

International Association of Sedimentologists

The Belgian Sedimentological Group

Katholieke Universiteit Leuven

# IAS

9<sup>th</sup> European  
Regional Meeting  
Abstracts  
Leuven - Belgium  
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**KU** Permanente  
LEUVEN Vorming



Edited by

R. Swennen

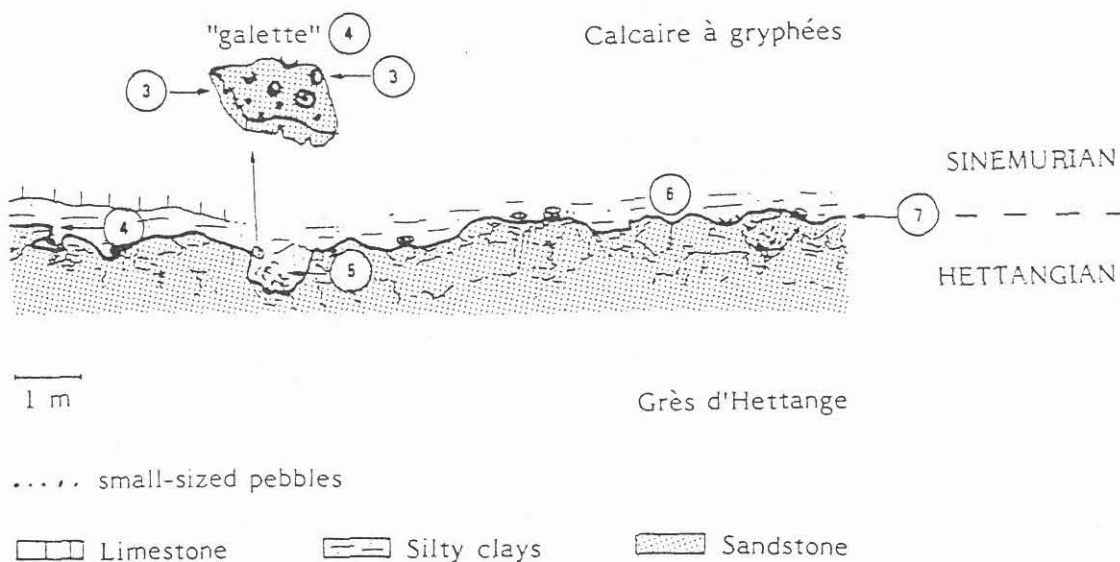
EVENTS DEVELOPED DURING A SEDIMENTARY UNCONFORMITY.  
THE EXAMPLE OF THE HETTANGIAN STRATOTYPE, FRANCE

HANZO, M.

Laboratoire de Géologie des Ensembles Sédimentaires,  
Université de Nancy I, France

In Hettange-Grande (Moselle - France), the Uppermost Hettangian is of sandy composition and corresponds to the Grès d'Hettange (30 m). The latter is overlain by the upper part of the Calcaire à gryphées Formation (Sinemurian).

The sharp contact between both lithological units is underlined by a very irregular interesting unconformity, well exposed in plane and in section.



1 m

Grès d'Hettange

..... small-sized pebbles

□ □ □ Limestone

▬▬▬ Silty clays

▨▨▨ Sandstone

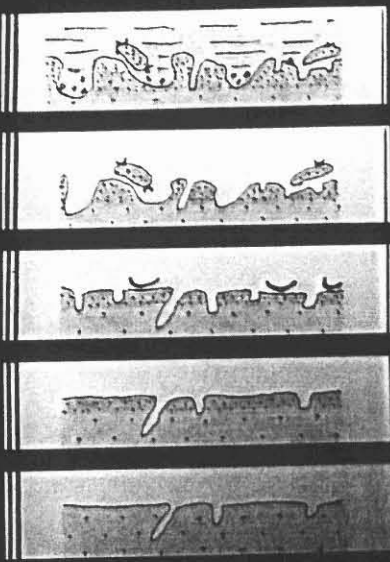
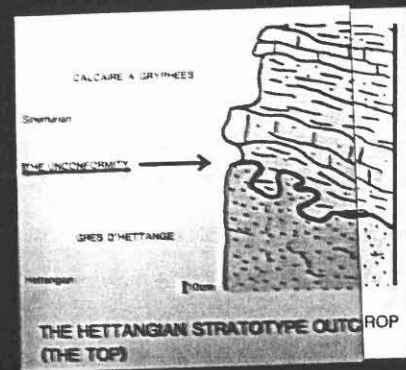
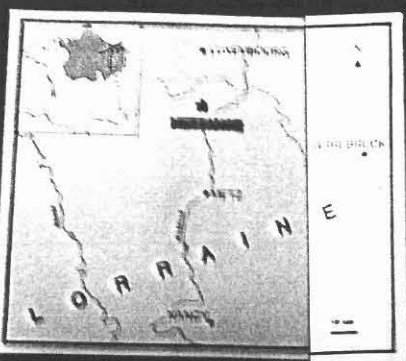
The detailed study of this unconformity allows to establish an accurate chronological model of the sedimentary events that took place during the gap and the change in sedimentation. These are :

- 1 - bioturbation of the sand ;
- 2 - surficial sediment lithification ;
- 3 - biological actions : boring, settlement of oysters, serpulids ;
- 4 - mechanical erosion : gullyng, breaking-down of overhanging parts of the sediment producing "galettes" ;
- 5 - trapping of material in holes (as bioclasts, small-sized pebbles and phosphatic concretions) ;
- 6 - renewal of sedimentation, with deposition of silty clays embedding the unconformity ;
- 7 - late events : oxydation of pyrite nodules and gypsification at the surface.

# EVENTS DEVELOPED DURING A SEDIMENTARY UNCONFORMITY.

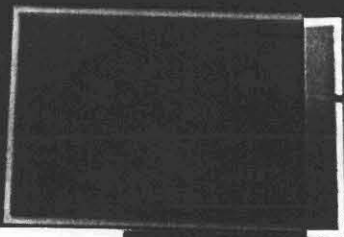
## THE EXAMPLE OF THE HETTANGIAN STRATOTYPE, FRANCE.

UNIVERSITY OF NANCY I  
 INSTITUT DE GÉOLOGIE ET MINÉRALOGIE  
 54000 NANCY

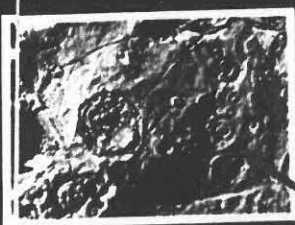
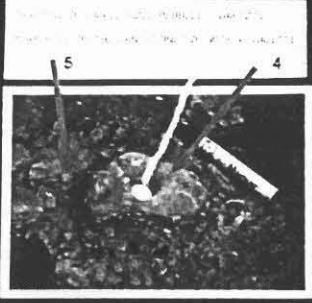
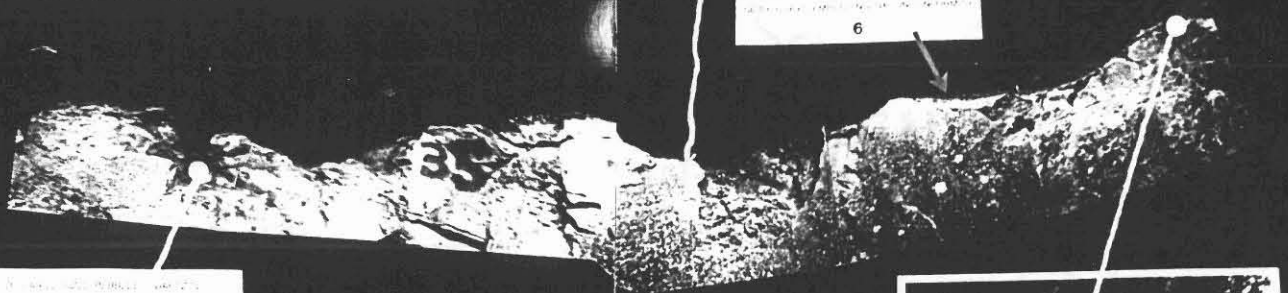
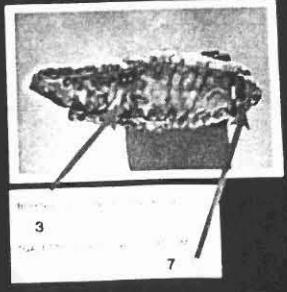
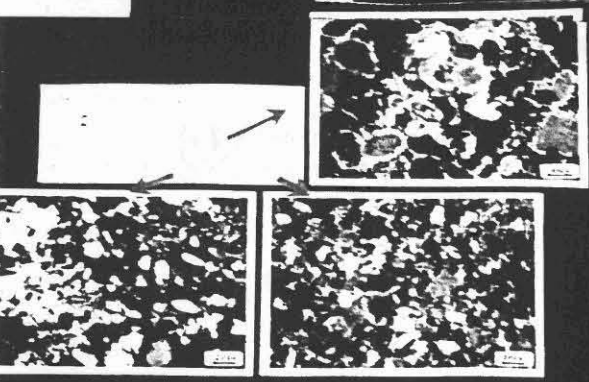


- 7 LATE EVENTS**  
development of oolite at the "galette" surface
- 6 RENEWAL OF SEDIMENTATION**
- 5 TRAPPING OF MATERIAL IN HOLLOW**
- 4 MECHANICAL EROSION**  
gullyng  
breaking-down of overhanging parts of the sediment producing "galettes"
- 3 BIOLOGICAL ACTIONS**  
boring  
settlement of oysters, serpulids
- 2 SURVIVAL SEDIMENT LITHIFICATION**
- 1 ACCUMULATION OF THE SAND**

CHRONOLOGICAL MODEL OF THE SEDIMENTARY EVENTS



SANDY "GALETTE" WITH BIODIVERSIFICATION AND ACCUMULATION




The unconformity developed during a time shorter than a subzone duration (XXXXXX XXXXXX XXXXXX)

ON THE SANDSTONE TOP BURNING GALLIUM (SERPULID) AND OYSTERS NODULES


# EVENTS DEVELOPED DURING A SEDIMENTARY UNCONFORMITY.

THE EXAMPLE OF THE HETTANGIAN STRATOTYPE, FRANCE.









**HARZIG** UNIVERSITÄT WÜRZBURG **NANCY I**




LORRAINE



THE HETTANGIAN STRATOTYPE OUTCROP (THE TOP)



**CHRONOLOGICAL MODEL OF THE SEDIMENTARY EVENTS**

1. DEPOSITION OF THE BASE
2. EROSION, SEISMIC UNCONFORMITY
3. DEPOSITION OF THE MIDDLE
4. DEPOSITION OF THE TOP
5. DEPOSITION OF THE TOP
6. DEPOSITION OF THE TOP
7. DEPOSITION OF THE TOP

**2** **3** **4** **5** **6** **7**