relate remarkably well with present platform topography. The straits and basins invariably are areas of negative anomaly whereas the platforms generally are areas of positive anomaly. Seismic measurements show that refractors with similar transmission velocities are displaced downward in Florida Straits and Northwest Providence Channel. Limited subsurface control, utilizing paleontologic data and velocity surveys, indicates the deepest and highest velocity refractor traceable in and adjacent to the Bahamas to be at the top of Lower Cretaceous rocks.

The best explanation for the observations available is that some combination of post-Late Cretaceous downfolding or downfaulting occurred in the areas of the present intraplatform straits and basins. Erosion of adjacent highs and accompanying infilling of lows with relatively light material subdued the topography directly reflecting structure and at the same time created the conditions necessary to explain the residual gravity anomalies. Perpetuation of the structural high areas by continuation of shallow-water carbonate sedimentation, during the Cenozoic, gave rise to the relief of the Bahama Banks. It follows that, although the plan distribution of Bahamian platforms *versus* strait and basin areas is structurally controlled, the great relief of the platforms is a function of local upbuilding by carbonate sedimentation in step with regional subsidence.

Tectonic control of the limits of shallow-water carbonate sedimentation is also indicated for various other modern and ancient platforms. The Blake, Campeche, and Great Barrier Reef platform edges all coincide with regional structure features, *i.e.*, zones of transition of continental to oceanic crust. The Devonian Leduc-Rimbey trend of Alberta, Canada, follows the structural grain of Precambrian basement rocks. The relationship of the Permian Central Basin platform to a structurally high block in its foundation is well known from both geophysical and drilling information.

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FLORIDA EMBANKMENT COMPARED WITH MISSISSIPPI EMBAYMENT

On the continent of North America, the Florida embankment and the Mississippi embayment are large areas of thick sedimentation within the Atlantic and Gulf coastal province of post-Paleozonic age.

The Florida embankment occupies an exterior position on a broad continental rise between the deep waters of the Gulf of Mexico and those of the Atlantic Ocean. It has a central axis of thin sediments, a thick column of beds rich in carbonate grains derived from marine sources, and very few beds that were deposited above sea level.

In contrast, the Mississippi embayment occupies a position within the continent between the Ouachita and Appalachian Mountains. It has a central axis of thick sediments, a thick column of beds rich in quartz grains and clay minerals derived from the mountains, any many beds deposited above sea level.

The consequences of these important differences are discussed; also, stratigraphic divisions of the Florida column are presented.

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DIFFUSION AND SETTLING OF SUSPENDED SEDIMENT AT RIVER MOUTHS: A COMPUTER SIMULATION MODEL

A *Fortran IV* computer program has been written for simulating the diffusion and settling of suspended sediment at river mouths. The rate of sediment accumulation at any point in front of the channel mouth is governed by water and sediment discharge, sediment grain-size distribution, sediment density, the porosity of the resulting sediment, width and depth of the river channel, and the geometry of the basin. A plane jet model is used for determining the velocity field and the rates of sediment diffusion. By adjusting the input parameters, a variety of "delta" deposits may be created. The shape and foreset slope of the delta fan are found to be closely controlled by grain size and discharge. By allowing the model to respond dynamically to the buildup of sediment at the channel mouth, a distributary mouth bar and submerged levees can be formed. Delta-simulation experiments are monitored by printing (1) maps showing the rates of sedimentation for each grain size at every point in a digital accounting grid and (2) facies maps using alphabetic symbols. Maps and stratigraphic cross sections are drawn with a digital plotter.

Computer simulation is an important method for sedimentology, and should be used in combination with hydraulic models and direct observations of natural phenomena.

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WHY AND WHITHER GULF COAST ASSOCIATION OF GEOLOGICAL SOCIETIES?

The limitations of four AAPG-sponsored regional meetings held in the Gulf Coast area between 1946–49 resulted in the design of an Association of Geological Societies for two purposes, to hold an annual meeting and to implement a means of rapid publication. GCAGS was founded May 15, 1951 and the first Annual Meeting was held in New Orleans on November 15, 16, and 17, 1951.

A strong wedge of disunity was driven into the Association in its embryonic stage. It was driven ever deeper until about 1957. Since that time the wound has been slowly healing.

The issue has been the question of GCAGS becoming a section of AAPG. The last blow was struck in 1967 with Mike Halbouty wielding the hammer. Mike, representing AAPG, submitted a resolution on March 2, 1967 inviting GCAGS to become a section of AAPG. It was amended by GCAGS, approved by AAPG, and as of this date the invitation has been accepted and approved by a majority of the member societies.

GCAGS officially notified AAPG of its acceptance on July 10, 1967 and the Executive Committee of AAPG has approved. The formality of approval by the Business Committee of AAPG is awaited.

Henceforth it is anticipated the history of GCAGS will be an accumulation of dates and statistics.

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MARINE AND TERRESTRIAL PLIOCENE AND PLEISTOCENE DEPOSITS OF FLORIDA

For the first time fossiliferous marine, estuarine, and terrestrial deposits of peninsular Florida are correlated and are related to topographic terraces. Synthesis of all data reliably proves a middle to late Plio-