events in Central East Greenland. The formations indicated are: Middle Devonian sandstones and conglomerates (*12*), Middle Devonian "Kap Franklin granite" (*R*) whose micas yielded a K-Ar age of 395 ± 15 m.y. (J. HALLER and J. L. KULP, 1962, pp. 50–51). The granite is unconformably overlain and cut through by rhyolitic rocks (*S*) of the volcanic "Kap Franklin Series" of Middle Devonian age as well. The basement block was intensely faulted in pre-Upper Permian times; the fault (f_2) close to the cape caused a down-throw of the south side relative to the north side of 800 m. The age relation between these pre-Upper Permian faults (f_2) and the initial displacements along the "post-Devonian main fault" (f_1) has been made tentatively in the order of the indices (see H. BÜTLER, 1954, p. 60).

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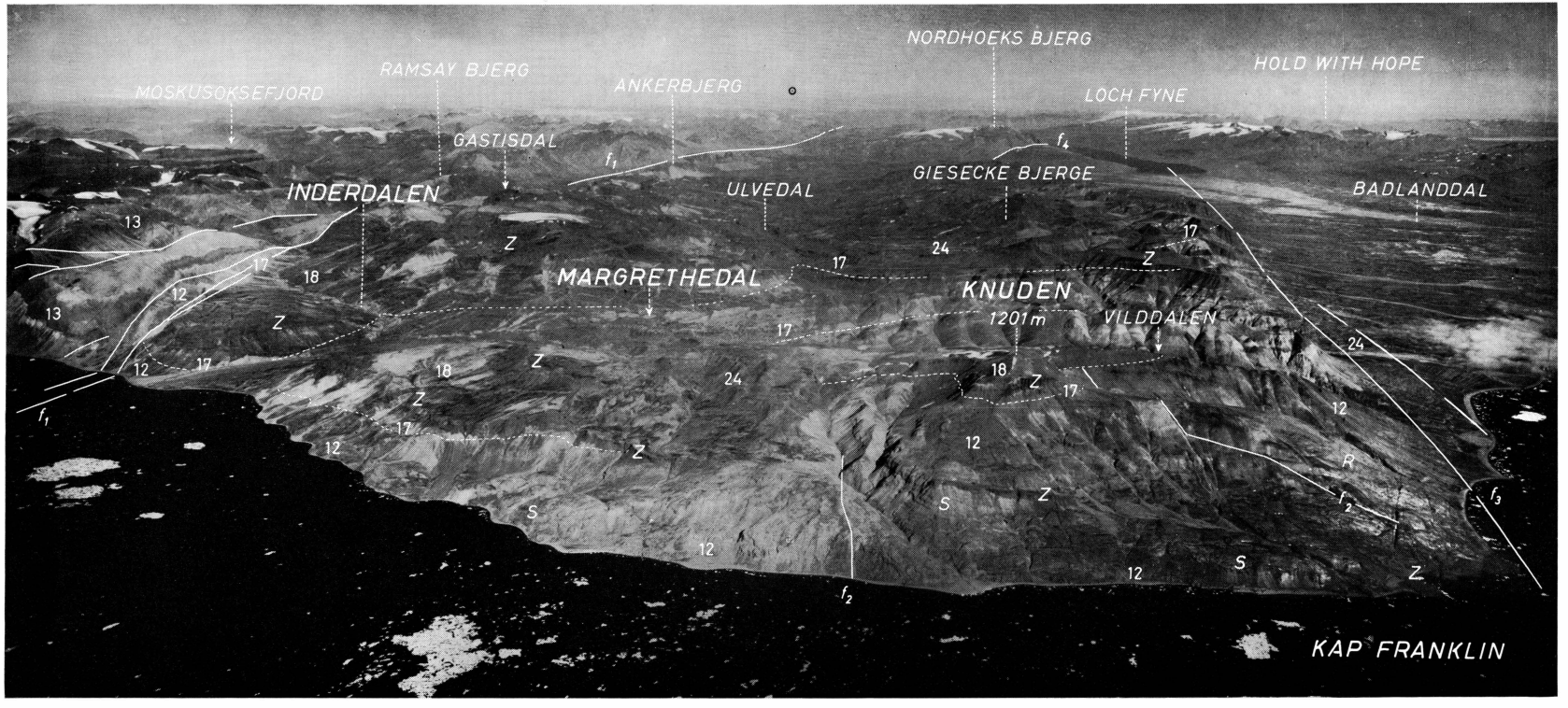

MOSKUSOKSEFJORD
RAMSAY BJERG
GASTISDAL
ANKERBJERG
NORDHOEKS BJERG
HOLD WITH HOPE
LOCH FYNE
INDERDALEN
ULVEDAL
GIESECKE BJERGE
BADLANDDAL
MARGRETHEDAL
KNUDEN
1201 m
VILDDALEN
KAP FRANKLIN
f1
f2
f3
f4
Z
S
R

Plate XXXIX

Aerial view of the southern section of Kongeborgen (Traill Ø) with Kong Oscars Fjord in the foreground. The cliff to the right rises to a height of 1,700 m. It displays a *high-angle thrust fault* of Tertiary age. There is a displacement of some 350 meters affecting beds of Middle Devonian (*12*) and Upper Devonian (*13 a*) age as well as a conspicuous sill of Tertiary dolerite (*Z*). (*Cf.* H. Bütler, 1955, pl. 6).

Air-phot. E. Hofer, 1950.

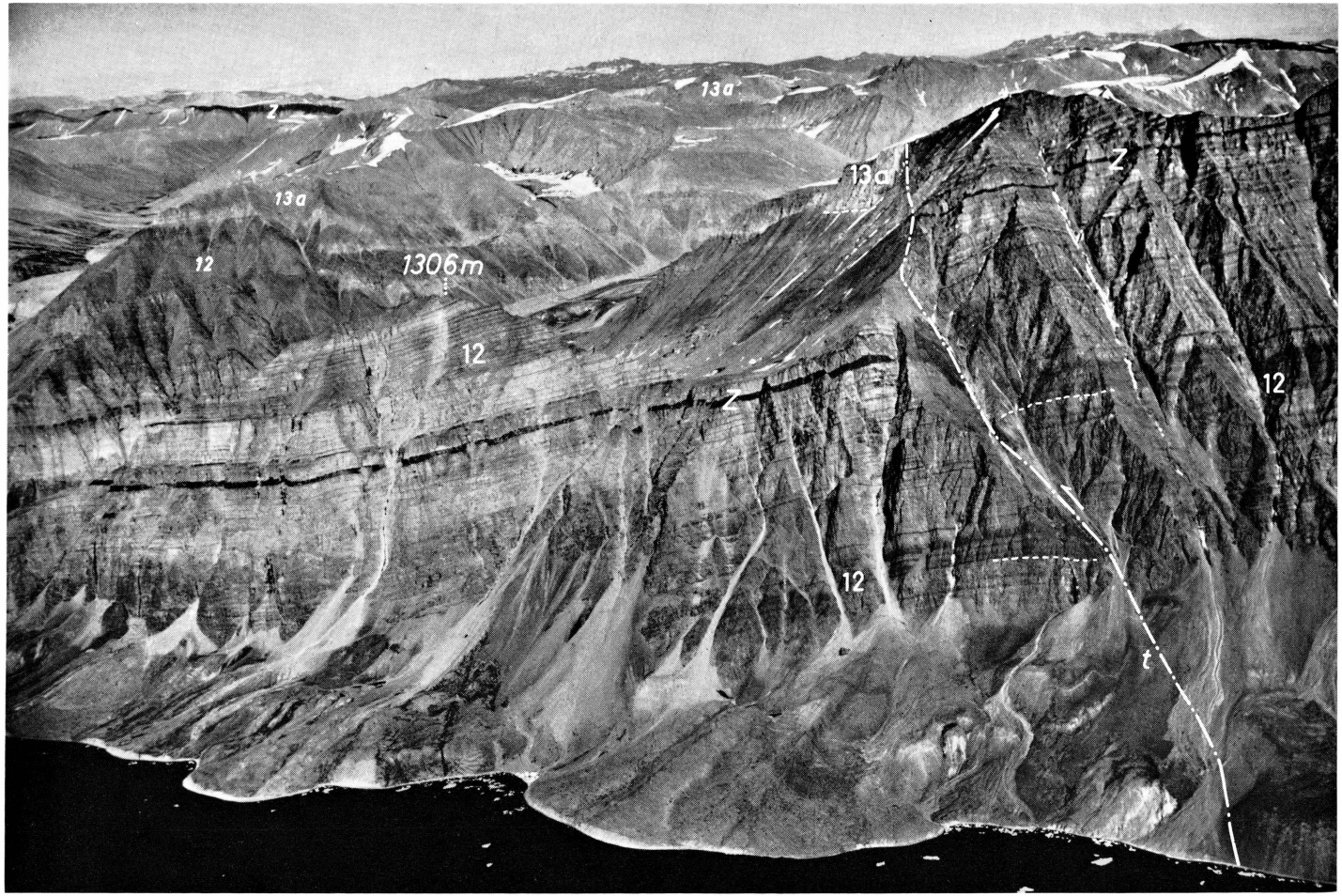


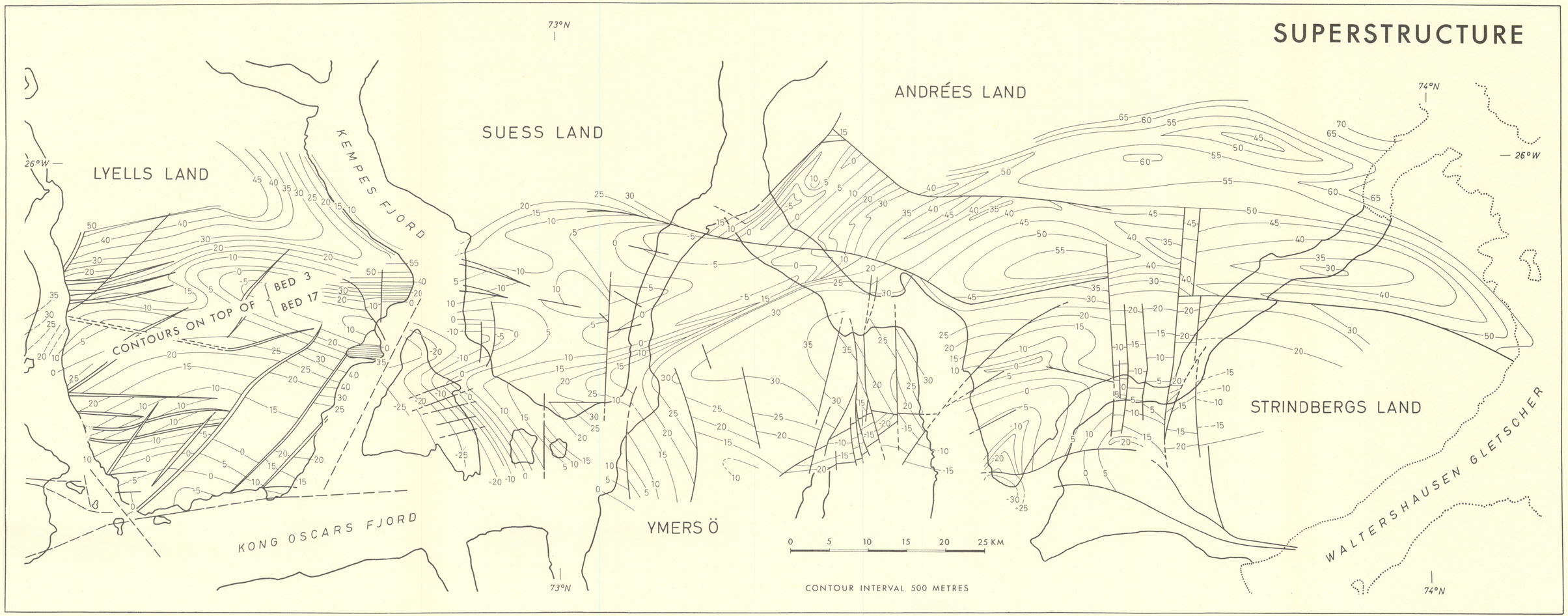
Plate XXXIX

Plate XL

Southern wall of C. F. Mouriers (Skærfjorden, 77°25′ N), a cliff some 900 meters in height. This wall displays the mode of Caledonian remobilization of the Precambrian basement block. In several parts a rough alternating dark-light banding can be distinguished. It consists of completely obliterated and partially reactivated members indicating selective granitization. The more resistant basic rock masses were mechanically decomposed into agmatitic structures, as is to be seen in the center of the wall.

Air-phot. W. Diehl, 1955 (Photo-montage by Messrs. R. & W. Eidenbenz).





Map showing structure contours of the main Caledonian fold pattern in the fjord region of Central East Greenland. Adapted from S. Eha (1953, p. 89), E. Fränkl (1953 a, pl. 5), M. Sommer (1957, pl. 5).



Cambridge Toppe, a mountain massif some 2,000 meters in height at the head of Kejser Franz Josephs Fjord (Goodenoughs Land).
The wall 12 kilometers long displays a mushroom-shaped cross-section of the "Hagar" migmatite unit (cf. J. Haller, 1955, pp. 111–34). The light-colored rock group of migmatites includes, *C* = syn-orogenic granites (ultrametamorphic rocks, partly derived from obliterated pre-Groenlandian basement), *F* = migmatite gneisses (highly transformed Eleonore Bay beds), *Ga* = amphibolites (forming a few dark bands and lenses). The enveloping metasediments, indicated by *J* show gradational forms between biotite-gneisses, mica-schists, and quartzitic schists. The general conformity of the front of metamorphism to the spacing of the migmatite formations is most striking in the overridden anteroom, where an *inverted succession* of metamorphic stages occurs.

Air-phot. W. Diehl, 1958 (Photo-montage by Messrs. R. & W. Eidenbenz).

Grejsdalen Granite Batholith

A

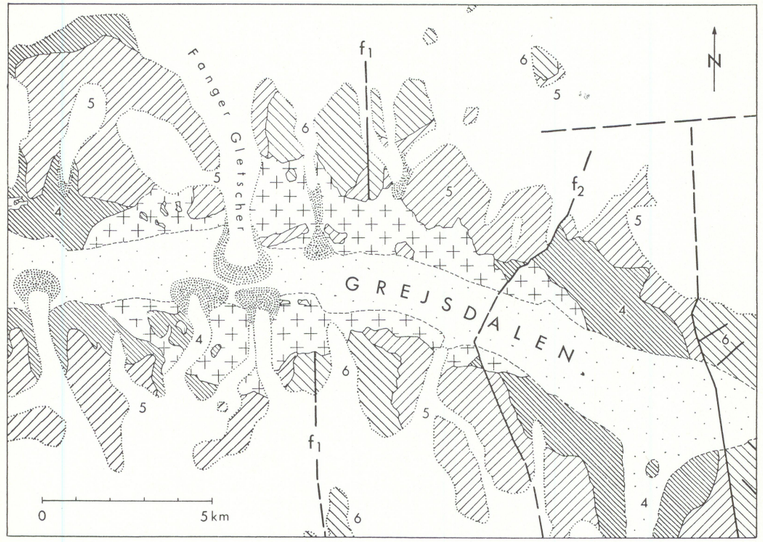
Geological map of the batholithic body of late orogenic granite in central Andrées Land (73°35′N). On the map, the post-tectonic intrusion is indicated by crosses, on the photographs by (*O*). The invaded country rocks consist of nonmetamorphic Eleonore Bay beds: 4 = Upper Argillaceous-Arenaceous Series, 5 = Lower Quartzite Series (beds 1–2), 6 = Upper Quartzite Series (beds 3–6). Faults are indicated by heavy lines: f_1 is of pre-batholithic age, but faulting on f_2 occurred after the batholith was emplaced and congealed. The downthrow on f_2, amounting to some 500 meters, is well marked by the displacement of both the edge of the granite body and the boundary between Lower and Upper Eleonore Bay beds, *i.e.* between 4 and 5.

B

Grejsdalen batholith seen from the southeast with pre- and post-intrusive faults clearly recognizable. Air-phot. M. Brenneisen, 1949.

C

Grejsdalen batholith seen from the southwest. Large blocks and xenoliths of country rocks are set off by broken lines. It is in the western flank of the batholith that substantial fragments of the sedimentary mantle are abundant. These fragments, however, show some sign of strong contortion produced by late Caledonian folding. This was evidently accompanied by a syn-kinematic generation of intrusive granite, which rose prior to the batholith emplacement. The zone of pre-batholithic mobility was rather narrow, stretching from upper Blaabærdal over Grejsdalen to Faustsøen in northern Andrées Land (see Map 3). Air-phots. F. Schwarzenbach, 1956 (Photomontage by Messrs. R. & W. Eidenbenz).



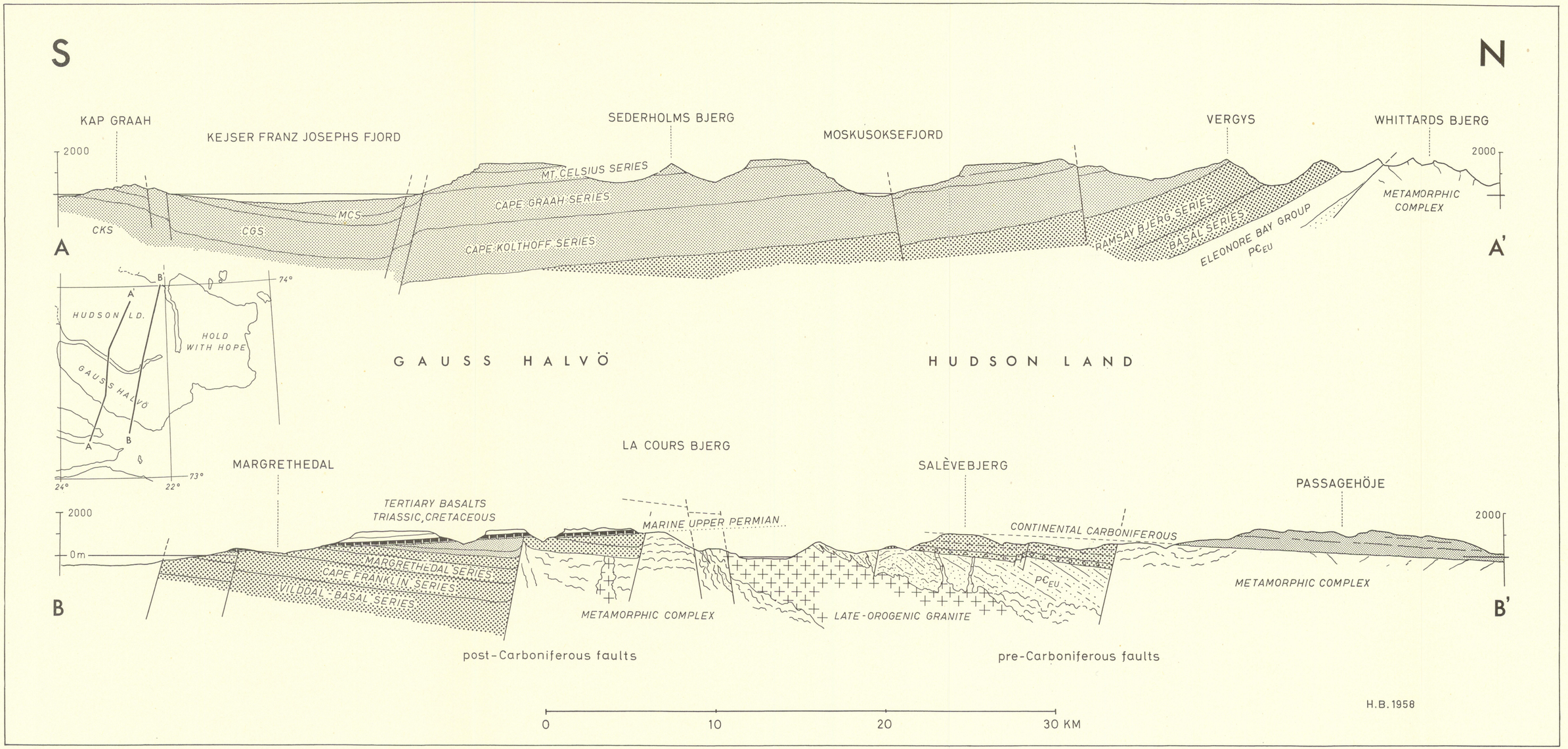
A



B



C



Section A-A' shows mainly the slightly southwards dipping pile of Old Red Sandstone: Middle Devonian (coarse stippling), Upper Devonian (fine stippling). Section B-B' illustrates pre and post-Carboniferous fault tectonics. The continental Carboniferous beds (Dinantian? to Namurian) are shown in light grey shading. Note that the Upper Permian sea transgressed across a completely peneplaned surface. After H. Bütler (1959, pl. 5).



Map showing the major tectonic features of the Scandic Sea. The land areas are subdivided into tectono-stratigraphic units. These are the Precambrian *Laurentia* and *Baltica* blocks (grey shading), the circum-Scandic *Caledonian mountain system* (solid black) the *Uralides*, the *Variscides*, and the *Innuitian System* (all three shown by individual cross hatching). Except for Cenozoic volcanics all post-Devonian formations are indicated by horizontal ruling (which may be part of a cross ornament as well).

In the North Atlantic Ocean, the Scandic Sea and the Arctic Ocean, the course of the *Mid-Atlantic Ridge* and its northward extension is sketched in horizontal lines. (Three transverse faults displacing the crestal province are tentatively shown, after B. C. HEEZEN, 1962, p. 260).

PLATE XLV

FORMATION SYMBOLS ADOPTED FROM THE "GEOLOGICAL MAP OF EAST GREENLAND 72°–76°N. LAT.", 1 : 250,000, Medd. Grønland 183

STRATIGRAPHY:

POST-CALEDONIAN COVER ROCKS — 27 = Quaternary; 26 = Tertiary; 25 = Upper Cretaceous, 24 = Lower Cretaceous (incl. Cenomanian); 23 = Upper Jurassic, 22 = Middle Jurassic, 21 = Lower Jurassic; 20 = Upper Triassic, 19 = Middle Triassic, 18 = Lower Triassic; 17 = Upper Permian.

LATE TO POST-CALEDONIAN CONTINENTAL FORMATIONS (MOLASSE-TYPE SEDIMENTS) — 16 = Lower (?) Permian; 15 = Namurian to Stephanian; 14 = Undiff. Carboniferous; 13 = Upper Devonian (13 c = "Mt. Celsius Series", 13 b = "Cape Graah Series", 13 a = "Cape Kolthoff Series") 12 = Middle Devonian.

GEOSYNCLINAL PILE OF CENTRAL EAST GREENLAND — 11 = Ordovician; 10 = Cambrian; Groenlandian (Precambrian): 9 = Tillite Group; 5–8 = Upper Eleonore Bay Group (8 = Limestone-Dolomite Series; 7 = Multicoloured Series; 6 = Upper part, 5 = Lower part of Quartzite Series); 1–4 = Lower Eleonore Bay Group (4 = Upper Argillaceous-Arenaceous Series; 4 a = Calc-Argillaceous Series; 3 = Lower Arenaceous-Argillaceous Series; 2 = calcareous bed group of, 1 = psammitic bed group of Basal Series).

IGNEOUS AND PLUTONIC ROCKS:

CRETACEOUS-TERTIARY ERUPTIVES — Z = basalt (dikes, sills, lava flows); Y = extrusives, pyroclastic rocks, magmatic breccias; X = pyroxenite, gabbro, diorite; W = granite; V = syenite; U = nepheline-syenite.

DEVONIAN ERUPTIVES — T = basalt (incl. tuffs); S = rhyolite (incl. tuffs); R = granite (late Caledonian, stratigraphically dated).

LATE-CALEDONIAN INTRUSIVES — Q = lamprophyre; P = pegmatite, aplite; O = post-tectonic granite; N = syntectonic granite.

CALEDONIAN CRYSTALLINE COMPLEXES — M = metamorphic sediments (indicated by formation figure); L = quartzitic schists to gneiss; K = bedded quartzites to gneiss; J = mica-schist to biotite-gneiss; H = marble, calcareous mica-schist to gneiss; Ga = amphibolite; Gp = periodotite; Gs = green schist; F = migmatite gneiss; E = alkalifeldspar-augengneiss; D = porphyritic granodiorite; C = syn-orogenic granite (ultrametamorphic rocks).

PRE-CALEDONIAN CRYSTALLINE COMPLEXES — B = pre-Caledonian gneiss complexes (in general); A = pre-Groenlandian basement (not affected by Caledonian orogeny).

MELVILLE LAND
KAP HARALD MOLTKE
KAP CAROLINE MARIE
KAP VAARBRUD
INDEPENDENCE FJORD
KAP RIGSDAGEN
PRINSESSE THYRA Ö
PRINSESSE MARGARETHE Ö
KAP PRINS KNUD
NAKKEHOVED
82°
KAP STADIL
KAP GRUNDLOVEN
KAP PETER HENRIK
ASTRUP FJORD
MEERHARD DAL
ASMILD SØ
KAP BERNHARD
DEICHMANN ØER
J. C. CHRISTENSEN LAND
BERNHARD DAL
ASMILD DAL
HAGEN FJORD
PRINSESSE DAGMAR Ö
Station Nord
FLADE ISBLINK
NORDOSTRUNDINGEN
PRINS FREDERIK ØER
KAP KRONBORG
KAP RINGKØBING
VALDEMAR GLÜCKSTADT LAND
HAGEN BRÆ
SUNDERSTEDAL
ULVEBAKKERNE
KAP RENAISSANCE
ZIG-ZAG DAL
FEMTE MAJ SØ
DANMARK FJORD
FYNSKE ALPER
KRONPRINS CHRISTIAN LAND
KILEN
ANTARCTIC BUGT
81°
VENDEDALEN
ROMER SØ
ALEXANDRINE BJERGE
KAP VIBORG
TOBIAS GLETSCHER
AMDRUP LAND
BAGDALEN
SOPHUS MÜLLER NÆS
HENRIK KRÖYER HOLME
KAP JUNGERSEN
KLUBSØ
BRISTOL PLATEAU
NORSEMANDAL
AMDRUP FJELDE
KAP HOLBÆK
TAAGEFJELDENE
HJØRNEGLETSCHER
PRINSESSE ELISABETH ALPER
SMALLE SPÆRREGLETSCHER
VANDREDALEN
NØGLEFJELDET
PROFILFJ.
PORTFJELDET
HARESKINDFJELD
NUNATAKKERNE
INGOLF FJORD
WEGENER ØER
ESKIMONÆS
MAAGEFJELDET
HOLM LAND
FIRNDALEN
HANSÊRAGS FJORD
KEGLEN
BRÆDE SPÆRREGLETSCHER
ALF BERTELSEN GLETSCHER
MALLEMUKFJELD
RING FJELDE
PRINSESSE CAROLINE-MATHILDE ALPER
LYNN Ø
KAP MARIE DIJMPHNA
KAP POVL
KAP H.N. ANDERSEN
SÆFAI DAL
DRØMMEBJERG
CENTRUMSØ
ULVEBJ.
FLIVERBJERG
FJELDRINGEN
STENØRKENEN
RIVIERADAL
POSTEN
MARMORVIGEN
HEKLA SUND
DIJMPHNA SUND
GUSTAV THOSTRUP BJERGE
HOVGAARD Ø
SIDEVEJEN
GRAAE FJELD
SKALLINGEN
ANNA BISTRUP FJELDE
KAP ANNA BISTRUP
ADOLF JENSEN BJERGE
SNESPURVE-FJELD
KAP BERNHOFT
KAP ADOLF JENSEN
BAGATELLERNE
BLAASØ
NIOGHALVFJERDSBRÆ
KAP STEGLICH-PETERSEN
TROMPETERENS BASTION
GAMLE JIMS ÖER
NORDVESTKLINT
LÆGERVALLEN
KAP NANSEN
KAP DRYGALSKI
LAMBERT LAND
MISANTHROPENS FJELDE
JØNFRU-NORDRUVS FJORD
80°
GNEISNÆS
KAP ZACHARIAE
ACHTON FRIIS Ø
NORSKE ÖER
KAP AMUNDSEN
ZACHARIAE ISSTRÖM
NORDKAP
SCHNAUDER Ø
BOURBON Ø
ØSTKAP
SYDKAP
FRANSKE ÖER
KAP BERGENDAHL
MOLTKES NUNATAK
DE GERLACH BJERG
TUBORGFONDETS LAND
GRØNNE NUNATAK
GAMMEL HELLERUP GLETSCHER
JÖKELBUGTEN
KAP KOEFOED
GARDES NUNATAKKER
PARISERØERNE
MELLEMFORTET
79°
26°
24°
22°
20°
18°
16°
14°
12°

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JÖKELBUGTEN
HAMMEREN
AMBOLTEN
KAP MÉRITE
STIGBØJLEN
NORDREDEPOTØ
DANSKE ØER
BILDSØ NUNATAKKER
SANDDAL
BOXØERNE
STORØEN
LADY'S ØER
TROLDEHAVEN
HERTUGEN AF ORLÉANS LAND
WEINSCHENCK Ø
OKTOBER Ø
ORLÉANS SUND
GAMMA Ø
KAP ISABELLE
KAP MONTPENSIER
ÎLE DE FRANCE
KAP PHILIPPE
KAP SAINT-JACQUES
NORDMARKEN
CAMPANULAVIGEN
STORMLANDET
C. DROST Ø
C. SILTVERBERGS Ø
JARNER PLATEAU
DEPOTNÆSSET
KAP AMÉLIE
PENTHIEVREVEJORD
H. G. BACKLUND FJORD
JOINSVILLE Ø
SKÆRFJORDEN
V. CLAUSENS FJ.
KAP RÉCAMIER
C. F. MOURIERS FJORD
REKVEDØEN
KAP MARIE VALDEMAR
THOMAS THOMSENS NÆS
ANNEKSØEN
EVALDS GLETSCHER
FLADEBUGT
O. LENZ FJELDE
GERMANIA LAND
F. TOULA PLATEAU
KAP MENELIK
SÆLSØEN
TREKRONER
KAP STEENSBY
STORMELV
HVALROSSODDEN
SNENÆS
Danmarkshavn
KAP HELGOLAND
KAP BISMARCK
LILLE KOLDEWEY Ø
ORIENTERINGSØERNE
BERØS FJORD
YMER NUNATAK
SUZANNE NUNATAK
PRINS AXEL NUNATAK
BRITANNIA GLETSCHER
ZEBRA KLIPPE
PREBS BJERG
HA. JENSENS BJERG
JUEL-BROCKDORFF BJERG
SUNDERLAND GL.
BRITANNIA SØ
KAP BELLEVUE
STORSTRÖMMEN
FARVEL NUNATAK
RUTHERFORD BJERG
HVALRYGGEN
PRINSESSEN
AD ASTRA ISKAPPE
ADMIRALTY GL.
FERMI KLIPPE
NEWTON KLIPPE
REGNBUEKLIPPE
KELVIN KLIPPE
CURIE KLIPPE
TREFORK SØ
BACH DAL
KAP WEINSCHENCK
POULSEN NUNATAKKER
WINSTON BJERG
DRONNING LOUISE LAND
KAP ACHTON FRIIS
TREKANTEN
GLOOS KLIPPE
KILEN
PARADISKLIPPE
REVALTOPPE
EIGIL SØ
KAP AAGE BERTELSEN
OLSEN NUNATAKKER
ROSMULE
BORGJØKEL
FARIMAGSØ
MOZART DAL
CARLSBERGFONDET LAND
SYVSTJERNEN
KALDBAKUR
PONY GLETSCHER
DRONNINGESTOLEN
FALKONERKLIPPE
MONUMENTET
VEDEL SØ
EJNAR GL.
HELGOLAND
ST. ANDREWS KLIPPE
DICKENS BJERG
SAVRYGGEN
BUDOLFI ISSTRÖM
DURHAM KLIPPE
KAP FREUCHEN
GRIMM FJELDE
METAFORGL.
PALETTEN
EBBE GLETSCHER
A. B. DRACHMANN GLETSCHER
EVENTYRFJELDE
KOFOED HANSENS BRÆ
KUHN Ø
KAP RÉCAMIER
REKVEDØEN
ANNEKSØEN
EVALDS GLETSCHER
FLADEBUGT
KAP MARIE VALDEMAR
THOMAS THOMSENS NÆS
O. LENZ FJELDE
F. TOULA PLATEAU
KAP MENELIK
SÆLSØEN
TREKRONER
KAP STEENSBY
STORMELV
HVALROSSODDEN
SNENÆS
Danmarkshavn
KAP HELGOLAND
KAP BISMARCK
LILLE KOLDEWEY Ø
ORIENTERINGSØERNE
BERØS FJORD
MØRKEFJORD
PØSTERVIG
HELLEFJORD
VINDSELØEN
DANIEL BRUUN LAND
RØDEØ
BORGEFJORDEN
EDWARDS Ø
ANDREAS LUNDAGERS Ø
DOVE BUGT
LINDHARDS Ø
CARL HEGERS Ø
GODFRED HANSENS Ø
LICHTS Ø
KAVALERFJORD
KAP NIELS
DJÆVLEØEN
TEUFELKAP
A. STELLINGS SUND
NANOKS Ø
FRITS JOHANSEN Ø
RECHNITZERS LAND
ORGELPIBERNE
KAP PESCHEL
SYVTENDEMAJFJORDEN
VIVIANS FJELD
MANNICHE SØ
S. ANDERSEN SØ
L. BISTRUP BRÆ
SØRANER GLETSCHER
AD S. JENSENS LAND
KAP BEURMANN
BESSELS FJØRD
TRUMS Ø
SVYGGESØ
VALKERIGS
MÆRKSØ
LANGELV
LANGSØ
TRODDEDALEN
HAYSTACK
KONG WILHELMS LAND
STORMGLETSCHER
EINAR MIKKELSENS GLETSCHER
AGNETESSØ
BREDEFJORD
BRÆDAL
KAP OSWALD HEER
STORBORGEN
SMALLEFJORD
KAP DALY
HOCHSTETTERS FORLAND
KAP BÖRGEN
CAMONGL.
NIFLHEIM
ARDENCAPLE FJORD
KAP COPELAND
FEMDALEN
VESTERPORT
KAP KLINKERFUES
KILDEDALEN
SHANNON SUND
IOTUNHEIM
MUSCHELBJERG
KAP PANSCH
SHANNON Ø
C. H. OSTENFELDS LAND
KAP BUCH
KAP RINK
HEINKELS GLETSCHER
JULLASØ
KAP MOSLE
VALHAL
BIRKEDAL
KAP DAVID GRAY
KAP PHILIP BROKE
GRANDJEANS FJORD
KAP BREMEN
KRISTIANS BUGT
KUHN Ø
TH. THOMSENS LAND
FLIGELYS FJORD
KAP MAURER
FREJAS FJELD
HIEROGLYFERNE
ODINS DAL
RAVNEN
RASMUSSENTOPPEN
HOHE KUGEL
KAP BERLIN
LILLE PENDULUM
KAP SCHUMACHER
LINDEMANS FJORD
SABINE Ø
A. P. OLSENS LAND
GROSSGLOCKNER
PASTERZE
EREMITTEN
FALSKEBUGT
PENDULUM ØER
MARIANNES NUNATAKKER
TYROLER FJORD
HVALROS Ø
KEGLEBJERG
PAYERS LAND
STORE SØDAL
KAP WYNN
ZACKENBERG
WOLLASTON FORLAND

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TECTONIC MAP OF EAST GREENLAND

COMPILED BY JOHN HALLER

1:500,000

5 0 10 20 30 40 50 KM

GEOLOGIC BOUNDARIES

POST-CALEDONIAN FORMATIONS

- FLOOD-BASALTS AND MINOR INTRUSIONS
- BASIC / ACID ALKALINE STOCKS AND PLUGS
  - TERTIARY IGNEOUS ROCKS
- BASE OF TERTIARY SEDIMENTS
- – – MESOZOIC SEDIMENTS
- – – MARINE UPPER PERMIAN IN CENTRAL EAST GREENLAND
- – – UPPER PALEOZOIC BEDS IN NORTHEAST GREENLAND

CALEDONIAN MOLASSE IN CENTRAL EAST GREENLAND

- BASE OF LOWER(?) PERMIAN
- – – CARBONIFEROUS
  - UPPER PALEOZOIC CONTINENTAL DEPOSITS
- – – MT. CELSIUS SERIES
- – – KAP GRAAH SERIES
  - UPPER DEVONIAN
- – – KAP KOLTHOFF SERIES
- – – BASAL SEQUENCES
  - MIDDLE DEVONIAN
  - OLD RED SANDSTONE
  - INTRAMONTANE CLASTIC DEPOSITS

LATE CALEDONIAN INTRUSIONS

- POST-FOLDING GRANITE BATHOLITHS

PRE-CALEDONIAN SEDIMENTS

- BASE OF CAMBRIAN (OR PRESUMED CAMBRIAN)
- BASE OF POST-CAROLINIDIAN PRECAMBRIAN STRATA (HAGEN FJORD GROUP IN NORTHEAST GREENLAND, ELEONORE BAY GROUP IN CENTRAL EAST GREENLAND)

PRE-CAROLINIDIAN SEDIMENTS

- BASE OF PRE-CAROLINIDIAN SEDIMENTARY ROCKS (THULE GROUP IN NORTHEAST GREENLAND)
  - FORELAND OF THE CALEDONIAN BELT AND PARAUTOCHTHONOUS THRUST SHEETS

PRE-GROENLANDIAN BASEMENT BLOCK

- OUTCROPS OF BASEMENT ROCKS

STRUCTURAL FEATURES

CENOZOIC DISTURBANCES

- ANTICLINE
- SYNCLINE
- THRUST FAULT
  - GENTLE TERTIARY FOLDING

PALEOZOIC TO CENOZOIC FAULT SYSTEMS

- NORMAL FAULT
- FLEXURE
- LOW-ANGLE FAULT (MAINLY TENSION FRACTURES)
- THRUST FAULT (COLOUR INDICATES AGE OF MOVEMENT)
- UNCLASSIFIED FAULT
- HYPOTHETICAL FAULT

CALEDONIAN FOLD-STRUCTURES (PALEOZOIC)

MINOR SUCCEEDING EPISODES

- ANTICLINE
- SYNCLINE
- OVERTHRUST
  - UPPER PALEOZOIC 350–270 m.y.

YOUNG-CALEDONIAN FOLDING

- ANTICLINE
- SYNCLINE
- OVERTHRUST
  - SUPERFICIAL TECTONICS
- ANTIFORM
- SYNFORM
  - DEEP-SEATED TECTONICS
  - DEVONIAN 400–350 m.y.

OLD-CALEDONIAN FOLDING

- ANTICLINE
- SYNCLINE
- OVERTHRUST
- KLIPPE, WINDOW
  - SUPERSTRUCTURE
- ANTIFORM
- SYNFORM
  - INFRASTRUCTURE
  - SILURIAN 420–400 m.y.

CAROLINIDIAN FOLD-STRUCTURES (PRECAMBRIAN)

- LATE-OROGENIC FAULT (PRE-HAGEN FJORD GROUP)
- ANTICLINE
- SYNCLINE
- THRUST FAULT
  - SUPERSTRUCTURE
- ANTIFORM
- SYNFORM
  - INFRASTRUCTURE

PRE-GROENLANDIAN BASEMENT COMPLEX

- UNDIFFERENTIATED AS TO STRUCTURE

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