

NOTE

CLAY MINERALS SOCIETY ANNUAL MEETING REVIEW, GRAND RAPIDS, MICHIGAN

The 25th annual meeting, which was attended by approximately 300 registrants in Grand Rapids, Michigan, Sept. 19–21, 1988, and hosted by Tom Pinnavaia and his crew for Michigan State University, featured and emphasis on relations between clay minerals and organic compounds, especially reactions with pillared clays and clay catalysts.

Although the technical program emphasized the special interests of the organizers, other interests were well represented. It began Monday morning with three plenary lectures. The George W. Brindley lecture, *Clay Mineral Origin in Soils*, was given by M.L. Jackson. This was followed by this year's CMS Distinguished Member M.M. Mortland's talk *Clay-Organic Interactions: Past, Present, and Future*. And lastly, as this year's Pioneer in Clay Science, R.M. Barrer, spoke on *Shape-Selective Sorbents Based on Clay Minerals*.

On Monday afternoon there were two sessions of orally presented papers, one on Pillared Clays and Clay Catalysts and one on Surface Chemistry. The first session began with a presentation on structural order and orientation of organometallic pillars on synthetic fluorhectorite and montmorillonite surfaces. The next paper pointed out the importance of layer rigidity in exchangeable mixed-ion vermiculite. The next reported the formation of a new polyoxoaluminum intercalation compound of montmorillonite with a 29 Å interlayer spacing and two clay layers between each layer of pillaring oxocations. Several papers concerning catalytic conversions using pillared and related surface-modified clays were presented. These included papers on the use of pillared clays as catalysts in simulated coalification, on the treatment of BTX feedstocks, on dimethylether and methanol conversions, and on the use of pillared clays for specialty desiccation applications. The final two topics were thermal reactions of clay minerals leading to the formation of volatile reaction products which can be analyzed and interpreted by mass spectroscopy and the structural and chemical aspects of organic and inorganic pillars in smectite clays and how these structural aspects may relate to chemical reactivity and catalysis.

The technical papers concerned with the surface chemistry of clay minerals and related metal oxides started off with two papers on kaolinite; one on crystalline and non-crystalline organic intercalates of the 8.4 Å phase of synthetic kaolinite hydrate, and one on catalytic effects of kaolinites and studies of their interdependence by spectroscopic means. These were followed by papers on the surface modification of imogolite by reaction with a water soluble siloxane coupling agent; a description of how metal cluster carbonyl compounds such as $\text{Os}_3(\text{CO})_{12}$

react on smectite surfaces and how the reactions depend on the clay colloid properties of these materials; using dihydroxybenzene as the substrate, the oxidation properties of manganese oxide surfaces in which manganese is present in the III and IV oxidation states were described; and the catalytic properties of nontronite, bentonite (SIC), and kaolinite on the transformations of adsorbed pyrogallol. The session was concluded with three papers on the properties of adsorbed dyes on clay mineral surfaces. On Tuesday morning there were sessions on Fundamental Physics and Chemistry (of clay minerals) and Hydroxy-Inter-layered Clays and Soil Clays. There was a second session on Fundamental Physics and Chemistry on Tuesday afternoon in addition to a session on Mineralogy and Diagenesis. On Wednesday morning the two sessions were Environmental and Material Applications and a second session on Mineralogy and Diagenesis.

Upcoming meetings planned or under discussion are: Sacramento, California (J.L. Post, Dept. of Civil Engineering, California State University, Sacramento, CA 95819) September 25-28, 1989; Columbia, Missouri (W.D. Johns) October 1990; Houston or Austin, Texas (D.R. Pevear and J.B. Dixon) October, 1991; and possibly San Diego, California (R.W. Berry) in 1992. Hope to see you all in sunny California next year.

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