

INTERNATIONAL ASSOCIATION OF SEDIMENTOLOGISTS

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NEWS LETTER

ASSOCIATION NEWS

Dues payment

Please remember to pay your dues for 1977, if you have not already done so. There is no increase in subscription for next year, although fluctuations in the exchange rates have altered the sums that have to be paid from some countries. Details of how to pay are given at the back.

Back issues of SEDIMENTOLOGY

Blackwells have sold out of some issues of SEDIMENTOLOGY and so are unable to meet the demand for back issues. It is not economic at the moment to reprint. They will pay the sum of £1.00 each for issues 21.1, 21.4, 22.1, 22.2 and 22.3 or £5.00 for the lot. Please send them direct to Blackwell Scientific Publications.

WORLD NEWS

SOUTH AFRICA (from David Hobday)

A symposium devoted to tidal sedimentation, with emphasis on South African examples, was convened by Sedimentology Division, Geological Society of South Africa, in Johannesburg on 16 and 17 July. Keynote addresses on clastic and carbonate tidal environments were presented by George deVries Klein (University of Illinois) and Harry Roberts (Louisiana State University) respectively. Other overseas contributors were Alan Donaldson (Carleton University, Canada) and Jan de Jong (Wageningen, The Netherlands).

A feature of the symposium was the large number of papers dealing with extremely ancient tidal deposits, e.g. the 3200 Myr Moodies Group, the 3000 Myr Pongola Supergroup (2 papers), the Witwatersrand, Transvaal (4 papers) and Waterberg Supergroups. These rocks are remarkably well preserved, and apart from the biological component, reveal associations of features identical to those of modern tidal analogues. Also of interest was the antiquity of stromatolitic carbonates extending back over 3000 Myr.

Two other South African papers dealt with Lower Palaeozoic tidal deposits, and there were two on Mesozoic deposits. There was one paper on mixed clastic-carbonate sedimentation in Langebaan Lagoon on the semi-arid southwest coast. In addition, two papers were presented on Carboniferous tidal deposits in West Virginia and Morocco.

Several speakers were able to demonstrate the relationship of tidal facies to other depositional units, e.g. in embayments between large fan deltas (Waterberg), back-barrier (early Palaeozoic) and barrier inlet (Carboniferous). Within the Archaean Moodies Group a variety of tidal sand bodies are all related to a vast deltaic complex which merged laterally into a mesotidal barrier coast.

The symposium was followed by a 5 day field trip led by Ken Eriksson and Andy Button. Outstanding exposures of the Transvaal, Waterberg and Swaziland Supergroups revealed a variety of characteristic features of tidal sedimentation.

Most of the papers presented at the symposium are to be published in two special issues of *Sedimentary Geology*.

At a meeting of the Sedimentology Division held during the symposium Ron Tavenor-Smith (University of Natal, Durban) and Tony Cadle (SOEKOR, Johannesburg) were elected to succeed Dave Hobday and Ken Eriksson as Chairman and Secretary respectively.

WEST GERMANY (from J.H. Schroeder)

Sedimentological work is carried out by too many institutions and universities in this country to permit a summary. Therefore this report focusses on three large projects in which sedimentology is carried out in an interdisciplinary or international framework. Individual reports were solicited from project spokesmen; those received were edited by the national correspondent.

"Sonderforschungsbereich" 53, Tübingen University (G. Einsele)

The integrated research group paleoecology of the Geological-Paleontological Institute, D-7400 Tübingen, includes three programmes of sedimentological interest.

1. In the programme on "Fossilagerstätten" the special environmental conditions leading to unusual concentrations of fossils are studied in the field and in flume experiments. At present the main topics are shell beds, products and relics of submarine condensation and erosion, and accumulation of fossils in stagnant basins (laminated carbonates, black shales).
2. The programme on "Fossildiagenese", i.e. on the preservation of fossils is concerned with the effects of diagenetic factors specific to skeletal remains: unstable shell mineralogy, ultrastructure, availability of large pores with deviating micro-environments, resistance to mechanical deformation and compaction, contents of trace elements and stable isotopes. Ammonites, belemnites, molluscs, micro-fossils (in chalk), Triassic sponges and corals, and echinoids have been studied. Experimental studies include recrystallisation and phase changes of recent skeletal carbonate at high temperature and pressure in different solutions and mechanical rupture of different shell material within cohesive sediment under increasing geostatic pressure.
3. In the program on fossil assemblages, development and change of certain assemblages is studied in space (from the coast line to the outer shelf edge) and time (e.g. during the Paleozoic of Northern Spain). The influence of the sediment as substrate of infauna and epifauna, hydro-dynamical processes, basin analysis are considered.

"Sonderforschungsbereich" 95 of Kiel University (F. Werner).

The "Joint Research Programme Interaction Sea-Seabottom" is carried out jointly by geologists, marine physicists, botanists, zoologists, chemists etc. in the Western Baltic Sea. A team of sedimentologists works on dynamic processes in the benthic boundary layer, considering hydrodynamic, geochemical, ecological and general sedimentological aspects:

1. Erosion of fine-grained sediments: After dealing mainly with artificially sedimentated and partly consolidated sediments in a flume, erosion processes will be studied in a natural environment.
2. Hydrodynamic structure of currents and the generation of large-scale current marks: Geological observations on the morphology of bed-forms and their variability are related to continuous measurements of

near-bottom velocity profile, including bottom stress, friction velocity, and three-dimensional turbulence properties of the flow.

3. Response of mud sediment and shell distribution on varying currents in a channel environment. Efforts are made to quantify sediment parameters and to compare them with long-term current measurements. Basic information includes sediment echograms, grain size distribution, profile distribution of living and dead macro- and micro- shell-bearing fauna, and closely spaced C14 and O18 determinations.

4. Quantitative determination of carbonate sedimentation within the siliciclastic environment: Calculations are based on hydrographic conditions, primary production, settling structures of macro and macro fauna, and measurements of carbonate saturation in bottom waters. Comparable investigations in a tropical lagoon are planned.

5. Conditions of manganese/iron precipitations: Development and distribution of shallow-water manganese nodules in relation to the varying hydrographic environment are studied, partly by long-term field experiments on precipitation onto artificial test objects.

6. Generation of free gas in sediments by decomposition of organic matter: Sound scattering reflects in sediment echograms suggested the existence of free gas in the interstitial space of sediments. In-situ-sampling is applied to study the conditions of its formation and distribution.

German IPOD activities (U.v. Rad)

One of the major topics of geoscientific research sponsored by the Deutsche Forschungsgemeinschaft (DFG) is the participation in the International Phase of Ocean Drilling (IPOD). Since 1975, the Bundesanstalt für Geowissenschaften und Rohstoffe (BGR) at Hannover is a member of JOIDES and coordinates the German participation in "Glomar Challenger" cruises and the following shore-based research of about 30 groups from university and other research institutions. Annually, the FRG contributes one million US \$ to the costs of IPOD and approximately the same amount for the furthering of the national IPOD research programs (pre-site surveys, evaluation of IPOD samples, etc.). Up to now 19 Germans have participated in "Glomar Challenger" cruises; 15 scientists are members in 13 JOIDES advisory panels.

Besides investigations on ocean crust, a major topic is the study of the sedimentological, stratigraphic, and tectonic development of the passive continental margins along the eastern North Atlantic, especially off NW Africa (Leg 41, co-chief scientist E. SEIBOLD; Leg 47A, co-chief scientist U. von RAD, both legs with a strong German participation in the preparation and evaluation of results, as well as in associated land geological projects in Moroccan coastal basins). During Leg 47A (March/April 1976) a record 1453m deep, continuously cored single-bit hole (Site 397) was drilled into the uppermost rise sediments off the West-Sahara.

A biostratigraphic-paleontological data bank for the Cretaceous is being built up at the BGR and is integrated with an equivalent data bank for the Tertiary in the U.S.A.

Within the next 2-3 years it is planned to incorporate parts of those diverse studies into a regional paleoenvironment synthesis of the Atlantic Ocean, planned and coordinated by W.W. HAY (Miami).

Johannes Schroeder has had to resign as National Correspondent for West Germany on taking up an appointment as Director of the Institute of Oceanography at Port Sudan. I am very glad to report that Dr. Gunther Hertweck of Institut für Meeresgeologie und Meeresbiologie "Senckenberg", Wilhelmshaven has accepted the President's invitation to succeed him. [E.G. Reading].

FUTURE MEETINGS

March 6-12 1977

Uppsala, Sweden

500th Anniversary of the University of Uppsala

Symposium on the Quarternary History of the Baltic, North Sea and the Irish Sea. Details from H. Agrell, Uppsala Universiteti, Kvartärgeologiska Avdelningen, Box 555, S-75122, Uppsala, Sweden.

March 1977

Ile-Ife, Nigeria

International Symposium on Laterites

Symposium sponsored by the International Association of Engineering Geologists. Details from Dr. Ing. R.W. Kahl, Dept. of Geology, University of Ife, Ile-Ife, Nigeria.

May 23-27 1977

Miami, Florida

Third International Symposium on coral reefs - western Atlantic reefs

Details from Reef Symposium, University of Miami, Fisher Island, Miami Beach, Florida 33139.

Aug. 7-14 1977

Copenhagen, Denmark

20th Congress of International Association of Limnology

Congress will include symposium sponsored by International Association of Sedimentologists on 12th August 1977 on "Modern and Ancient Lake Sediments". Details from Maurice Tucker, Dept. of Geology, The University, Newcastle upon Tyne, U.K. (See also Newsletter No.27).

Aug. 16-24 1977

Birmingham U.K.

10th International Quaternary Congress (INQUA)

The Congress will include a symposium on Antarctic Glacial History and World Palaeoenvironment organized by the Scott Polar Research Institute, Cambridge, U.K. Details of Congress from W.G. Jardine, Dept. of Geology, University of Glasgow, Glasgow, U.K.

Sept. 9-11 1977

Alberta and Montana

Canadian Society of Petroleum Geologists

Field meeting in the Waterton-Glacier Park area of Alberta and Montana. Details from Mr. Monzer Shawa, Home Oil Company Ltd., 304-6th Avenue Southwest, Calgary, Alberta, Canada T2P 0R4.

July 30 - Aug. 4 1978

Honolulu, Hawaii

Second Circum-Pacific Energy and Mineral Resources Conference

Details from Office of International Geology, U.S. Geological Survey 345, Middlefield Road, Menlo Park, Ca.94025 or AAPG, P.O. Box 979, Tulsa, Oklahoma 74101.

BOOKS AND JOURNALS

Geological Milestones Vol.1

SORBY ON SEDIMENTOLOGY

This is the first of a new series of reprints and translations initiated by Robert N. Ginsburg that are designed to make available to the widest possible audience those works that can be considered milestones in the advancement of geology. Each volume will focus on the works of an individual or a group and will be accompanied by the appropriate background material on the author and his times as well as consideration of the subsequent influence of his works.

The cost has purposely been kept as low as possible so that students can afford them.

"Sorby on Sedimentology" is edited by Charles H. Summerson and is a reprint of Sorby's principal works on sedimentary rocks, 1851-1908. It includes papers on thin-section description, on the application of quantitative methods, and his three presidential addresses. The 232 pages include many plates.

It is obtainable from the Comparative Sedimentology Laboratory, Fisher Island Station, Miami Beach, Fl. 33139. It costs US \$7.50 including postage and handling, if payment accompanies order, US \$8.50 if purchased by invoice.

South Florida Benthic Marine Algae.

This has 81 pages of text and 332 figures illustrating benthic marine algae in South Florida. Cost is US \$6.00 if payment accompanies order. Obtainable from Comparative Sedimentology Laboratory, Fisher Island Station, Miami Beach, Fl. 33139.

DUES REMINDER

You should by now have received a dues reminder to pay for 1977. If you have not already paid please now do so, or you will not receive SEDIMENTOLOGY for 1977.

You can pay your 1977 dues by one of the methods listed below, depending on your local currency regulations.

1. By postal transfer to postal account number 3457400 in the name of the Treasurer I.A.S., Leiden, Netherlands;
2. By bank transfer to the AMRO BANK LEIDEN, account number 451060555;
3. By personal cheque made payable to the I.A.S., sent directly to the Treasurer at the address given above. Please make sure that a personal cheque in your national currency is cashable in the Netherlands; for example, cheques in French francs are not.

The dues rates are the equivalent of Dfl. 40.00 (Dfl. 24.00 if you are under 26 years of age). A list of equivalent dues is shown below.

Please make sure that your name is included with your payment; this goes especially for bank transfers.

| <u>Equivalent dues</u> | | Dfl. 40.00 | Dfl. 24.00 |
|------------------------|--------|------------|------------|
| Australia | A.\$ | 13.50 | 8.00 |
| Austria | A.sh. | 270 | 170 |
| Belgium | Bfr. | 650 | 400 |
| Canada | C.\$ | 18.50 | 11.00 |
| Denmark | D.kr. | 100 | 60 |
| France | Ffr. | 80 | 48 |
| Germany | DM | 40 | 24 |
| Japan | yen | 5000 | 3000 |
| Sweden | S.kr. | 70 | 45 |
| Switzerland | Sfr. | 40 | 24 |
| U.K. | £ | 10 | 6 |
| U.S.A. | U.S.\$ | 18.50 | 11.00 |