Meetings

Facies Model Conference

A discussion concerning sedimentary rocks was held at the Illinois State Geological Survey on 4–5 Nov. 1958, for the purpose of pooling the knowledge and experience of the group concerning three topics: the existence and number of sedimentary associations; the possibility of establishing a model for each association that would emphasize the areal distribution of lithologic units within it; and the exploration of the spatial and sequential relations between the associations.

The participants included Albert V. Carozzi (University of Illinois); Francis J. Pettijohn (Johns Hopkins University); P. E. Potter (Illinois State Geological Survey); John Rodgers (Yale University); W. W. Rubey (U.S. Geological Survey); Raymond Siever (Harvard University); L. L. Sloss (Northwestern University); and E. L. Winterer (University of California, Los Angeles). Under the direction of a chairman, informal discussion was substituted for formal papers.

The first action of the group was to agree that recurring patterns of sedimentation give rise to a relatively small number of fundamental sedimentary associations rather than to an indefinite number of independent and unique patterns in space and time. This concept makes possible the broad application of a relatively small number of general principles to the identification and interpretation of the majority of sedimentary deposits.

The sedimentary association was defined as a collection of commonly associated sedimentary attributes. In the multidimensional space defined by the basic sedimentary attributes, a sedimentary association is simply a clustering of points. Subsequent discussion of the various sedimentary associations repeatedly emphasized the fact that no single variable or attribute is sufficient to define one of these clusters or associations, just as no single characteristic can be used by anthropologists to define a race or by psychologists to define personality. Although gradations between associations were recognized and emphasized at the very beginning, it was decided not to consider them until the basic associations had been defined.

The factors most often mentioned in the definition of a sedimentary association were gross geometry (thickness and areal extent); continuity and shape of lithologic units; rock types (maturity of the clastics and character of carbonates), sedimentary structures, and fauna (types and abundances). Five major associations were outlined.

Before discussion of facies models was initiated, the relations between the various associations were discussed briefly but were not exhaustively explored. Discussion made it immediately apparent, however, that not all transitions between the associations are possible and that some occur much more frequently than others.

A facies model was defined as the distribution pattern or arrangement of lithologic units within any given association. In the early stages of geological exploration, the function of the model is to improve prediction of the distribution of lithologic types. Successful prediction, it was agreed, is the measure by which a geologist's understanding of a sedimentary association should be judged. Facies models were discussed under sandstone and carbonate subtypes.

Although general agreement was not reached concerning what should be included in a facies model, both basin architecture and the relationship of transport direction to depositional strike played prominent roles in the discussion. The mechanism of quartz and carbonate

sand dispersal, especially on shallow marine shelves, was a recurring topic of discussion. The fact that basins of markedly different size have similar distribution patterns of major lithologies was generally agreed to indicate that scale is not a critical factor. As discussion proceeded, the number of elements considered important tended to increase rather than decrease. Thus, it was suggested that the model should incorporate at least some elements of the regional tectonic setting. Although a distinction had already been made between local prediction, such as prediction of the direction of a washout in a coal mine, and regional prediction, concerned with subregions within a basin, this suggestion tended to embrace an even larger realm.

Judged in its entirety, the group discussion clearly pointed out those areas of knowledge that permit generalization, the areas in which problems are clearly recognized and stated but for which definitive answers are not available, and the areas in which the problems are not as yet clearly formulated. The sedimentary association, the mechanism of sand dispersal on a shallow marine shelf, and the facies model respectively illustrate each of these areas. Probably because discussion rather than achievement of fixed goals or conclusions was sought, the group was effective in all three areas. Meetings such as this should prove to be an effective supplement to more formal symposia and national meetings.

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Forthcoming Events

June

3–5. Physics of Precipitation, conf., Woods Hole, Mass. (H. Weickmann, Cloud Physics Committee, 1515 Massachusetts Ave., NW, Washington 5.

5–7. American College of Angiology, 5th annual, Atlantic City, N.J. (A. Halpern, 11 Hampton Court, Great Neck, N.Y.)

5–7. American Gastroenterological Assoc., and American Gastroscopic Soc., annual, Atlantic City, N.J. (H. M. Pollard, University Hospital, Ann Arbor, Mich.)

6. American Acad. of Tuberculosis Physicians, Atlantic City, N.J. (O. S. Levin, P.O. Box 7011, Denver 6, Colo.)

6. International Cardiovascular Soc. (North American Chapter), Atlantic City, N.J. (P. T. DeCamp, 3503 Prytania St., New Orleans, La.)

6–7. American Diabetes Assoc., Atlantic City, N.J. (E. Paul Sheridan, 1 E. 45 St., New York 17.)

6–7. Society of Investigative Dermatology, Inc., 20th annual, Atlantic City, N.J. (H. Beerman, 255 S. 17, Philadelphia 3, Pa.)

6, 20, and *27.* Recent Advances in Medical Technology, symp., Staten Island, N.Y. (N. Colosi, Wagner College, Staten Island, N.Y.)

7–11. American Soc. of Heating and Air Conditioning Engineers, semi-annual, Vancouver, B.C., Canada. (A. V. Hutchinson, ASHACE, 62 Worth St., New York 13.)

7–13. Fertility and Sterility, 3rd world cong., Amsterdam, Holland. (W. W. Williams, 20 Magnolia Terrace, Springfield, Mass.)

8–9. Isotope Effects in Chemistry and Biology, conf., Lemont, Ill. (Miss B. Litt. Isotope Effects Conference, Argonne Natl. Lab., P.O. Box 299, Lemont.)

8–12. American Medical Assoc., Atlantic City, N.J. (F. J. L. Blasingame, 535 N. Dearborn St., Chicago 10, Ill.)

8–12. Association for Research in Ophthalmology, Inc., Atlantic City, N.J. (L. V. Johnson, 10515 Carnegie Ave., Cleveland 6, Ohio.)

9–11. Canadian Federation of Biological Societies (Canadian Physiological Soc., Pharmacological Soc. of Canada, Canadian Assoc. of Anatomists, Canadian Biochemical Soc.), Toronto, Ontario, Canada. (E. H. Bensley, CFBS, Montreal General Hospital, 1650 Cedar Ave., Montreal 25, P.Q.)

9–11. Interferometry, intern. symp., Teddington, England. (Intern. Symp. on Interferometry, Natl. Physical Laboratory, Teddington.)

9–12. Health Technicians, 6th intern. cong., Paris, France. (Secrétariat Général du VI[e] Congrès-Exposition International des Techniciens de la Santé, 37, rue Montholon, Paris 9[e].)

10–12. Gas Chromatography, 2nd intern. symp., East Lansing, Mich. (H. S. Kindler, Technical and Educational Services, ISA, 313 Sixth Ave., Pittsburgh 22, Pa.)

10–12. International Union of Crystallography, Stockholm, Sweden. (W. Parrish, Apparatus Commission, Philips Laboratories, Irvington-on-Hudson, New York.)

11–12. Undiscovered Earth, annual research conf., Birmingham, Ala. (Southern Research Inst., 2000 Ninth Ave., S. Birmingham 5.)

11–13. Society for Study of Development and Growth, symp., Madison, Wis. (W. P. Jacobs, SSDG, Dept. of Biology, Princeton Univ., Princeton, N.J.)

11–14. American Electroencephalographic Soc., Atlantic City, N.J. (J. K. Merlis, University Hospital, Baltimore 1, Md.)

11–14. Wilson Ornithological Soc., Rockland, Maine. (A. Bagg, Farm St., Dover, Mass.)

13–22. Information Processing, 1st intern. conf., Paris, France. (U.S. Committee for the Intern. Conference on Information Processing, Box 4999, Washington 8.)

14–17. American Dairy Science Assoc., Urbana, Ill. (H. F. Judkins, 32 Ridgeway Circle, White Plains, N.Y.)

14–18. American Soc. of Mechanical Engineers, semi-annual, St. Louis, Mo. (O. B. Schier, II, ASME, 29 W. 39 St., New York 18.)

14–19. Society of Automotive Engineers, summer, Atlantic City, N.J. (Meetings Div., SAE, 29 W. 39 St., New York 18.)

(*See issue of 17 April for comprehensive list*)