

## THE ORDOVICIAN SUCCESSION AT VESTFOSSEN AND KREKLING

Torsten Klemm

The object of this part of the day's excursion will be to demonstrate a Tremadoc-Llanvirn succession deposited along the south-west margin of the Oslo Region (Skjeseth 1952; Erdtmann 1965, Fig. 3). Of interest is

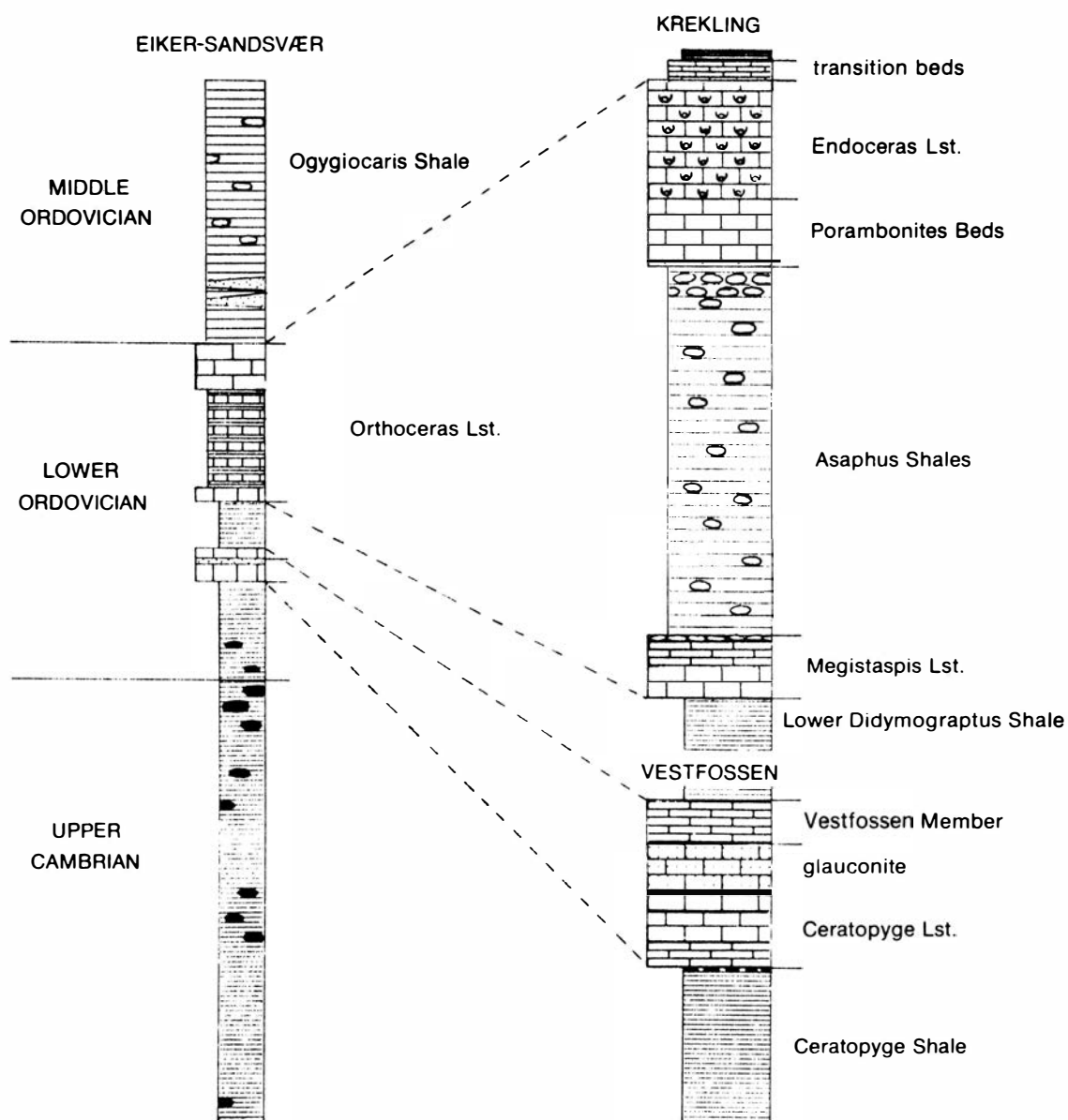


Figure 1. Generalised stratigraphy in Vestfossen-Krekling area (after Henningsmoen, unpubl.)

the development in the area of limestones approximately 0.5 m thick at the base of the Lower Didymograptus Shale. The limestones (Vestfossen Member, Fjelldal 1966) belong to the Hunnebergian Zone of Megistaspis (Ekeraspis) armata. Below them is the Ceratopyge Limestone and above are black shales of the Lower Didymograptus Shale equivalent to only part (Galgeberg Member, Erdtmann 1965) of its development at the type locality of Tøyen in Oslo.

The area was described in detail by Brøgger (1882). Since this time sections in the area have been discussed by Skjeseth (1952), Tjernvik (1956), Erdtmann (1965), Fjelldal (1966), Størmer (1967) and Skaar (1972). The author has remapped the area (scale 1 : 5 000) and the map, together with detailed descriptions of trilobites from the Vestfossen Member, will form the basis of a thesis to be submitted in 1982 to the University of Hamburg, Germany.

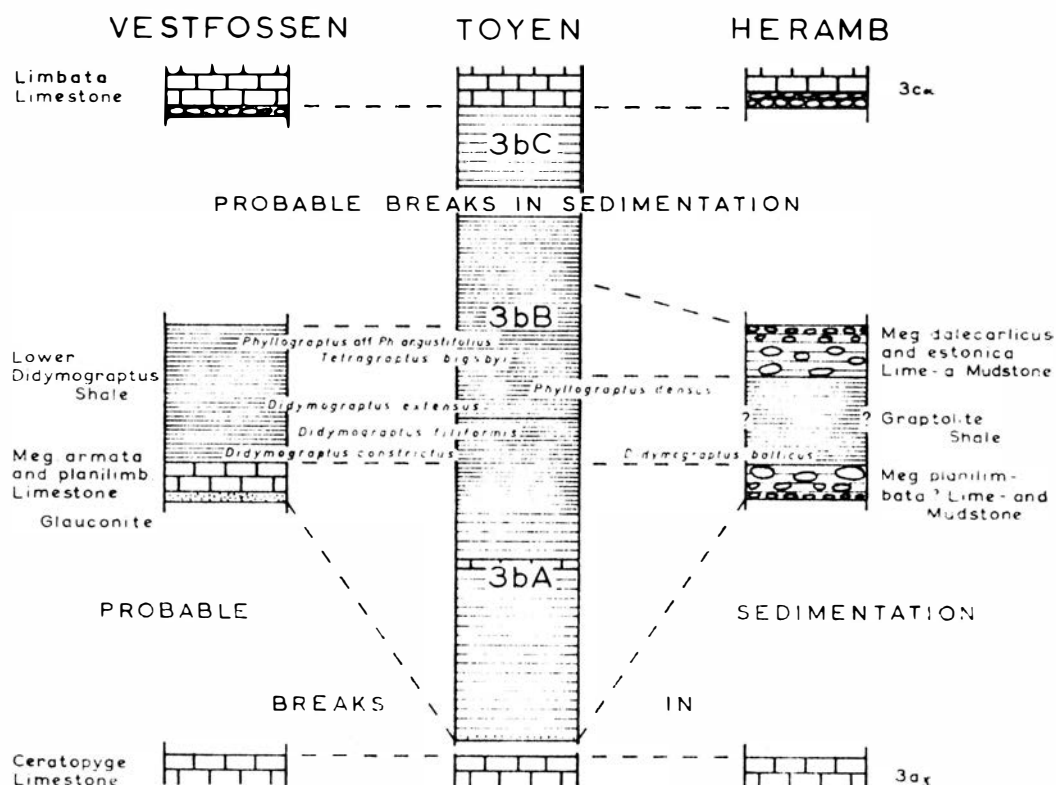
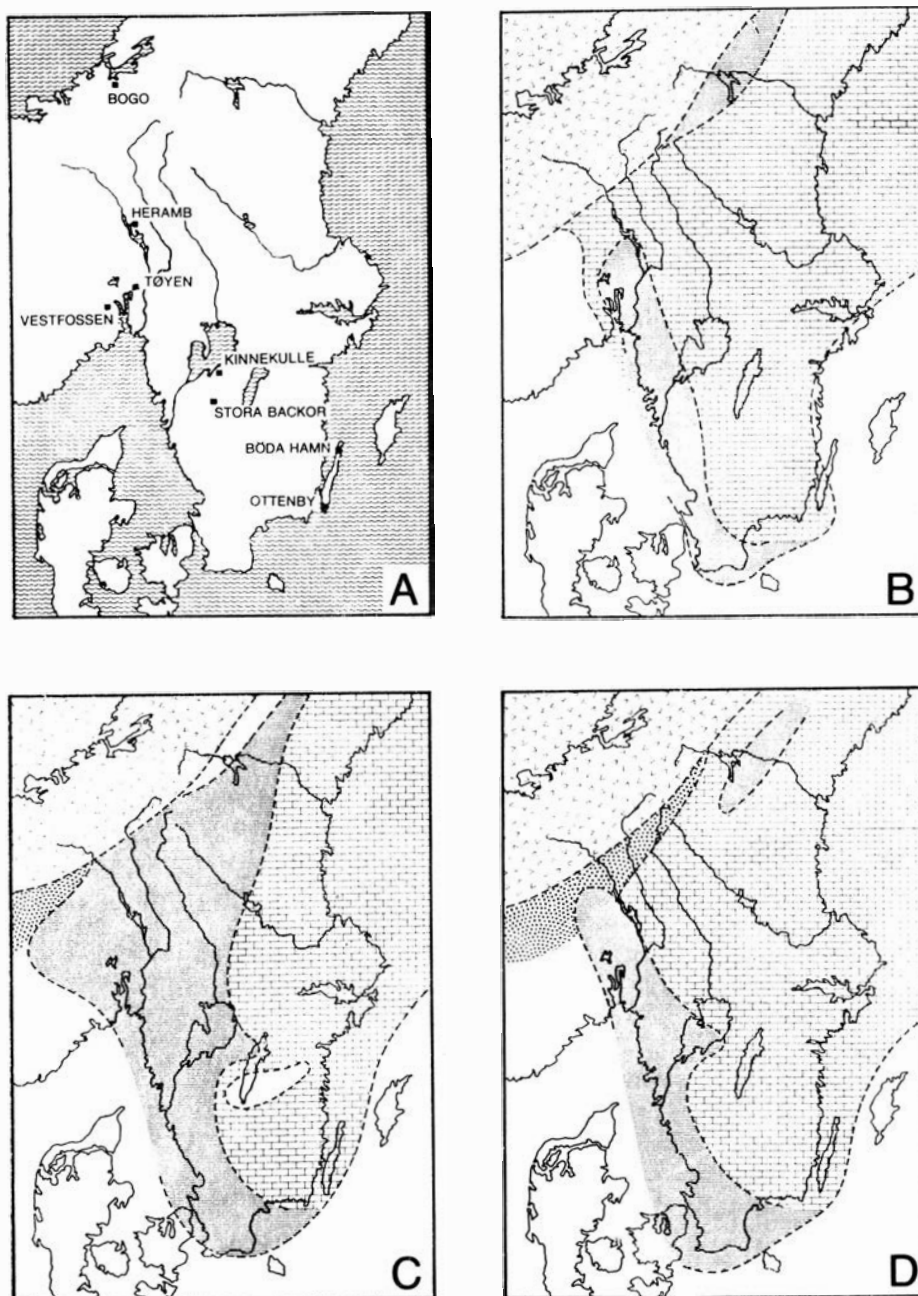


Figure 2. Correlation of the Vestfossen, Tøyen (Oslo) and Heramb localities (after Erdtmann 1965).



BERND-D. ERDTMANN 1965

Figure 3. The palaeogeography of southern Scandinavia during deposition of Lower *Didymograptus* Shale and facies. A, important Norwegian and Swedish localities; B, Hunneberg Stage; C, Billingen Stage; D, Volkov Stage. White - areas of no deposition, 1st. blocks - shelly facies, horizontal shading - graptolite facies, stipple - clastic facies, v - Caledonides (modified after Erdtmann 1965).

STOP 1 HALS, NEAR SKARA (NM 486230) This locality (Figs. 2, 5a) is more accessible than the type locality of the Vestfossen Member at Skara cross roads (Fjellidal 1966). The succession on the north-west limb of a fold is:

Ceratopyge Limestone (0.5 m) Compact, light blue limestone in lower half with light, partly recrystallised upper half. The uppermost 0.1 m is developed as an horizon of alternating calcite and glauconite laminae in a clay matrix. The limestone is poorly fossiliferous but contains Ceratopyge forficula, Euloma ornatum and Triarthrus angelini.

Vestfossen Member (0.57 m) A tripartite grey-blue limestone, in places nodular and pyritic, and shale intercalations. Trilobites included: Megistaspis (Ekeraspis) armata, Niobella sp., Varvia sp., and Symphysurus sp.

Lower Didymograptus Shale Dark grey to black rusty weathering shales with Didymograptus constrictus, D. filiformis, D. extensus (Erdtmann 1965, 524).

STOP 2 On the south-east limb of the above fold (Fig. 5b), a continuous section through the tripartite Orthoceras Limestone with a 1.58 m thick nodular limestone (transition beds) at the base of the Ogygiocaris Shale. At this locality, the Asaphus Shale is unusually thick, being approximately 10 m.

STOP 3 HAUGNES NEAR KREKLING This locality was described in detail by

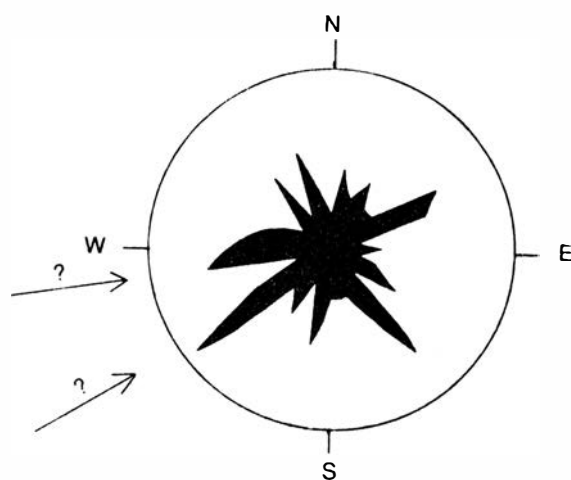


Figure 4. Rose diagram showing orientation of Endoceras conchs, Haugnes. No clear pattern is obvious. n = 194

Skaar (1972). It shows a north easterly dipping limb of an anticline with Dictyonema Shale, Ceratopyge Limestone and Lower Didymograptus Shale in the core and the tripartite Orthoceras Limestone on the northern limb. Of interest is a bedding plane near the top of the Endoceras Limestone with numerous oriented conchs of Endoceras, some up to 10 cm in diameter (Fig. 4). This bedding plane can be

traced at least 15 km to the west and forms a valuable marker horizon.

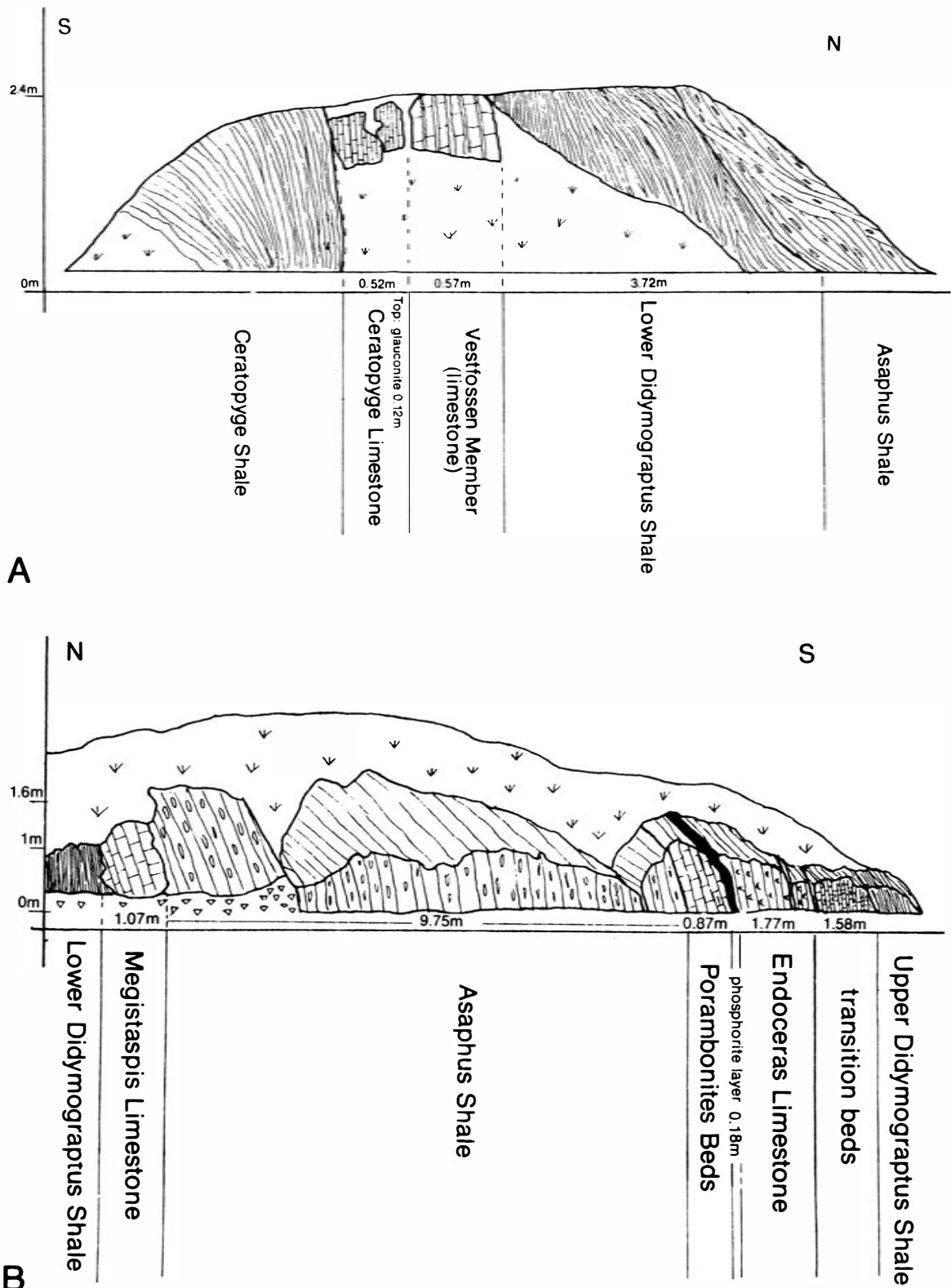


Figure 5. Profile at Hals. A, north-west limb of fold, stop 1; B, south-east limb of fold, stop 2.