Above the beds of Austin age the Cretaceous sequence in the eastern Gulf region may be divided most naturally into two sequences: the lower correlated with Taylor marl and the lower part of the Navarro group and the upper correlated with the upper part of the Navarro.

The lower of these two sequences consists of the Demopolis chalk, its sandy northern partial equivalent of the Coffee sand, and its eastern equivalent, the Cusseta sand, and the Ripley formation, which overlies all three units. This stratigraphic sequence extends from southern Illinois to west-central Georgia.

The upper beds of the Cretaceous include the Prairie Bluff chalk and its two sandy equivalents, the Owl Creek formation on the north and the Providence sand on the east. These formations extend from southern Tennessee as far at least as central Georgia, broken in west-central Alabama by overlap by the overlying Midway beds.

Near the ends of the crescentic belt the sequence of deposition is broken by extensive overlaps. As may be expected, internal, progressive overlap is common in all the formations, but extensive overlap indicating crustal warping is especially notable at the base of each of the larger groups discussed.

4. SUBSURFACE OCCURRENCE OF CRETACEOUS SEDIMENTS OF MISSISSIPPI, C. W. Alexander, Dixie Geological Service, and R. M. Harris, Harris and Payne, Jackson, Mississippi.

The Gulf Cretaceous sediments comprise the most significant group of beds as related to the search for and production of petroleum in Mississippi. As a result, natural emphasis has been placed on their study.

This paper, and the sections which accompany it, represent a composite of available knowledge of the beds and the consensus on the, as yet, uncertain features of the stratigraphy of the Gulf Cretaceous.

5. CENOZOIC DEPOSITS OF MISSISSIPPI AND ADJACENT AREAS, Grover E. Murray, Jr., Magnolia Petroleum Company, Jackson, Mississippi.

20,000 feet or more of Tertiary and Quaternary sediments are present in the central Gulf region of southern United States. They comprise a large, seaward-thickening, wedge-shaped sedimentary complex (Gulf Coast geosyncline) composed predominantly of deltaic deposits. Thin, relatively uniform and widespread, marine strata are present between the thick deltaic deposits and on the seaward edges of the deltaic masses. These thin, generally distinctive, marine strata are adaptable on the surface to detailed structural mapping; they also serve as key strata in core-drilling, in tracing surface units into the subsurface, and in the preparation of subsurface structural maps. Fossils present in the marine units determine their position in the standard geological time scale and assist in determining the relative geographic position at the time of deposition. The thick, ladle-shaped, deltaic deposits are normally unadaptable to structural mapping; however, they are readily used in the construction of areal, facies, and isopachous maps. Landward, both marine and deltaic deposits are progressively of a deeper-water environment, the deltaic deposits are progressively more marine.

The Tertiary is represented by four, perhaps five, epochs of deposition, which are, in ascending order, Paleocene, Eocene, Oligocene, Miocene, and Pliocene (?). Each successively younger series of rocks occupies an outcrop position progressively nearer the present coastline. Similarly, each younger rock series has been downwarped less by the thick, geosynclinal sedimentary load and, therefore, has less southwest regional dip. The Midway (Paleocene), Claiborne (middle Eocene), Jackson (upper Eocene), and Vicksburg (Oligocene) groups each contain important marine units. The Wilcox (lower Eocene), Miocene, and Pliocene (?) are primarily deltaic deposits; they constitute the thickest Cenozoic sedimentary accumulations in the eastern Gulf region.

The Quaternary is represented by two epochs of deposition, the Pleistocene and Recent. These deposits are characteristically fluviatile gravels, sands, silts, and clays; they border or fill alluvial valleys and were deposited during or subsequent to the Pleistocene glaciation.

The outcrop patterns of the major rock divisions of the central Gulf Coastal Plain are illustrated by areal geologic maps and stratigraphic sections. The thickness and structural configuration of each division is shown by isopachous and structural contour maps. Representative electrical logs illustrate the electrical pattern of each rock division.

6. STATUS OF MICROPALEONTOLOGY IN THE EASTERN GULF REGION, Henry V. Howe, Louisiana State University, Baton Rouge, Louisiana.

Since the paper by Finch in 1824, which initiated the study of the Cretaceous and Tertiary stratigraphy of the Eastern Gulf region, about 200 papers dealing with the microfossils of Mississippi, Tennessee, Alabama, Georgia, Florida, and South Carolina have appeared. Of these, at least 160 deal primarily with foraminifera, 21 with ostracodes, 11 with bryozoans, and 4 with otoliths. In these papers nearly 700 species of foraminifera, 150 species of ostracodes, 580 species of bryozoans, and 23 species of otoliths have been described as new from these states. Hundreds of other species whose type localities lie in other states or countries have been reported. The formations whose type localities have been reasonably thoroughly studied for their microfaunal content are indicated. Some suggestions of needed studies are made. The paper is accompanied by an annotated bibliography which lists the species which have been described as new from this region.

7. GENERAL GEOLOGY AND OCCURRENCE OF OIL IN FLORIDA, E. D. Pressler, Humble Oil and Refining Company, Tampa, Florida.

The eastern portion of the Gulf of Mexico Basin is divided into provinces on the basis of stratigraphy and subdivided further on the basis of its major structural features. The general area is considered to be a part of the Gulf of Mexico Sedimentary Basin. The Apalachicola Embayment of south Georgia and west Florida has a maximum sedimentary fill of approximately 15,000 feet of clastic sediments, the South Florida Embayment has a maximum fill of non-clastic sediments approaching 20,000 feet, and the area of the Great Bahama Bank is considered to be underlain by a section in excess of 10,000 feet. Anticlines may be the most prevalent type of structure of both embayments, though faulting is probably present, and conditions are favorable for the formation of stratigraphic traps. Oil production has recently been developed from the Lower Cretaceous on the Florida segment of the South Florida Embayment, and additional drilling development is under way. Gravity and core drill are the most widely used methods of prospecting, and it is indicated that additional experimental work is necessary to develop proper seismograph technique. The Sunniland field, Collier County, Florida, has three producing wells that have produced a total of 80,000 barrels of 20 to 24 degree gravity asphalt-base oil. One rig is working in the field, and eight wildcat operations are active in Florida.

8. NEW GEOLOGIC MAP OF TERTIARY FORMATIONS OF GEORGIA, F. Stearns MacNeil, Geological Survey, U. S. Department of the Interior, Dothan, Alabama.

The new map of the Tertiary formations of Georgia is exhibited, with a brief discussion of the stratigraphy.

9. THE FORMATION OF EVAPORITES UNDER MARINE EVAPORATION CONDITIONS, Paul Weaver, Gulf Oil Corporation, Houston, Texas.

Sediments consisting principally of salt, anhydrite and gypsum, potash, and certain types of limestone and dolomite have a wide areal extent in certain stratigraphic units