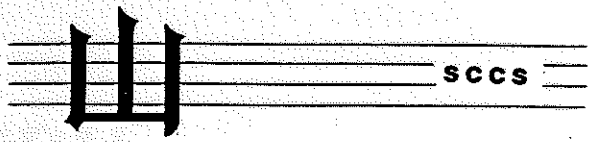
International Union of Geological Sciences
Commission on Stratigraphy

Subcommission on Carboniferous Stratigraphy (SCCS)




# BEDS NEAR THE DEVONIAN-CARBONIFEROUS BOUNDARY IN THE RHENISH MASSIF, GERMANY

## GUIDEBOOK

## STOP 2 : OESE

The section is located on the northern flank of the Remscheid-Altena Antiform, at the western side of road B7, between Hemer (in the south) and Menden (in the north) (1:2500 sheet 4512 Menden, R. 15650, H. 17.000).

The B7 road cuts the gently folded Upper Devonian and Dinantian rocks nearly vertical to the strike direction (fig. 23). This description confines to the beds near the Devonian-Carboniferous boundary.

From younger to older rocks may be seen :

Schwarze Lydite or Kieselschiefer **black lydites,** with radiolaria visible with the naked eye as little white points. Similar lydites occur in a vast area from SW England to the Montagne Noire.

**Liegende Alaunschiefer,** black alum shales which are very widely distributed in the Rhenish Massif, the Harz and Thüringen ("Russ-Schiefer"). At least their lower part (with *Siphonodella crenulata* in some localities) is correlated with the Schistes du Pont d'Arcole at the base of the middle Tournaisian in Belgium.

A very specific feature of the locality is an about 4 m thick black sandstone intercalation near the base of the liegende Alaunschiefer, some 10 cm above the top of Bed S of the Hangenberg-Kalk. This sandstone resembles the typical Hangenberg-Sandstein below the Hangenberg or *Gattendorfia* Kalk (fig. 24).

### HANGENBERG-KALK or *GATTENDORFIA*-KALK (fig. 25)
**(after KEUPP & KOMPA, 1984)**

Bioclastic wackestones with variable, preferably small amount of detritic angular quartz grains. The primarily fine lamination of the sediment is strongly homogenised by bioturbation. Trilobites are common.

**Beds C, D, F, J** yield abundant trilobites, cephalopods, brachiopods and echinoderms. Red (?) algae are rare.
The depositional environment may have been in quiet waters on the shallower shelf, with weak terrigenous input.

**Beds M and O** lack cephalopods; trilobites and brachiopods are rare. Instead, ostracods (partly ornamented Entomozoa) dominate in biogenetic detritus (e.g. echinoderms). A few specimens of *Eovolvox* have been found.

**Beds Q and R** yield only rare ostracods. From bed M on, the succession reflects a growing restriction of the depositional environment.

**Bed S.** A 30 cm clay bed between Beds R and S is probably not of volcanic origin. Winter (oral comm.) supposed an alteration under acid influence. Bed S reflects a radiolarian facies (comparable to that of Bed 78 in Hasselbachtal, on top of the metabentonite Bed 79).

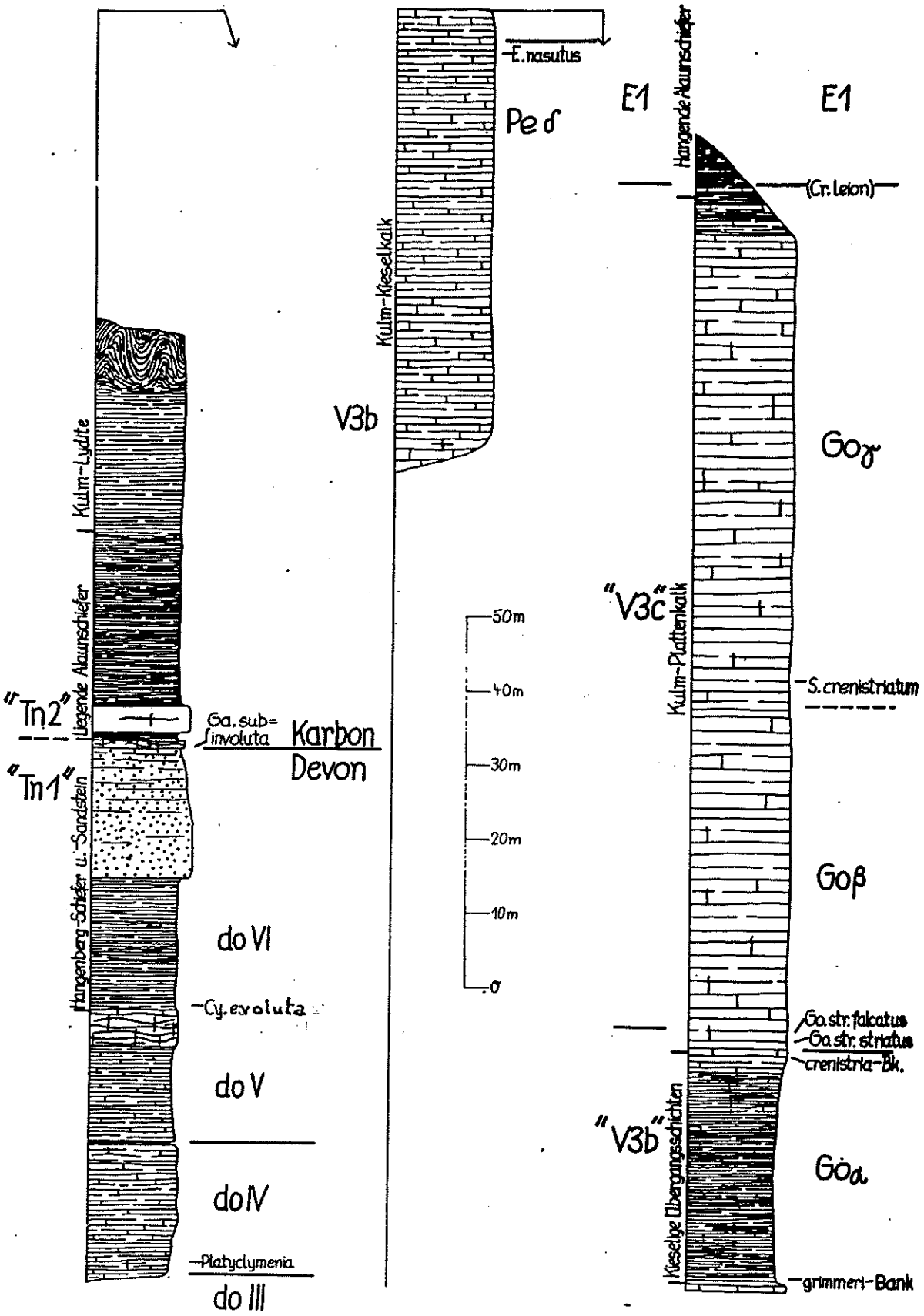
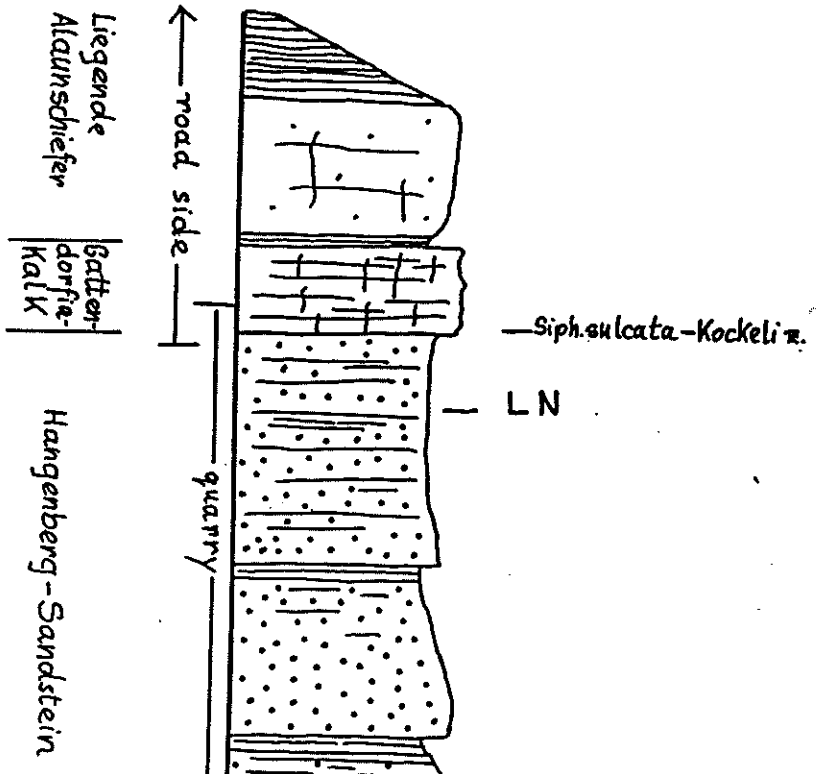



Fig. 23.- Schematic section of the succession near the station Oese
(after Paproth & Streel, 1982)


Liegende Alaunschiefer
Batten-dorfer Kalk
road side
quarry
Siph. sulcata-Kockeli z.
LN
Hangenberg-Sandstein

## CONODONTS AND CEPHALOPODS

The conodonts of the Upper Devonian, up to the top of the Wocklum limestone/base Hangenberg-Schiefer, and the *Gattendorfia* limestone have been described by W. Ziegler, cephalopods from the *Gattendorfia* or Hangenberg limestone by J. Kullmann (fig. 25).

| | | |
|---|---|---|
| Complex VII | *Eocanites supradevonicus* | upper *crassa* zone (patens subzone) |
| Complex VI | *Eocanites supradevonicus*<br>*Gattendorfia* aff. *tenuis*<br>*Paralytoceras* cf. *serratum* | upper *crassa* zone (patens subzone) |
| Complex IV | *Eocanites brevis*<br>*Acutimitoceras depressum*<br>*A.* cf. *heterolobatum*<br>*A.* sp. | lower *crassa* zone (westphalicus subzone) |
| Complex III+V | *Eocanites spiritissimus*<br>*E. planus tener*<br>cf. *Imitoceras subacre*<br>*Acutimitoceras heterolobatum*<br>*A. substriatum*<br>*A. intermedium*<br>*A. acutum*<br>*A. depressum*<br>*A.* sp. cf. *undulatum*<br>(*undulatum* is restricted to the lower *subinvoluta* Zone according to Vöhringer)<br>*Gattendorfia costata*<br>*G.* cf. *molaris*<br>*Pseudarietites westphalicus*<br>*P. subtilis* | *subinvoluta* to lower *crassa* zone |

## MIOSPORES (fig. 24)

### LL Biozone

Spore assemblages obtained by Paproth & Streel (1970) from the lower part of the Hangenberg Schiefer are assigned to the LL Biozone. Their composition is very similar to those obtained from the Hangenberg Schiefer at Oberrödinghausen.

### LN Biozone

Two LN assemblages were recorded from the uppermost part of the Hangenberg Sandstein. The highest of these occurs 11-12 cms below the base of bed A. Both assemblages are rather restricted in composition and poorly preserved, but contain diagnostic LN elements.