is Miocene or younger. A careful investigation of the sedimentary properties of playa sediments of the present has revealed certain characteristics which it is believed will enable the geologist to definitely recognize older sediments which were deposited in the playa environment. These diagnostic properties include the average grain size, sorting coefficient, color, organic carbon content, alkali and salt content, hydrogen-ion concentration, and the oxidation-reduction potential. In playa sediments most of these properties have rather definite ranges. This makes it possible to recognize playa sediments with a greater degree of certainty.

5. GUSTAF ARRHENIUS, Scripps Institution of Oceanography. Genesis of Pelagic Sediments.

The pelagic sediments form polydisperse systems where the liquid phase is the interstitial water, and the solid phase is built up by several genetically different components. In E. D. Goldberg's genetical system these are grouped according to the geological sphere in which the solid phase was separated. The solids are thus classified as lithogenous, hydrogenous, biogenous, atmogenous, cosmogenous, and authigenous. Modern analytical methods make it possible to determine quantitatively the concentrations, and in ideal cases the rates of accumulation of these components.

6. THOMAS CLEMENTS, JOHN F. MANN, JR., RICHARD O. STONE, and JAMES L. EYMANN, University of Southern California. Some Spectacular Effects of Wind Erosion near Palm Springs, California.

A short distance northwest of Palm Springs, California, a climbing dune has been formed in a gap in a spur of the San Jacinto Mountains that extends easterly into Coachella Valley. Wind funnelling through the pass between the San Jacinto and the San Bernardino Mountains picks up sand from the dry wash at the base of the spur and carries it up through the gap. The sand is coarse and the wind is almost constant, as a result of which spectacular wind effects have been achieved.

Juniper trees that have managed to grow at all have been bent over until the trunks have broken, and they are now growing in a prone position, with smaller plants crowding closely in their lee. Small plants also cluster in the lee of the larger projecting rocks, growing laterally rather than vertically. These rocks, which are principally granitic, with some gneiss, schist, and quartzite, are pitted, grooved, and fluted in a most fantastic way. More fantastic still, however, is the fact that the grooving and fluting are continued without variation in the bushes sheltering behind the rocks.

7. STEWART EDGELL, Stanford University. Some Guide Foraminifera of the Upper Cretaceous and Lower Tertiary in Australia and California.

A number of stratigraphically restricted species of Foraminifera are found in the late Cretaceous-early Tertiary of Australia and California. These cosmopolitan species are also found in many other parts of the world, often under different names. They have been noted in samples collected here for the Richfield Oil Corporation and for the Bureau of Mineral Resources in Northwest Australia. Their identification permits direct or indirect correlation with standard European stages and thus contributes to a universal stratigraphy, as well as to the knowledge of paleogeography. In addition, the widespread occurrence of index Foraminifera for the Maestrichtian and Danian-Paleocene often permits an exact distinction between uppermost Cretaceous and lowermost Tertiary.

8. V. STANDISH MALLORY, University of Washington. California Lower Tertiary Foraminiferal Sequence.

A preliminary statement of the formal names proposed for the major divisions and subdivisions of a chronologic-biostratigraphic classification of the California Lower Tertiary, and a summary of the criteria on which each of these is based will be presented in this paper.

Evaluation of the faunal changes found in a complete stratigraphic sequence of foraminiferal faunas in the California Province has shown that this sequence of faunas resolves itself into six distinct major units of Stage magnitude which are differentiable throughout the California Province, and several units of Zonal magnitude which subdivide the Stagial units based upon the joint occurrences of species of Foraminifera.

The major subdivisions of the Paleocene are the Ynezian and Bulitan Stages constituting the oldest and next oldest Stages of the Tertiary. The Eocene subdivisions are the Juniperan Stage, Lower Eocene; the Middle Eocene Ulatisian Stage; and the two Upper Eocene Stages, the oldest, the Narizian, and the youngest, the Fresnian Stage.

The Zonal subdivisions of these Lower Tertiary Stages of the California Province are the *Silicosigmoilina californica* and *Bulimina excavata* Zones of the Ynezian Stage; the *Bulimina bradburyi* and *Valvulineria wilcoxensis* Zones of the Bulitan Stage; the *Plectofrondicularia kerni* and *Alabamina wilcoxensis* Zones of the Juniperan Stage; the Ulatisian Stage with three distinct Zones, only one of which, the uppermost Zone, the *Amphimorphina californica* Zone is named; the *Uvigerina churchi* and *Uvigerina garzaensis* Zones of the Narizian Stage; at least two Zones exist within the Fresnian Stage, but these are not named at the present time.