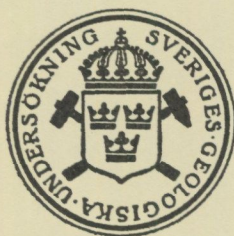


MICHAEL B. STEPHENS

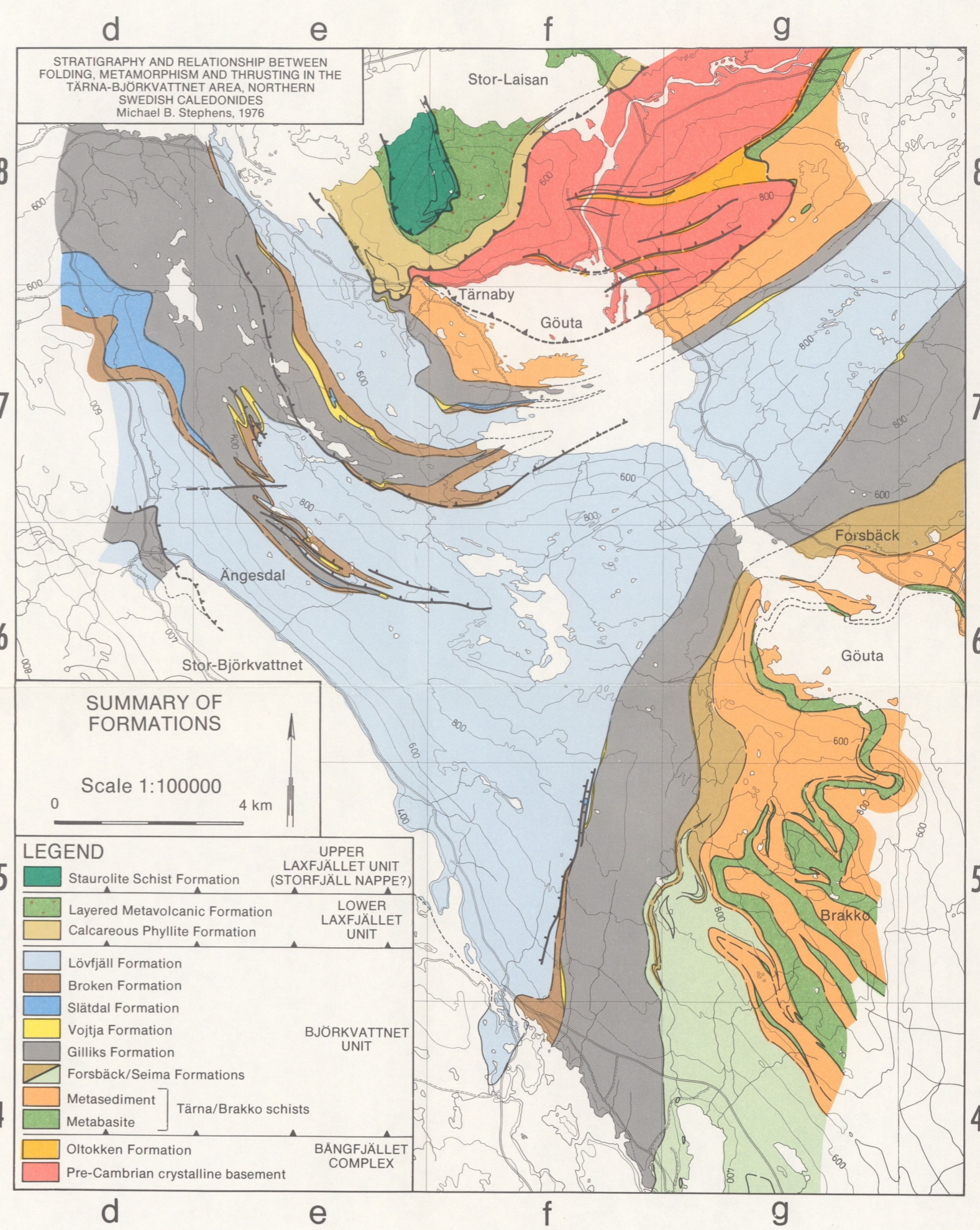
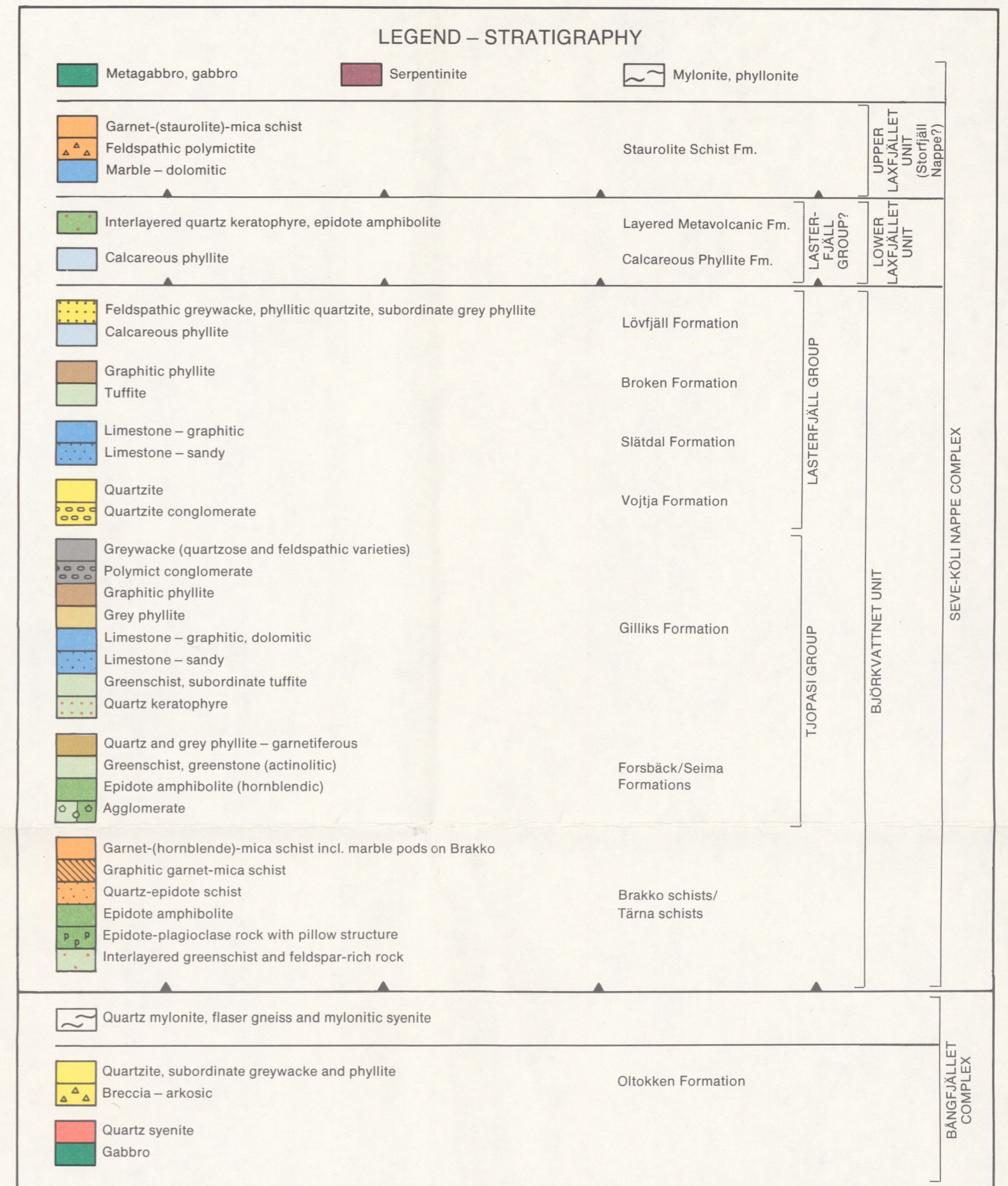
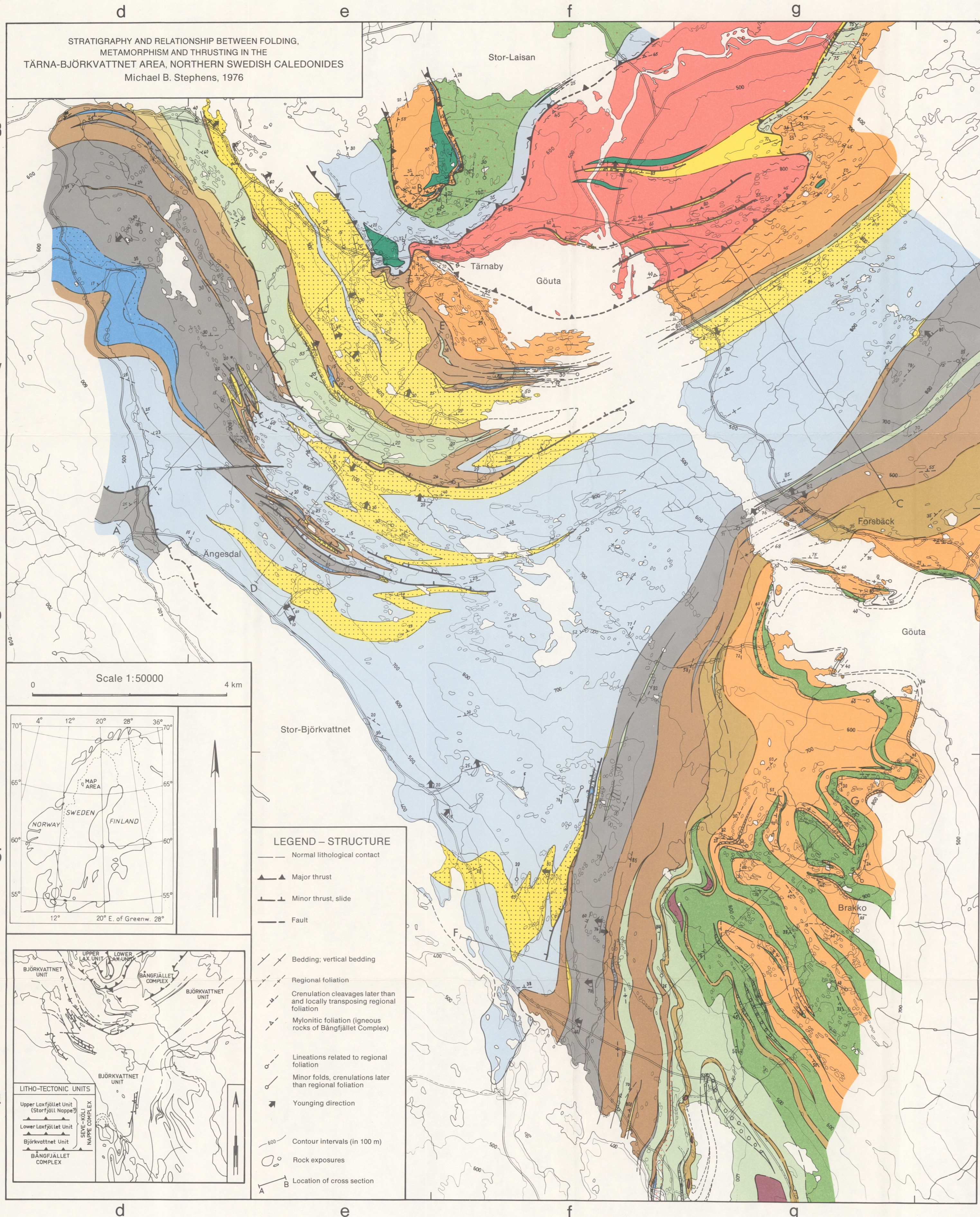
STRATIGRAPHY AND RELATIONSHIP  
BETWEEN FOLDING,  
METAMORPHISM AND THRUSTING  
IN THE TÄRNA-BJÖRKVATTNET AREA,  
NORTHERN SWEDISH CALEDONIDES

4 PLATES

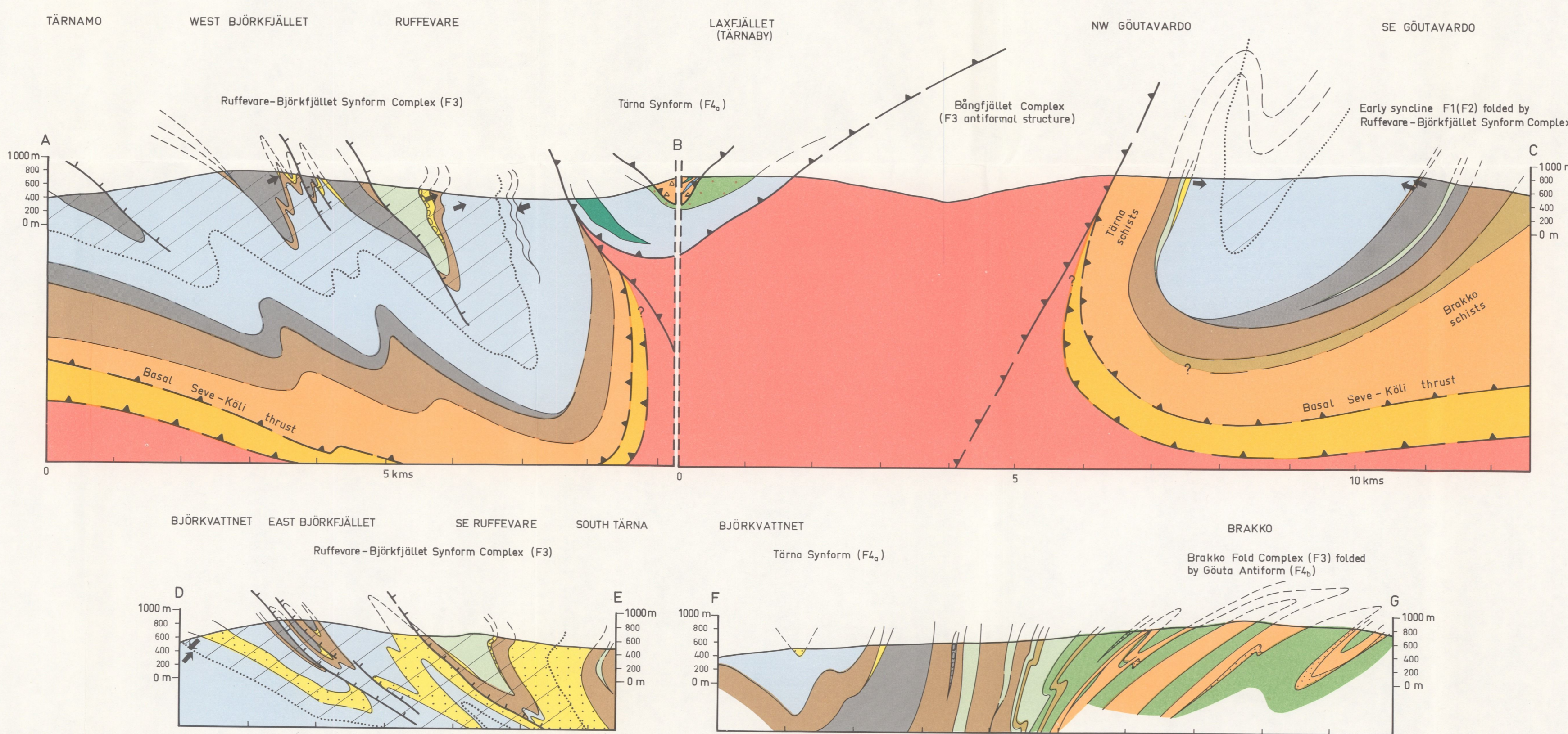


STOCKHOLM 1977

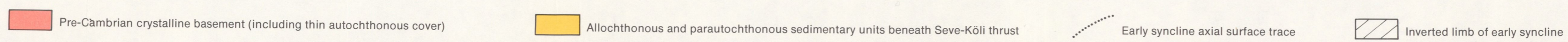
# GEOLOGICAL MAP OF THE TÄRNA-BJÖRKVATTNET AREA, VÄSTERBOTTEN, SWEDEN

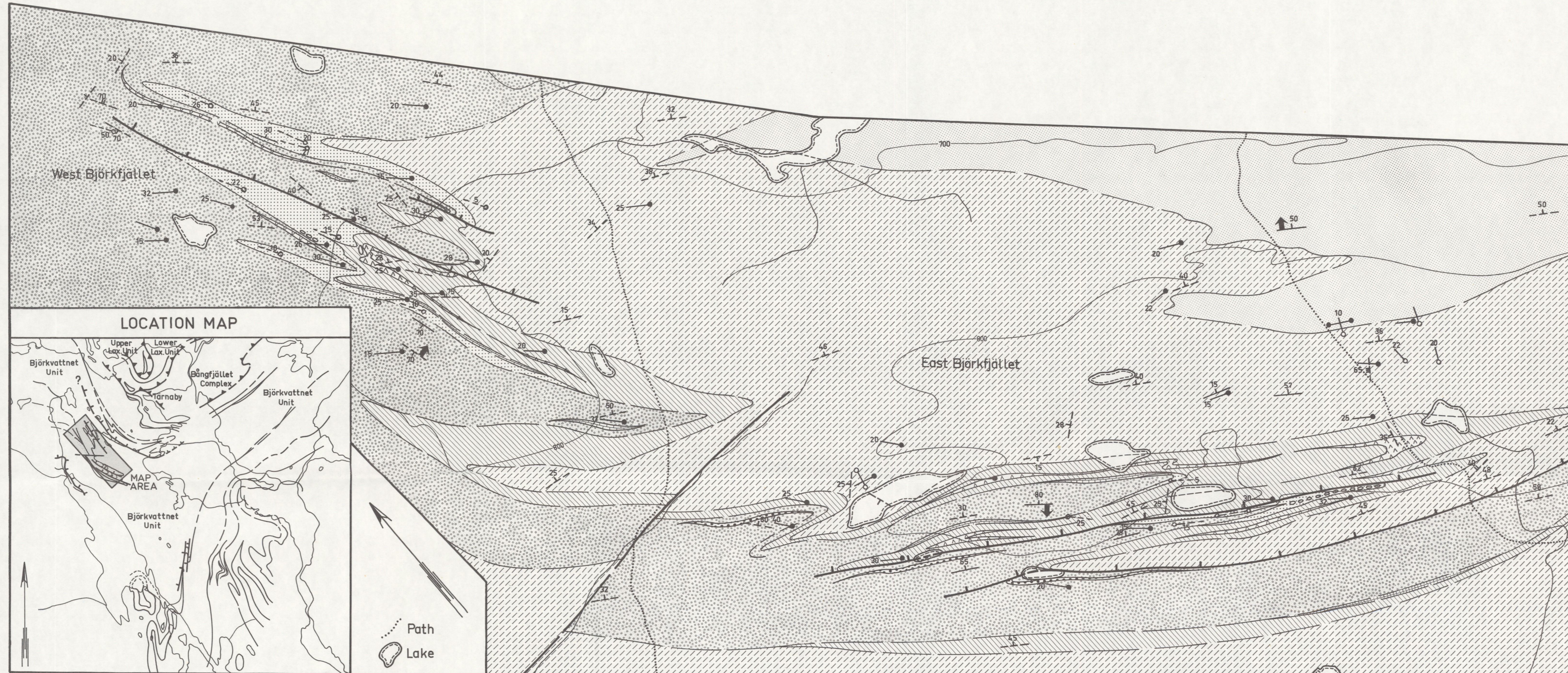


## SKETCH SECTIONS THROUGH THE TÄRNA-BJÖRKVATTNET AREA



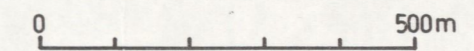
All sections are drawn at natural scale (1:50 000). Lithologies within the Seve-Köli Nappe Complex are indicated on legend to 1:50 000 map; in Section A-C the Lövfjäll Formation, Brakko schists and mylonites are undifferentiated, and the Tärna schists are tentatively correlated with either the upper part of the Brakko schists or the Forsbäck Formation. Lithologies beneath the basal Seve-Köli thrust (including the Bångfjället Complex) are indicated below.





**GEOLOGICAL MAP OF BJÖRKFJÄLLET**  
 Michael B. Stephens, 1976

Plate II



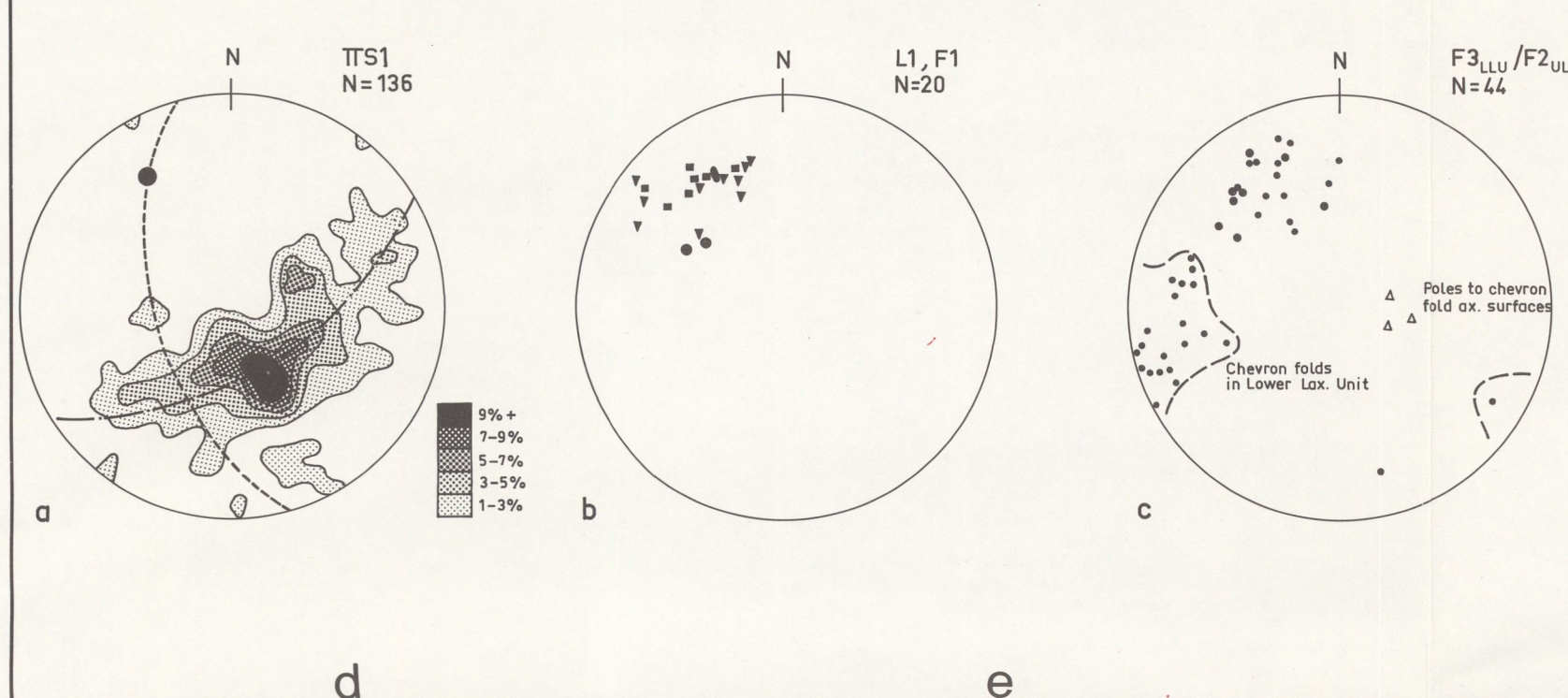
**LEGEND**

- |  |  |                      |  |  |   |
|--|--|----------------------|--|--|---|
|  | Feldspathic greywacke, subordinate grey phyllite | } LÖVFJÄLL FORMATION |  |  |   |
|  | Calcareous phyllite                              |                      |  |  |   |
|  | Graphitic phyllite                               | } BROKEN FORMATION   |  |  |   |
|  | Tuffite  |                      |  |  |   |
|  | Limestone - graphitic                            | } SLÄTDAL FORMATION  |  |  |   |
|  | Limestone - sandy                                |                      |  |  |   |
|  | Quartzite, quartzite conglomerate                | VOJTJA FORMATION     |  |  |   |
|  | Quartz phyllite                                  | } GILLIKS FORMATION  |  |  |   |
|  | Greywacke, subordinate graphitic phyllite        |                      |  |  |   |
|  | Greenschist                                      |                      |  |  |   |
|  | Limestone, dolomite                              |                      |  |  |   |
|  | Lithological contact                             |                      | Bedding ( $S_b = S_0$ )                      |  | Mineral lineation, early fold axes (L2, F2) |
|  | Slide  |                      | Early, regional cleavage ( $S_{cl} = S_2$ )  |  | Fold axes (F3)                              |
|  | Fault  |                      | Crenulation cleavage ( $S_{cc}^1 = S_3$ )    |  | Fold axes ( $F_{4a}$ )                      |
|  |  |                      | Crenulation cleavage ( $S_{cc}^2 = S_{4a}$ ) |  | Younging direction                          |

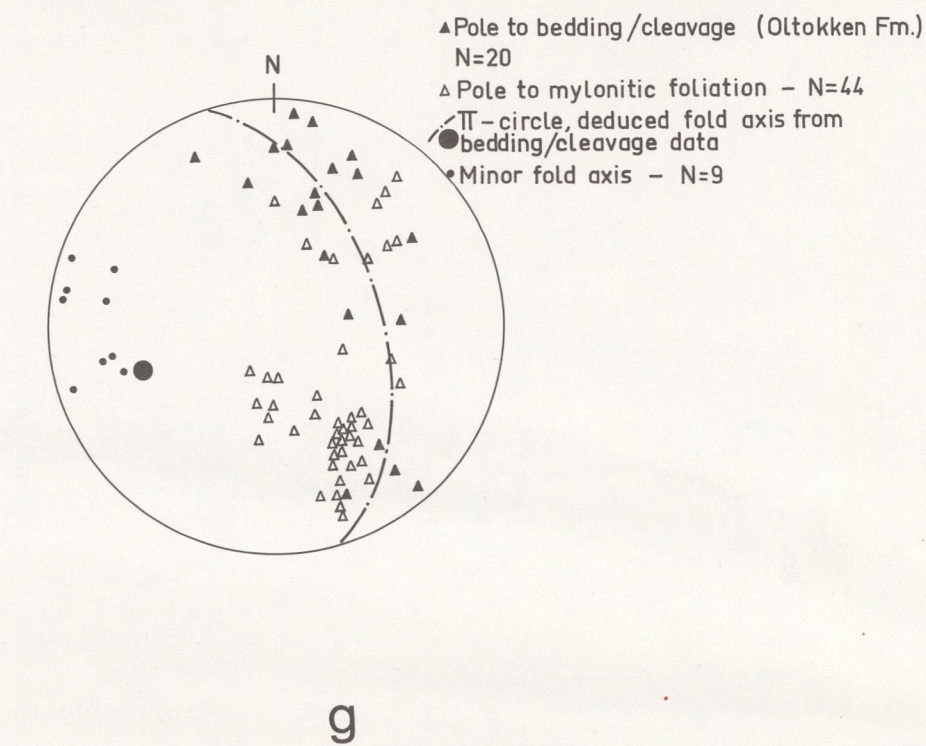
# STRUCTURAL MAP OF THE TÄRNA-BJÖRKVATTNET AREA, VÄSTERBOTTEN, SWEDEN

Michael B. Stephens, 1976

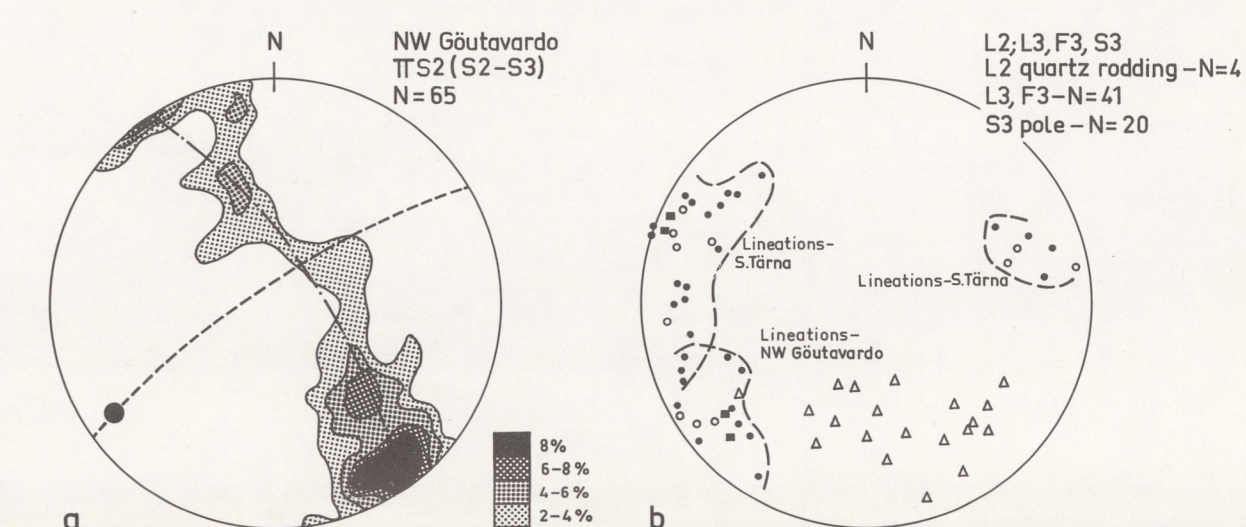
Subarea 5 - Upper and Lower Laxfjället Units



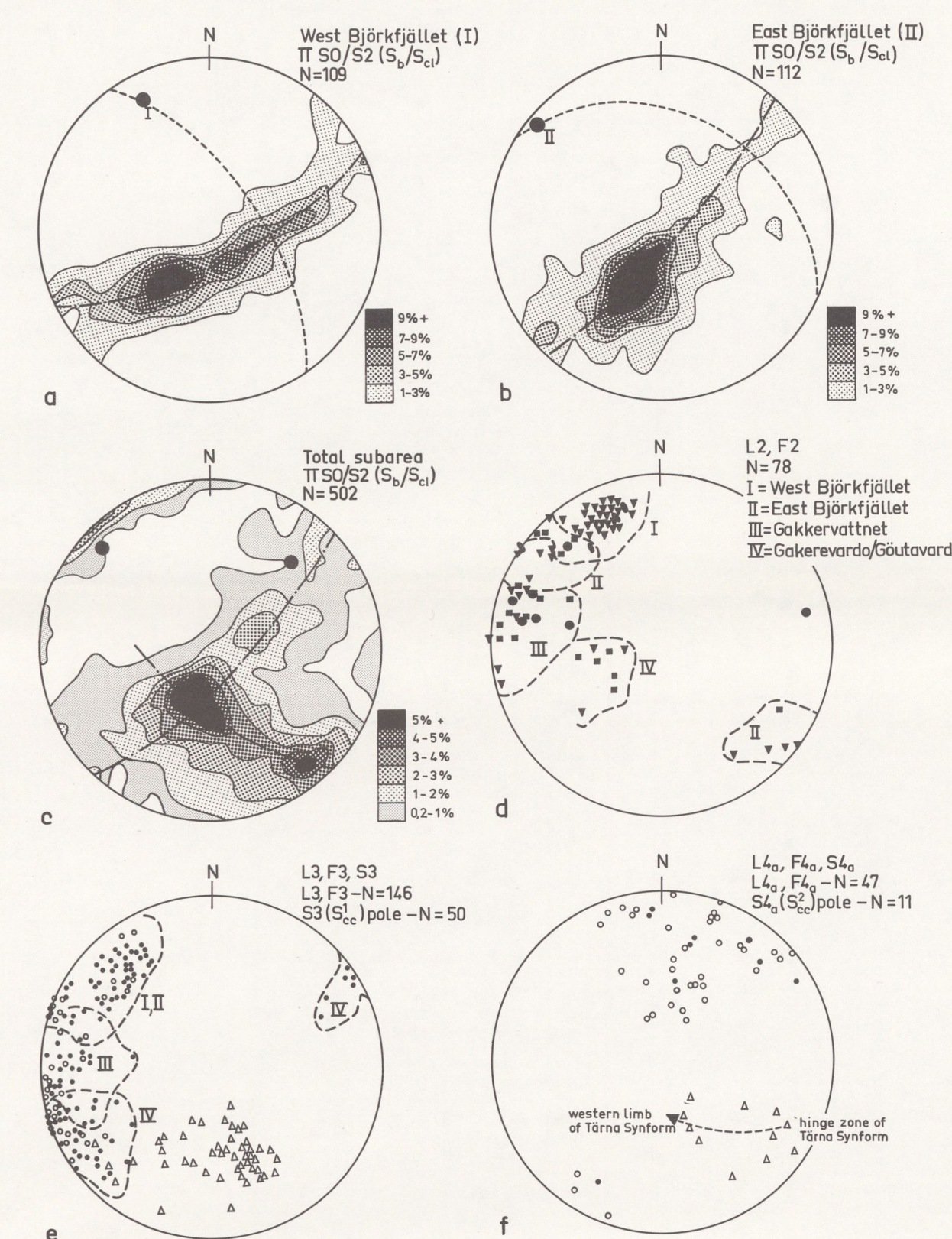
Subarea 7 - Bångfjället Complex



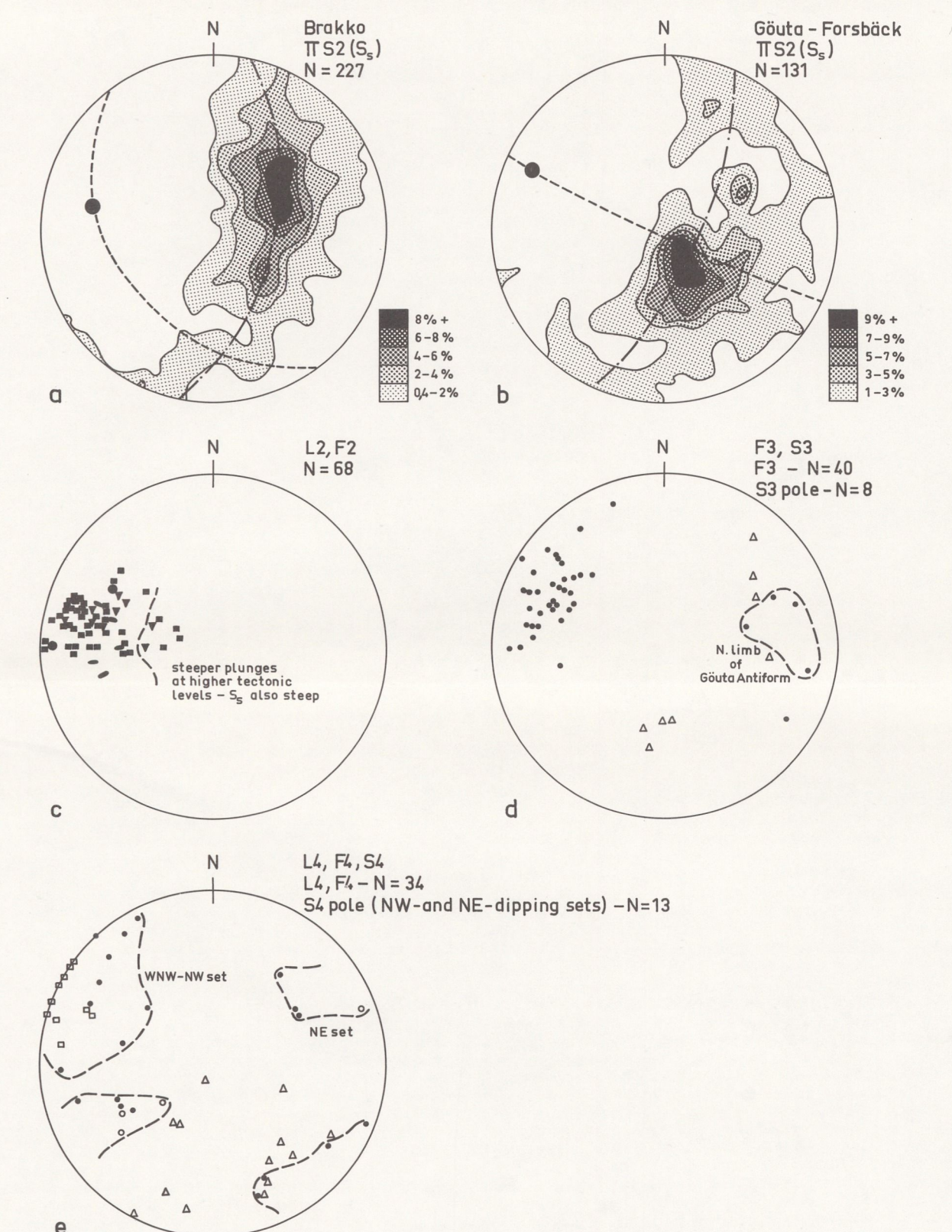
Subarea 6 - NW Götavardo / South Tärna (Tärna schists)



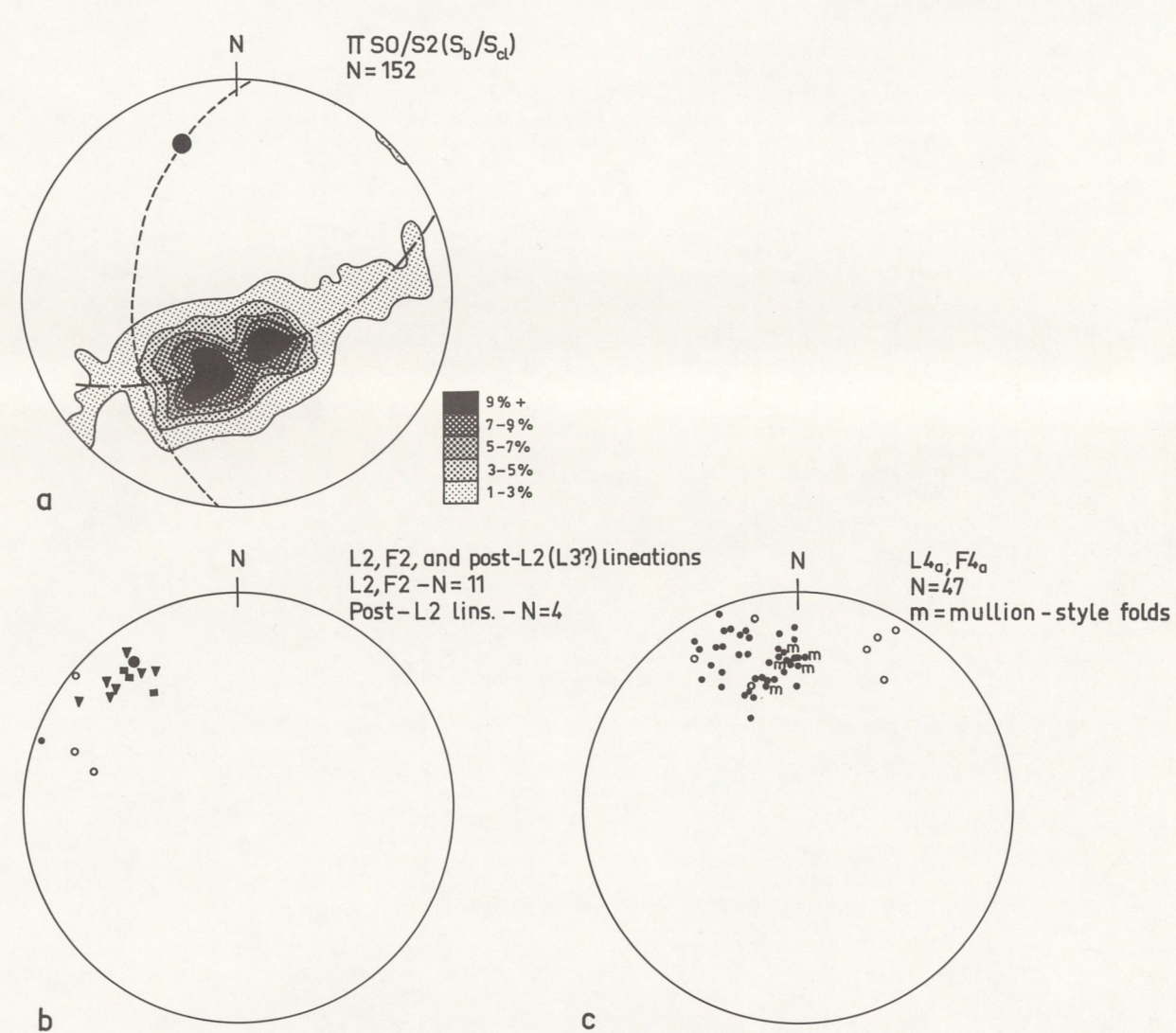
Subarea 1 - Björkfjället / Ruffevare / Götavardo



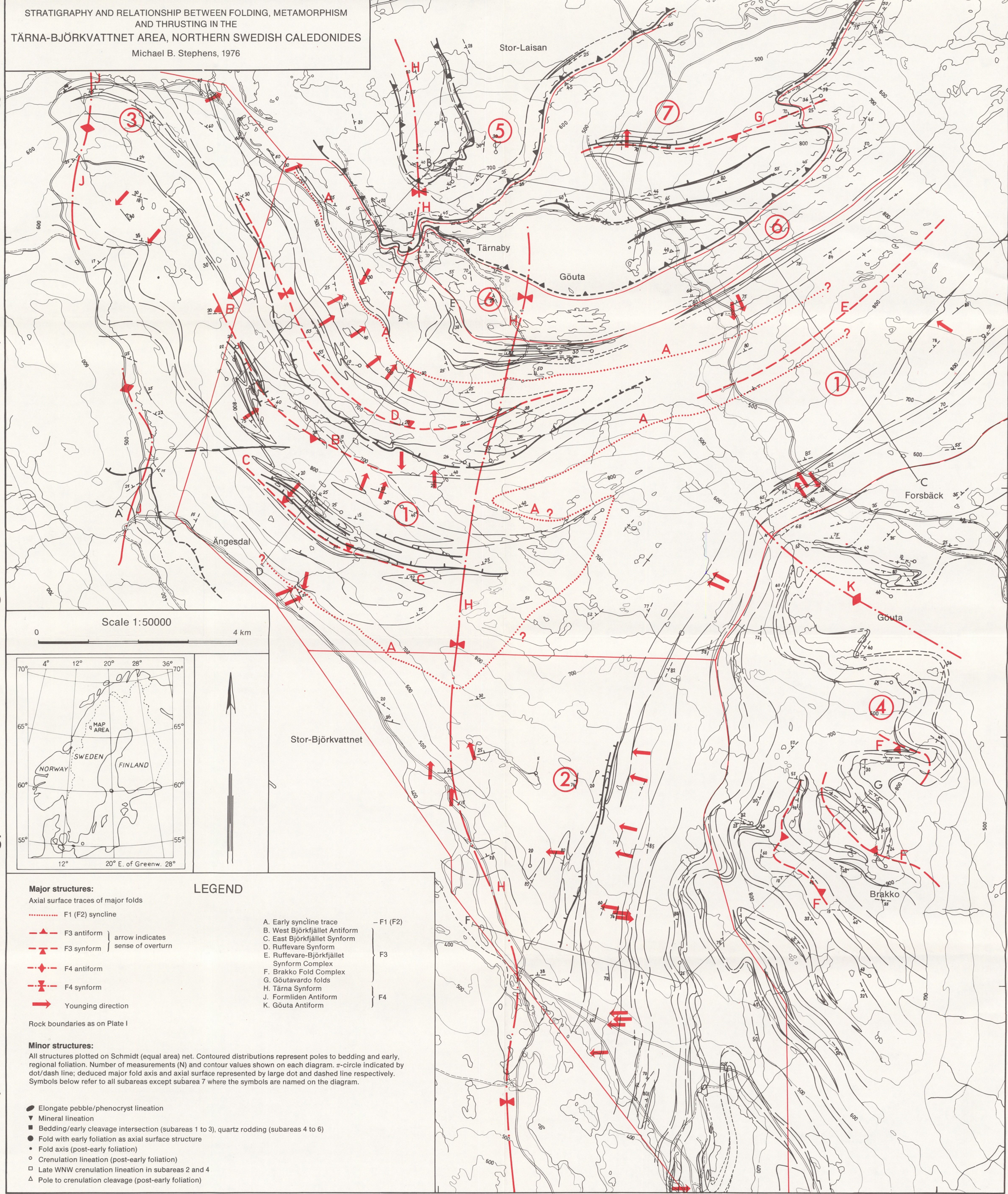
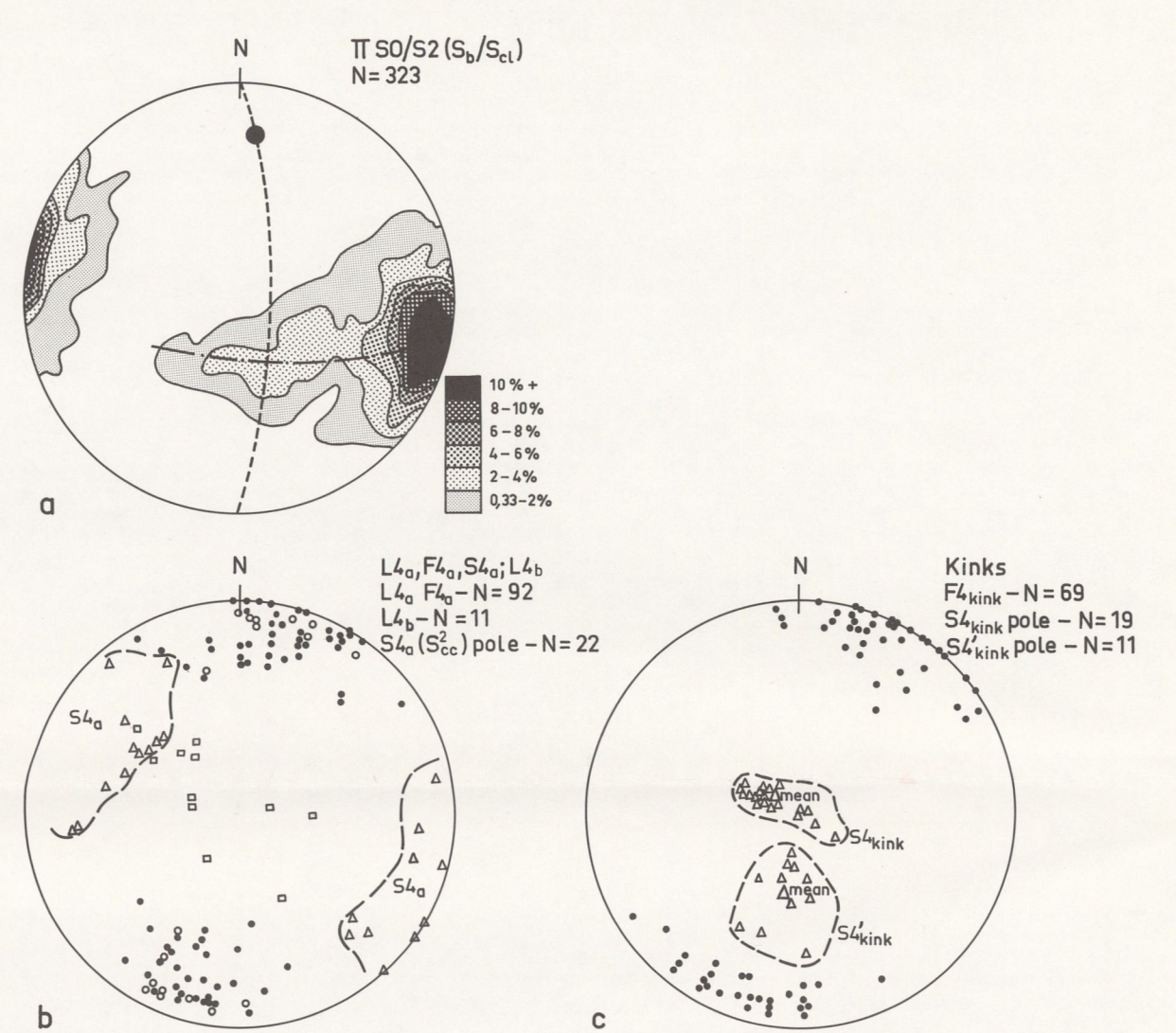
Subarea 4 - Brakko/Göta-Forsbäck (Brakko schists)



Subarea 3 - Formliden



Subarea 2 - Lule-Jalketsvardo / Lövlund



**Major structures:**  
 Axial surface traces of major folds  
 F1 (F2) syncline  
 F3 antiform  
 F3 synform  
 F4 antiform  
 F4 synform  
 Younging direction  
 Rock boundaries as on Plate I

**LEGEND**

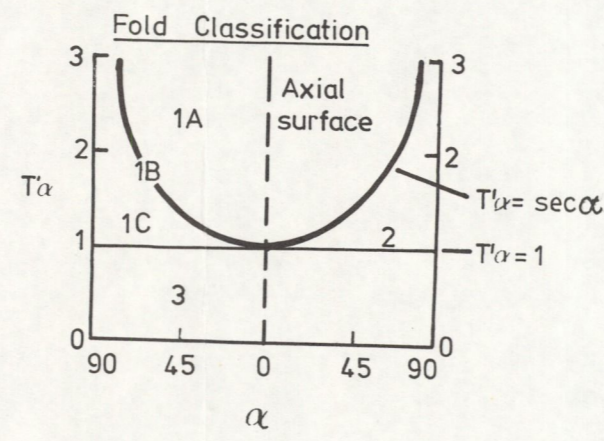
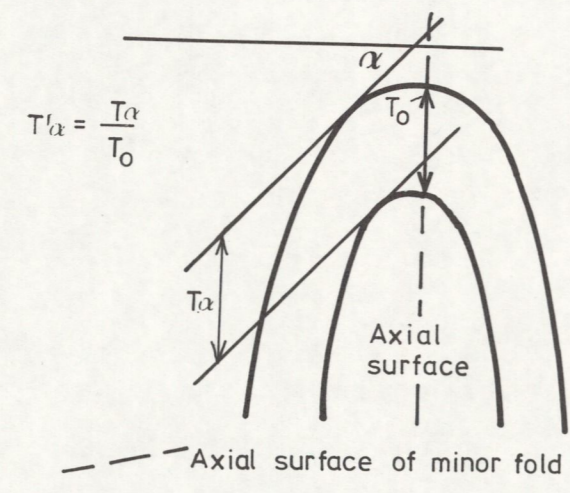
A. Early syncline trace  
 B. West Björkfjället Antiform  
 C. East Björkfjället Synform  
 D. Ruffevare Synform  
 E. Ruffevare-Björkfjället Synform Complex  
 F. Brakko Fold Complex  
 G. Götavardo folds  
 H. Tärna Synform  
 J. Formliden Antiform  
 K. Göta Antiform

**Minor structures:**  
 All structures plotted on Schmidt (equal area) net. Contoured distributions represent poles to bedding and early regional foliation. Number of measurements (N) and contour values shown on each diagram. = circle indicated by dot/dash line; deduced major fold axis and axial surface represented by large dot and dashed line respectively. Symbols below refer to all subareas except subarea 7 where the symbols are named on the diagram.

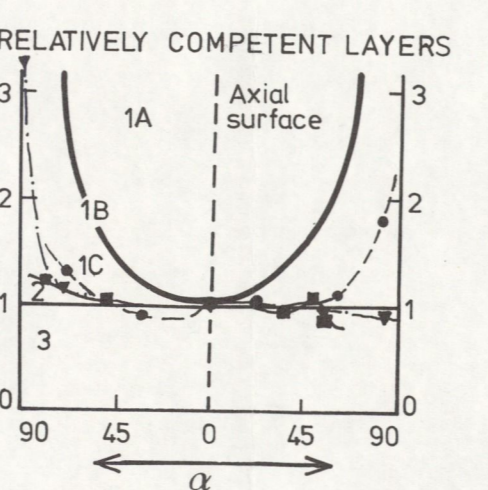
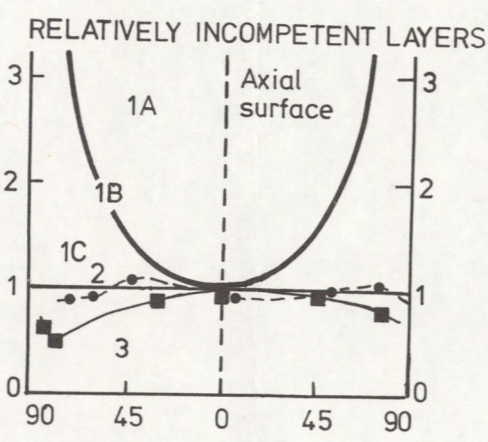
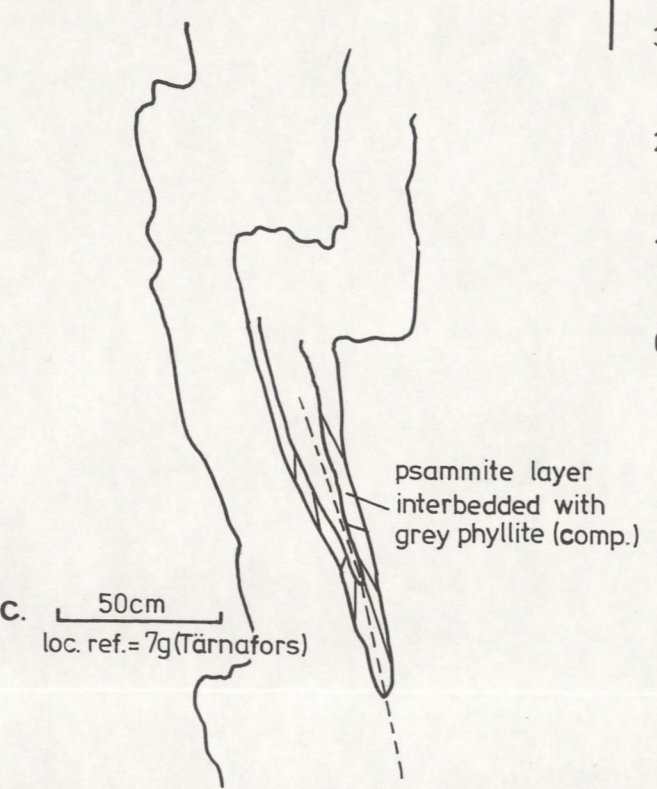
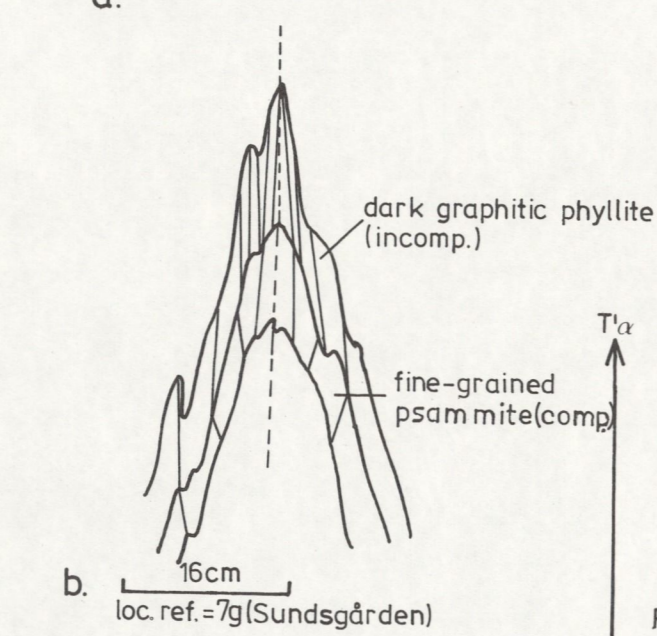
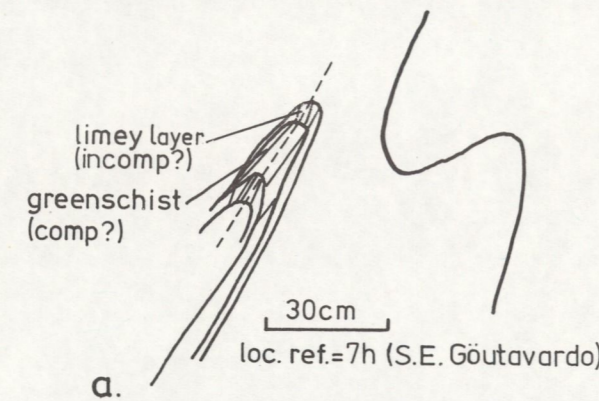
● Elongate pebble/phenocryst lineation  
 ▽ Mineral lineation  
 ■ Bedding/early cleavage intersection (subareas 1 to 3), quartz rodding (subareas 4 to 6)  
 ● Fold with early foliation as axial surface structure  
 ○ Fold axis (post-early foliation)  
 ○ Creulation lineation (post-early foliation)  
 □ Late WNW creulation lineation in subareas 2 and 4  
 △ Pole to creulation cleavage (post-early foliation)

# DIP ISOGON ANALYSIS OF F2-F4<sub>q</sub> MINOR FOLDS

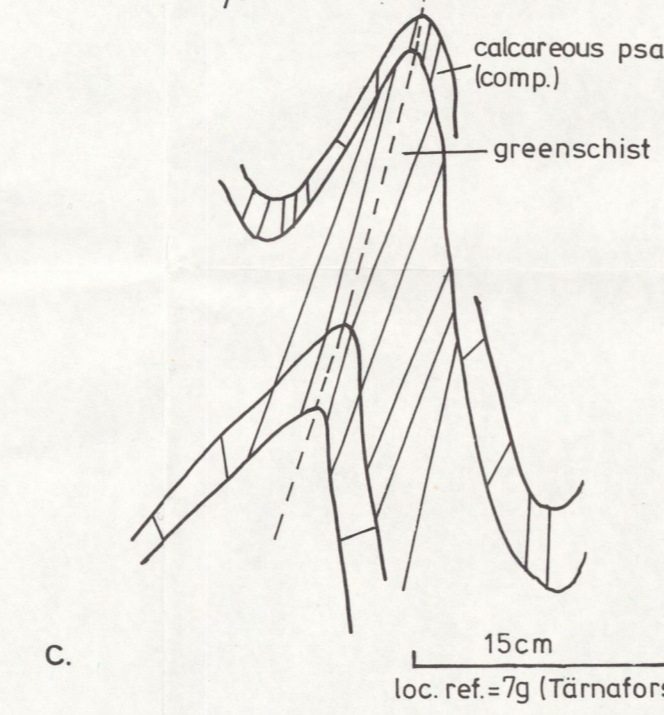
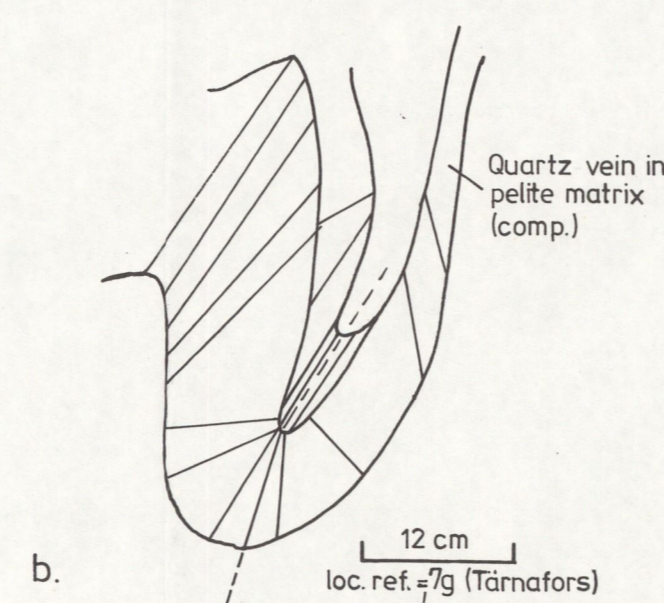
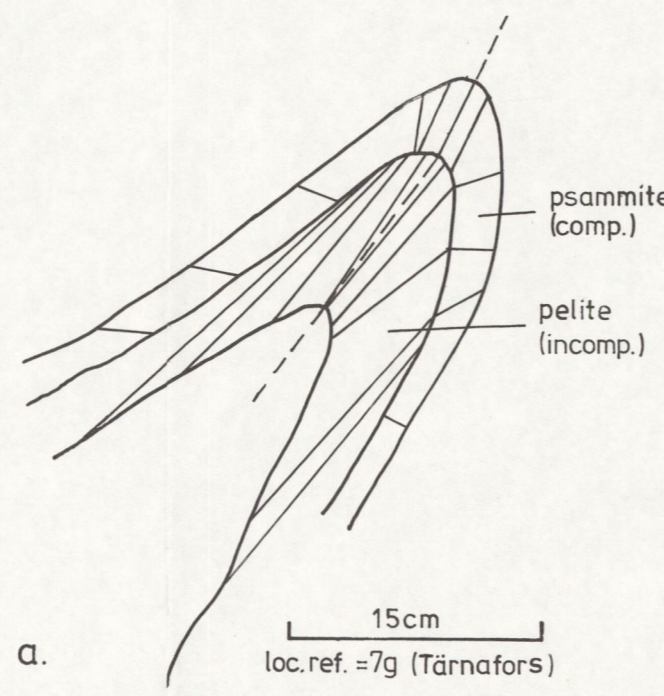
Michael B. Stephens, 1976



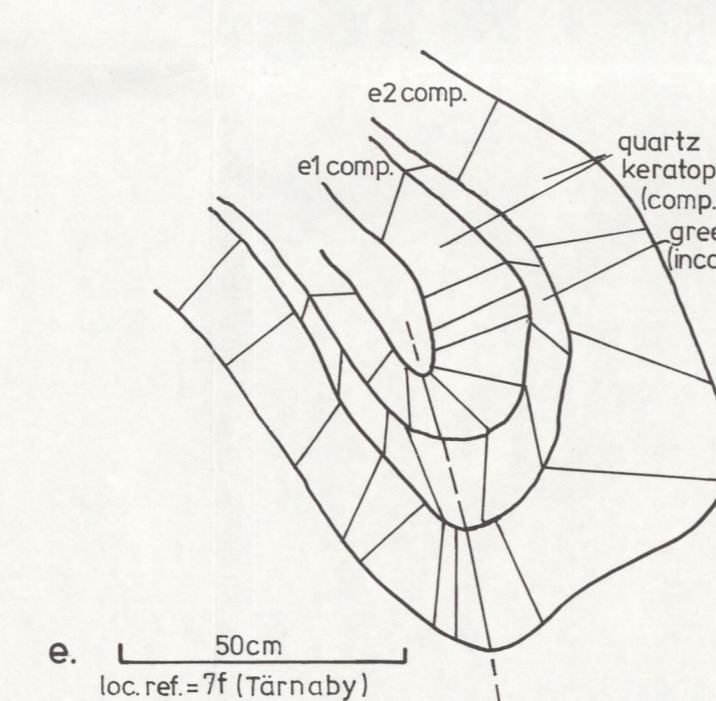
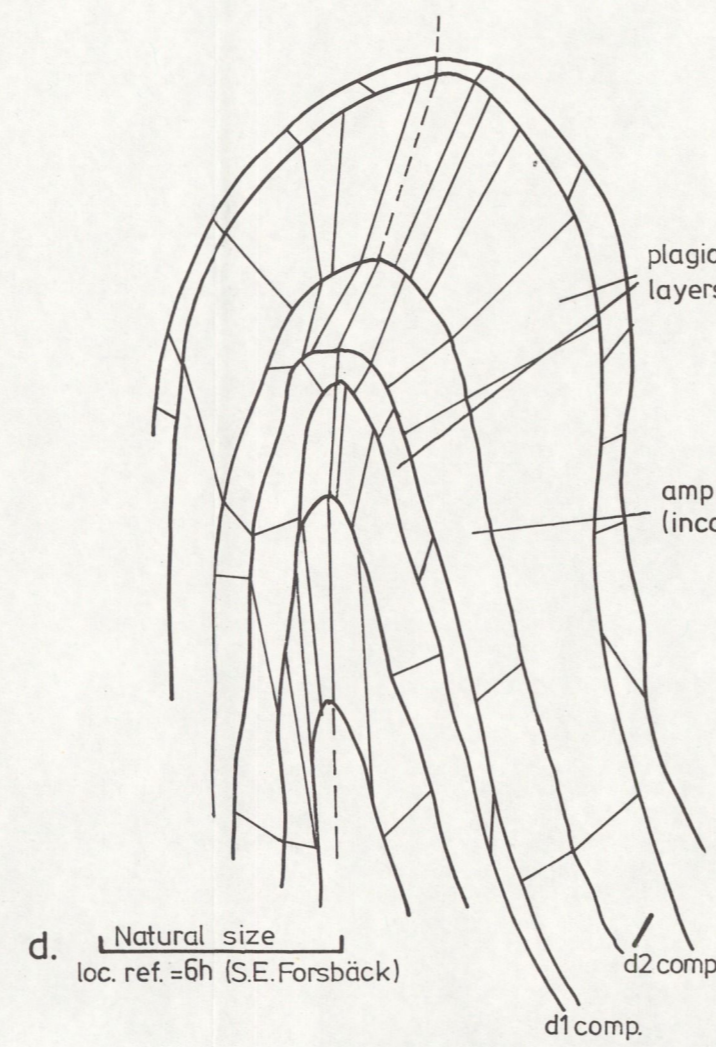
1. KEY:



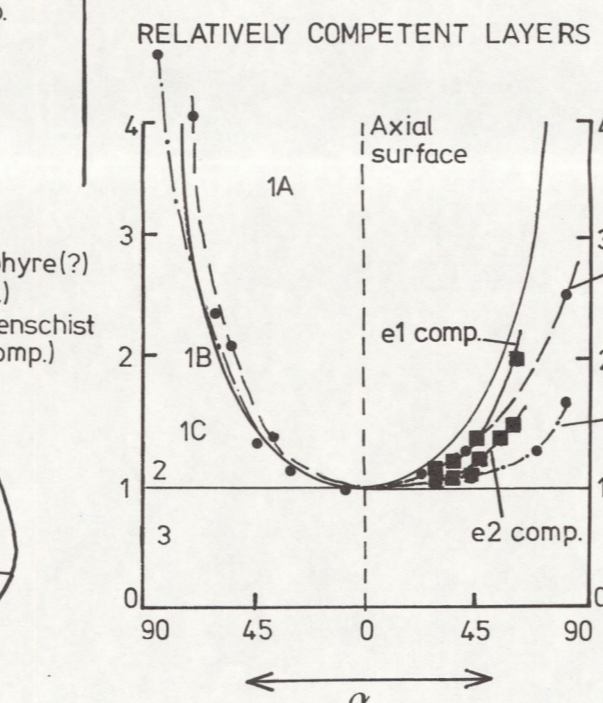
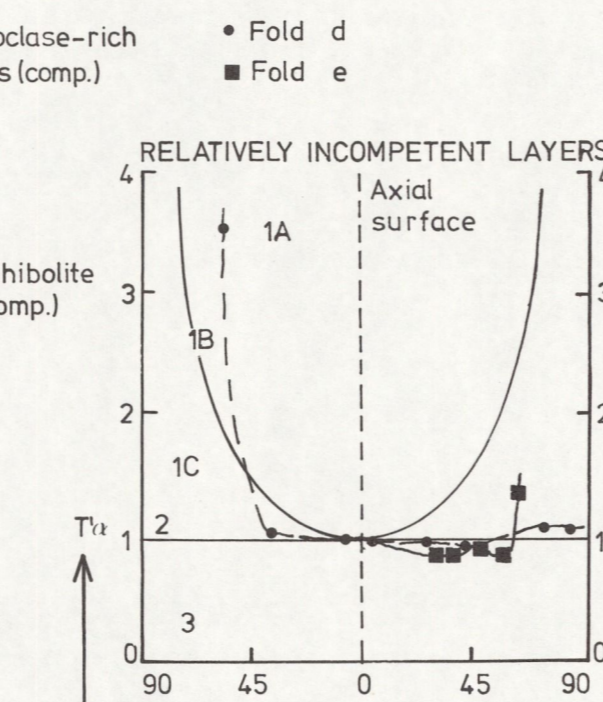
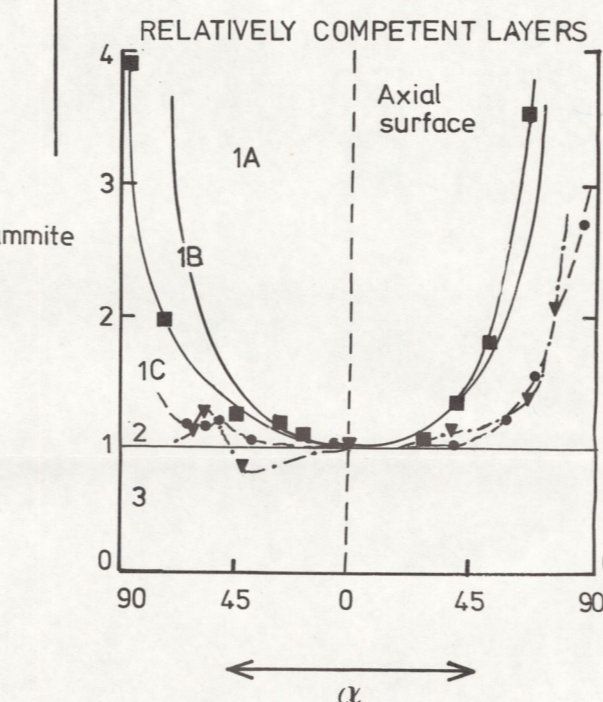
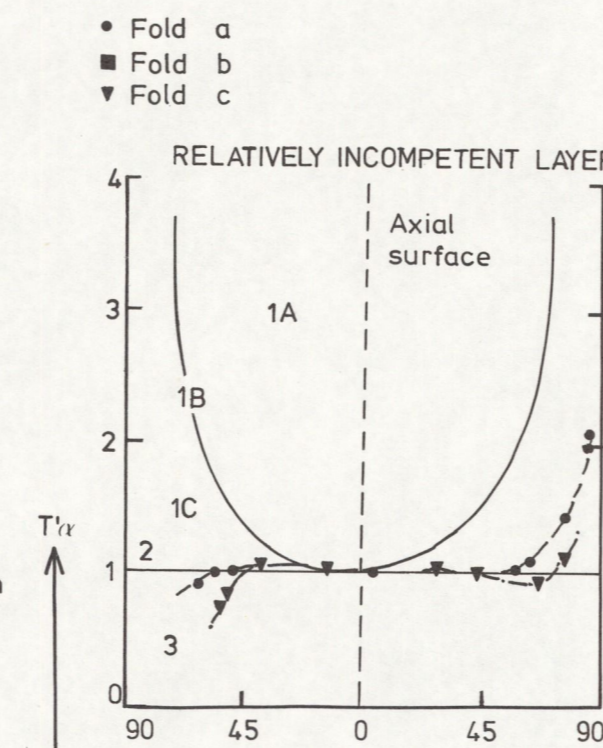
- Fold a
- Fold b
- ▼ Fold c



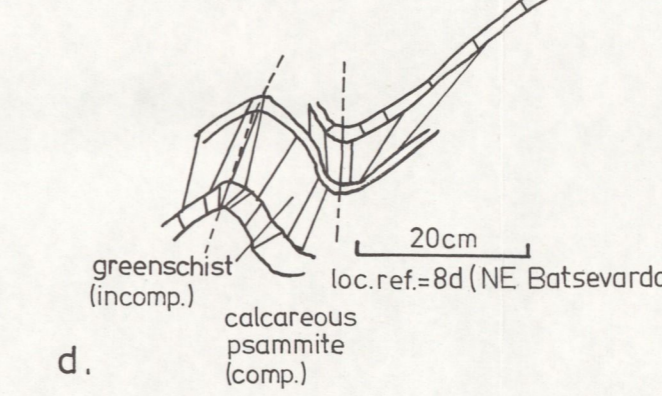
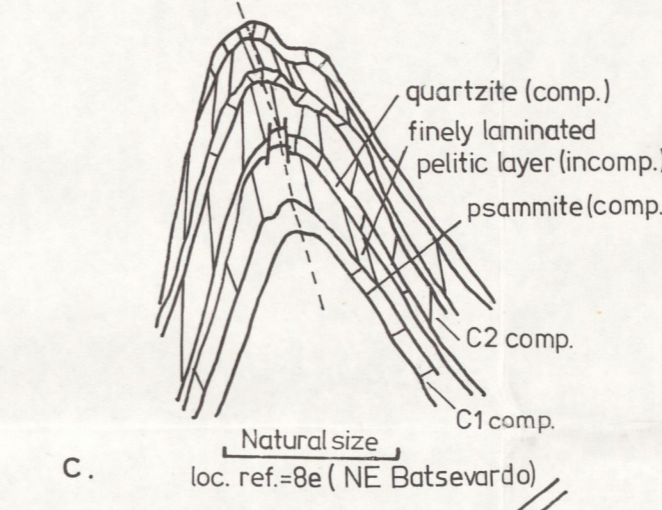
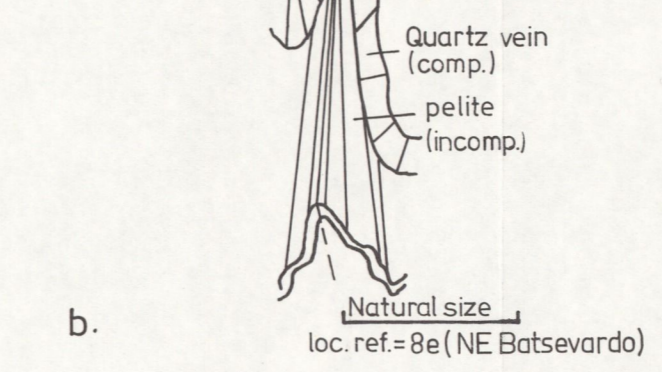
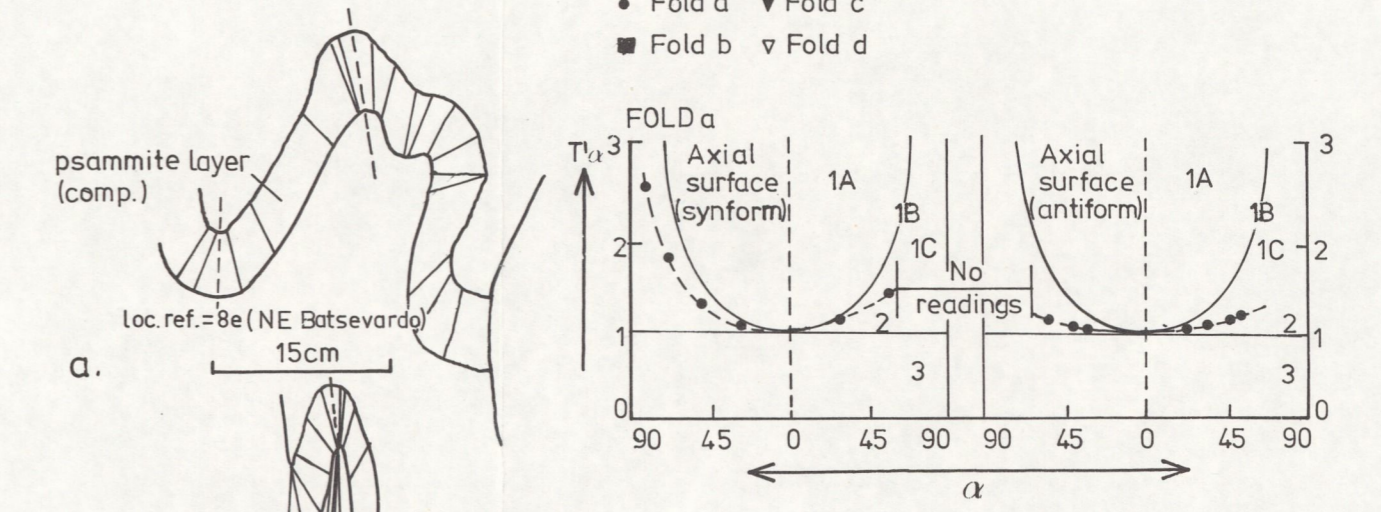
Low-grade Köli rocks



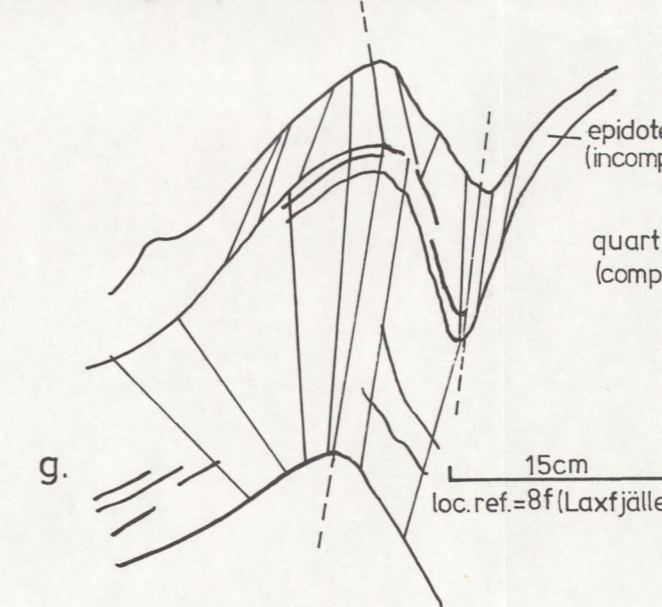
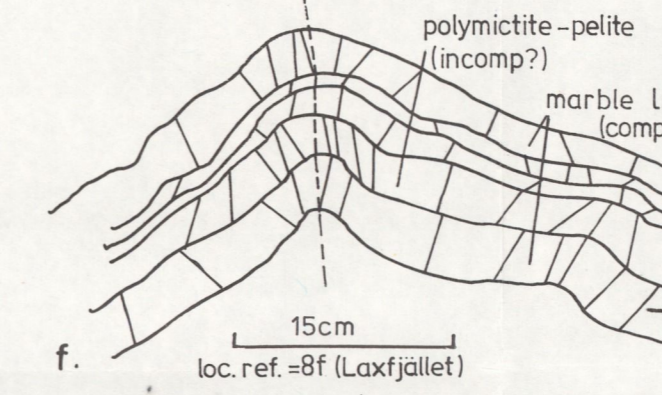
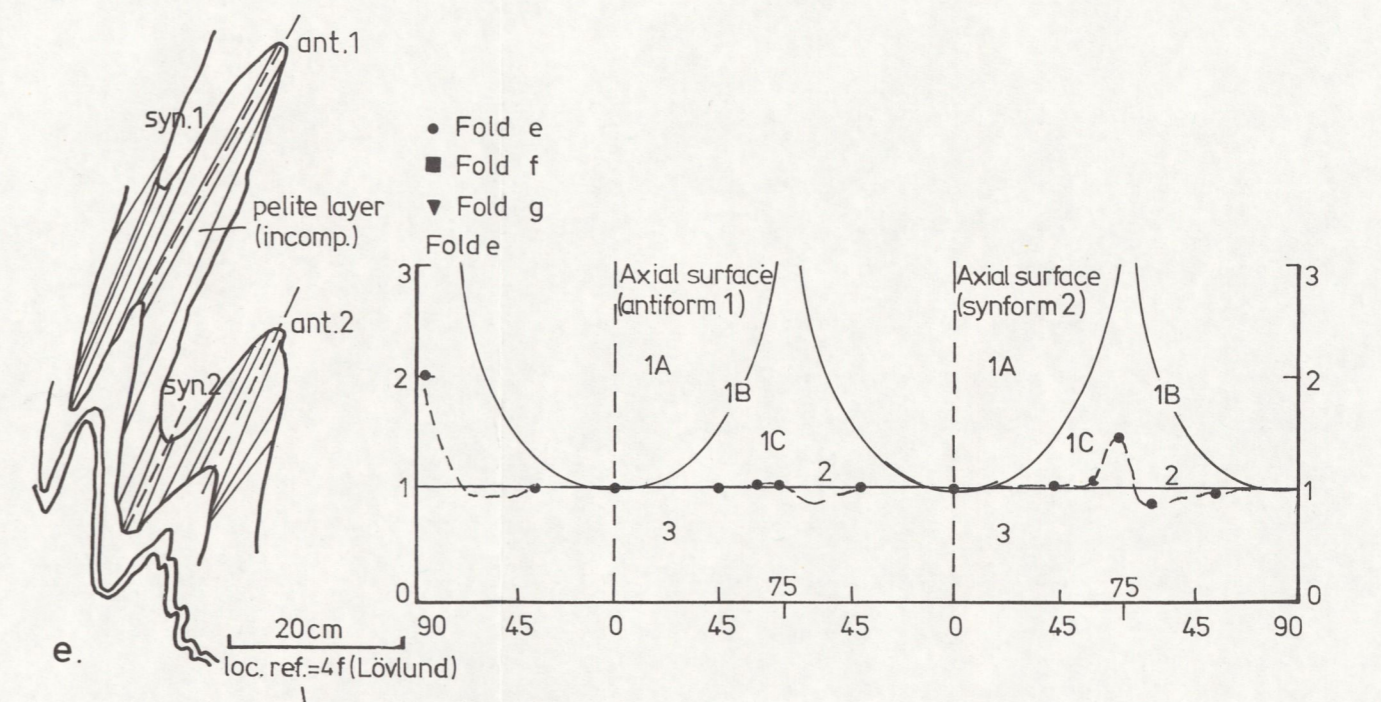
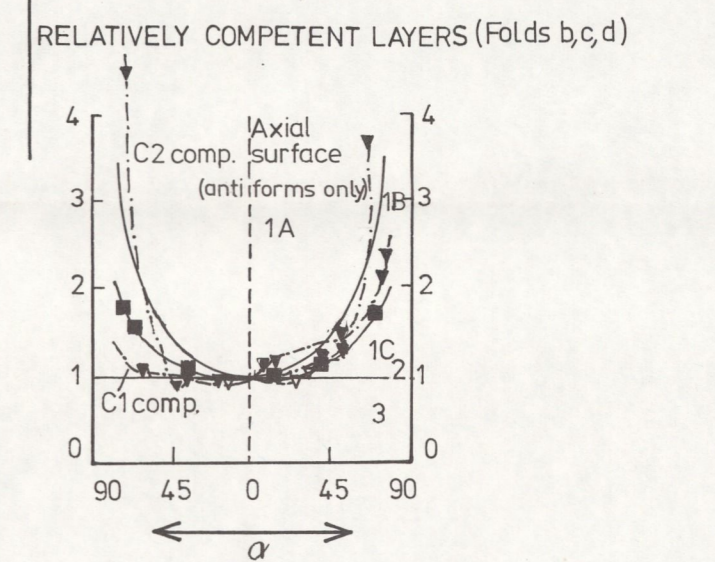
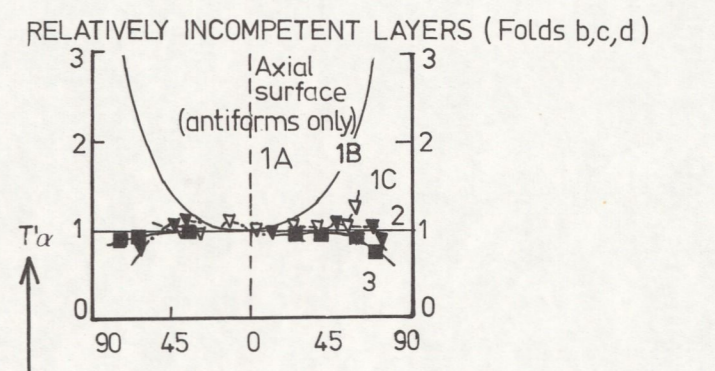
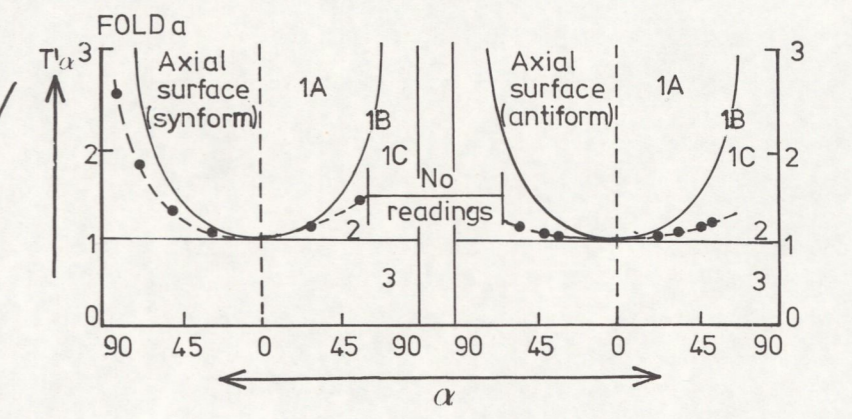
High-grade Seve rocks



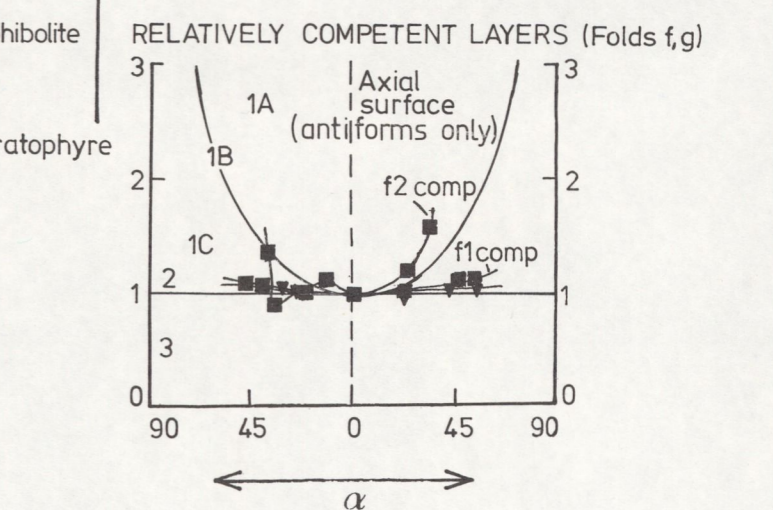
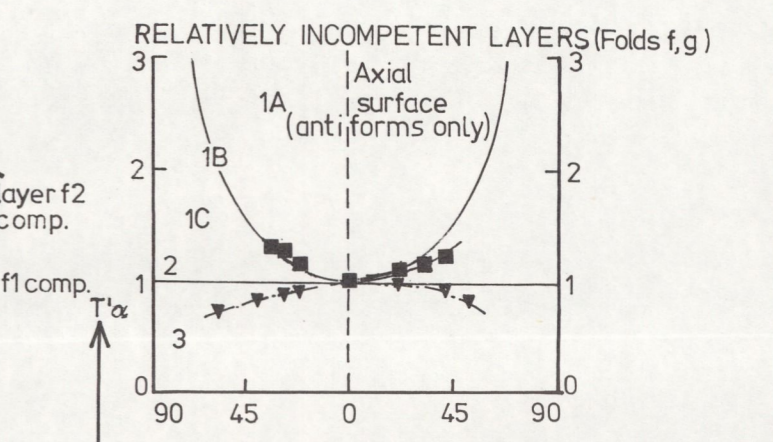
3. F3 Folds



- Fold a
- ▼ Fold b
- ▼ Fold c
- Fold d



4. F4<sub>q</sub> Folds



2. F2 Folds