

## REEF-BASIN DISTANCE IN THE DEVONIAN OF THE CARNIC ALPS

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See this volume : 159-163.

## SIMILAR TECTONO-SEDIMENTARY EVOLUTIONS AND IMPORTANT LATERAL CHANGES IN A BLOCK-FAULTING SYSTEM

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The eastern end of the Brabant Massif was affected by block-faulting tectonics at least during the Devonian and the Carboniferous. The limits and the relative movements of the blocks have been defined through the sharp lateral variations in the stratigraphy, the nature and the thickness of the deposits and from the evolution of these latter.

Five main tectonic units have been recognized (fig. 1, 2).

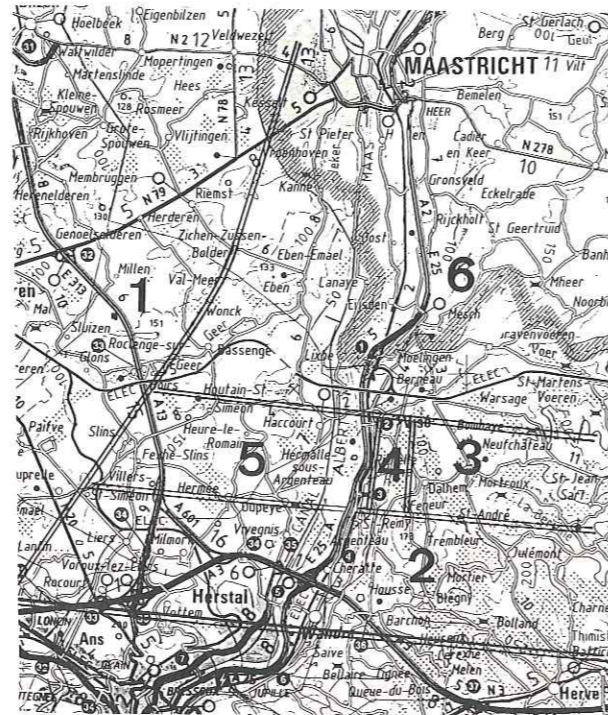


Fig. 1.- Main recognized tectonic units. For explanation see at fig. 2.

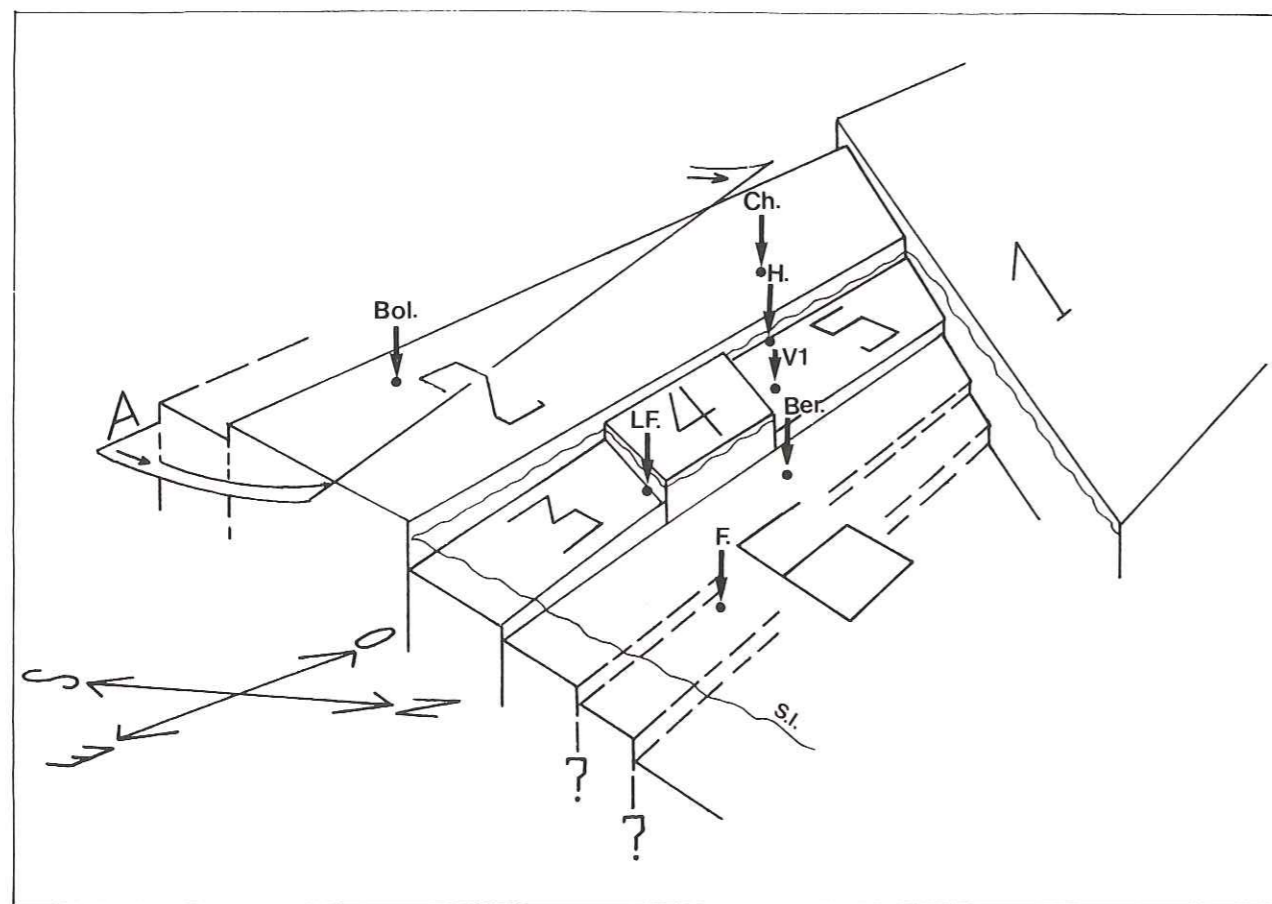


Fig. 2.- Schematic relative positions of the main recognized tectonic units (Upper Viséan).

1. Eastern end of the eroded Brabant Massif (part of the B.M. not capped by Upper Paleozoic deposits); 2. Booze - Val-Dieu blocks system; 3. Bombay blocks systems; 4. Souvré block; 5. Hermalle-sous-Argenteau blocks system; 6. Maastricht blocks system; Bol.: Bolland boreholes; Ch.: Chertal borehole; H.: Hermalle-sous-Argenteau borehole; V1: Visé 1-1bis borehole; LF: La Folie quarry and borehole; Ber: Berneau railway cutting section; F: Fouron-le-Comte borehole; A: Asse fault; s.i. approximative sea level during the Upper Viséan.

## REWORKING OF PALYNOMORPHS AS A TOOL FOR PALEOGEOGRAPHIC RECONSTRUCTION : AN EXAMPLE IN THE LOWER DEVONIAN

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The subject of the talk is developed in the article printed in the present volume : «Paléogéographie de l'Eodévien ardennais et des régions limitrophes».

## LATERAL DISTRIBUTION OF MIOSPORES AS A TOOL FOR ASSESSMENT OF PALEOGEOGRAPHIC DISTANCES

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Miospore assemblages with similar list of species content can be observed from far distant localities, often within a same paleophytogeographic belt, and cannot therefore be used for assessment of paleogeographic distance. However quantitative data may help if they are computed from a lateral sequence of contemporaneous samples. Indeed the miospore concentration in sediments (in number of miospores/gr. of sediment) decreases sharply, but progressively from very near-shore to off-shore environments.

Thus, there is some relationship between the miospore concentration of a sediment and the distance between where it has been deposited and the shore-line. Difficulties in the reconstruction of such paleoenvironments arise however from the need of accurate datations by independant (paleontological) controls and of suitable sediments for palynomorphs.

## RELATIONS BETWEEN INDE- AND WURM SYNCLINE (AACHEN COAL DISTRICT, F.R.G.)

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Wurm syncline and Inde syncline form two parts of the Aachen Coal District. They are situated on the northern flank of the Venn Anticlinorium and are separated by the Devonian of the Aachen Anticline. Within the Wurm Syncline strata of Namurian to Westphalian B age are exposed. Within the Inde Syncline a stratigraphic sequence is known which ranges from Upper Devonian to the Westphalian A/B boundary.

The Aachen Anticline is dissected by the Aachen Overthrust and some accompanying thrusts, which have a lithostratigraphic throw of up to 1.4 km. South of the Inde Syncline another important thrust system is exposed : the Venn Thrust. This thrust system has a maximal throw of up to 4.000 m : the Ordovician of the Venn Anticline has been moved above Namurian strata.

The Aachen Thrust System and the Venn Thrust are regarded to be the eastern prolongations of the nappe-like thrusts well-known from the northern border of the Ardenne in Belgium and northern France (Faille du Midi, Faille Eifelienn).

1. The Booze - Val-Dieu blocks system which was subsident during the Lowermost Devonian, the Upper Frasnian and the Famennian, but which formed a high from the Siegenian to the Middle Frasnian and during the Dinantian.

2. The Souvré block, only subsident during the Givetian (?) and the Frasnian, which formed an emerged high during most of the Devonian and the Dinantian. Famennian palaeokarsts affect the Frasnian limestones in this block.

3. The Hermalle-sous-Argenteau blocks system which was evolving as the Souvré block during most of the Devonian but which was subsident from the Uppermost Devonian. Collapse breccias related to the palaeokarsts affect the Frasnian limestones.

4. The Bombay blocks system, evolving almost as the Hermalle-sous-Argenteau blocks system.

5. The Maastricht blocks system («Maastricht grabben») deeply subsident at least from the Frasnian and characterized by the deposition of more than 1000 m of Dinantian carbonates.

These units have been capped by Namurian and Westphalian deposits of locally variable thickness.

In this block faulting model, important lateral changes in the deposits do not necessary need a large transitional area but can occur on both sides of synsedimentary active faults. Thus the Eodevonian of the Booze - Val-Dieu blocks system (observed in the Bolland borehole) might stop sharply, perhaps during its deposition, at the boundary with the Hermalle-sous-Argenteau, Souvré and Bombay blocks systems where no Lower Devonian is known. In this case, neither a bevel of the deposits to the north nor the erosion of the whole of the Lower Devonian deposits supposedly present on the positive parts of the Brabant Massif (here the Hermalle-sous-Argenteau, Souvré and Bombay blocks systems) would have to be considered.

On the other hand, a similar evolution in the sequence of the deposits in closely nearby areas suggests that these latter belong to a common block (or blocks system). Thus, the Chertal area and the Booze - Val-Dieu area which show a similar stratigraphical sequence probably belong to the same block system, suggesting that there was not an important displacement along the Asse Fault which is actually between the two areas.

## CARBONATE FACIES AND BIOSTRATIGRAPHY IN THE UPPER DEVONIAN OF THE INDE-SYNCLINORIUM

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See The Givetian-Frasnian boundary at the southern border of the Inde Synclinorium, this volume : 165-170.

## COMPARED SEDIMENTOLOGY IN THE UPPER CARBONIFEROUS OF THE INDE- AND WURM SYNCLINORIUM, W. GERMANY

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This volume : 171-176.