Zagros deformation not only determined the size and shape of reservoirs but also their permeability and porosity.

The economic importance of this area is obvious. The Middle East, especially the Arabian-Persian Gulf and its periphery, is presently producing more than one third of the world's oil. Recent discoveries and extensions of known reservoirs have increased production to the point that the area produces more than North America. More than half of the world's proved reserves are in this area.

Communist-block countries, in spite of tremendous potential, are contributing less than one-sixth of total world oil. Doubtless this is partly a result of the fact that these countries still have not attained the same wide use of petroleum products as the free world. Also, oil commerciality depends on the proper balance between a stable growing market and cheap transportation. The unique accessibility and availability of Middle East oil from this gulf guarantees its rising importance in world-energy needs.

À plethora of oil is here and available; transportation is cheap. Extensive oil discoveries in new, inaccessible, or distant inland areas, even in the Middle East, world conditions permitting, should in no way threaten this source for many years to come.

HOSKINS, CORTEZ W., Atlantic Richfield Company, Anaheim, Calif.

HYDRODYNAMIC SIGNIFICANCE OF MOLLUSKS IN PLIO-CENE TURBIDITES NEAR VENTURA, CALIFORNIA

The distribution and orientation of valves of a small species of pelecypod in Pliocene turbidite sandstone near Ventura help clarify the complicated hydrodynamic history of turbidite events. Because of their relatively constant configuration and size, these pelecypod valves are superior to platy or elongated minerals and rock fragments in this respect. Moreover, it can be shown that valve stability orientations differ according to basic mode of sediment accumulation and possibly flow regime. The preliminary conclusions presented below are based on both laboratory experiments and field observations.

The stable orientation of convexo-concave shells seen wihin the massive, graded basal part of a typical turbidite bed is concave up. Laboratory experiments suggest that the shells are "rotated" into this configuration by consolidation of the viscous turbidite "slurry" during the final few seconds of motion before this part of the bed "freezes." There is evidence that the opposite configuration will exist if internal shear was present in any significant amount, such as near the base of the flow.

Shells located in the upper, laminar parts of the turbidite sequence generally are convex upward; this is the well-known stable configuration for current flow.

HOUGH, JACK L., President, Society of Economic Paleontologists and Mineralogists, University of Michigan, Ann Arbor, Mich.

STATE OF THE SOCIETY

The Society of Economic Paleontologists and Mineralogists was organized by a small group of specialists in micropaleontology and sedimentary petrology, and was established as a division of The American Association of Petroleum Geologists in 1926. Since then it has attained a membership of more than 2,400, and a reputation as an important international society. The S.E.P.M. publishes two journals and a series of special publications, and performs other useful services to the profession. The membership is composed of a variety of specialists with diverse interests and professional connections, and this makes for a certain amount of unrest and dissatisfaction with the status *quo*. There is a widely held desire to change the name of the society to something that would express more accurately its aims and activities. Some members have suggested splitting into two societies, one for sedimentary petrology and one for paleontology; others have suggested that the Paleontological Society and the paleontologists of the S.E.P.M. join in a separate soci-Many members and non-members of the etv. S.E.P.M. have expressed disapproval of the status of the society as a subordinate division of the A.A.P.G. In particular, there is a strong feeling on the part of some that the requirement of membership in the A.A.P.G. as a qualification for full (active) membership in S.E.P.M. makes second-class citizens of the associate members of S.E.P.M., many of whom are outstanding members of the profession.

Recent councils of the S.E.P.M. have sampled the opinions of the membership, and have arrived at what is believed to be a consensus that can be used for making necessary adjustments in the affairs of the so-ciety.

The name-change movement distills down to the following. There is no agreement on a possible new name; a change in name would create serious confusion, because the society's publications are indexed in libraries and bibliographies; and it is believed that the society's aims and activities are widely known under its present name. No change is being made.

The fractionation sentiment is countered by a majority opinion that paleontology and the study of the physical environment should be kept together in the same society, to provide for continued cross-fertilization and the strengthening of the ecological approach to stratigraphy and paleogeography.

The independence movement is faced by the practical consideration that the society is still partly supported and aided by the A.A.P.G., both in the close association in the headquarters office and in the operation of the joint annual meetings. The financial status of the S.E.P.M. is good, but completely independent operation would be a risky endeavor and would limit the vigor of the society's work.

With reference to all of the foregoing questions, an appreciable number of members, including both academic and non-academic types, value the economic aspect of the profession and the S.E.P.M.'s association with petroleum geologists.

A new constitution has been written, the principal feature of which is the removal of the requirement of membership in the A.A.P.G. as a basis for full status in the S.E.P.M. A large majority of the old associate members can be advanced immediately to full membership and acquire the right to vote and hold office. A new class of associates is established, to include somewhat more junior members of the profession. who would not have voting or candidacy rights but who could advance into the member rank, on gaining further experience, without having to join another society. Other provisions of the new constitution in general merely state more accurately the society's present functions and business procedures.

I do not wish to imply that the Council thinks that all of the problems have been solved, or that all factions have been satisfied. J am sure that succeeding councils will listen to the opinions of the entire membership and will take action that will benefit the majority.

The present Council believes that the society members generally place a high value on their relationship with the A.A.P.G., and that under the new constitution this feeling will be strengthened and extended. The Council looks forward to a new era of greater vigor in the operations of the S.E.P.M. and of a stable and satisfactory cooperation between the S.E.P.M. and the A.A.P.G. S.E.P.M.'s attitude toward the American Geological Institute is one of loyalty and enthusiastic support.

HOYT, JOHN H., Marine Institute, University of Georgia, Sapelo Island, Ga.

CHENIER VERSUS BARRIER, GENETIC AND STRATIGRAPHIC DISTINCTION

Barrier islands and cheniers are elongate, narrow sand bodies which may appear similar where preserved in the sedimentary record. However, their modes of origin and sequence of development are distinctive. Differentiation of these features is important in the interpretation of the depositional environments, paleogeography, and geologic history of coastal areas.

Chenier development begins with progradation by deposition of clay, silt, and sand. Rapid sedimentation precludes removal of fine material. Progradation is followed by reworking, shore retreat, and formation of a ridge at the head of the beach. Fines are transported seaward and along the shore. Sand is concentrated on the upper beach and over the adjacent marsh, and is transported along the shore, possibly accumulating in areas not actively eroding. The contact of the chenier with marsh and mud-flat deposits is disconformable beneath transgressive sand deposits, but may be intertonguing for laterally transported deposits. Increasing rates of sedimentation reinitiate mud-flat progradation and the sand ridge is left as chenier. Holocene cheniers are commonly less than 15 feet thick.

Barriers originate from a topographic ridge at the head of the beach which subsequently is partly submerged. Lagoonal-marsh sediments are deposited behind the barrier; however, continued subsidence accompanied by transgression may result in a complex intertonguing of barrier and lagoonal-marsh sediments. Barriers also form as spits and may develop seaward from a pre-existing barrier. Repeated spit formation results in the formation of sand bodies enclosed in finer sediments. Barriers, like cheniers, may be eroded, reworked, and moved landward over the adjacent marsh. Barriers predate the lagoonal-marsh sediments, whereas the sand ridge of the chenier develops on, and seaward from, existing marsh and mud-flat deposits.

IRELAND, H. ANDREW, Department of Geology, University of Kansas, Lawrence, Kans.

MICROFOSSILS FROM SILURIAN OF ENGLAND

This paper is one of a series dealing with worldwide correlation of Silurian beds utilizing microfossils, chiefly Foraminifera, from acid residues. Extensive collections and several publications cover many of the sequences from North America, from West Texas to the Gaspé Peninsula. To correlate these sequences with sections elsewhere, a world-wide collection of samples has been made, supported by a National Science Foundation grant. The present paper is a report on the specimens recovered from all Silurian carbonate rocks in Great Britain with which correlations are to be made from North America, Norway, Sweden, Austria, Czechoslovakia, and Australia. Preliminary examination of the specimens from the Swedish island of Gotland and Scania show that most of the species from these islands are the same as those from England. A few of the species from England, Norway, and Gotland are identical with those from the Arbuckle Mountains, Oklahoma, Kansas subsurface, and central United States, but most of them are new. Nearly all of the arenaceous Foraminifera belong to the family Saccamminidae. Most are attached forms and have brown tests with abundant iron in the cement. These forms have not been described previously. A few species of Bathysiphon, Hyperammina, and Ammodiscus are the only other genera present. More than 11,000 specimens from England and 3,000 from Gotland have been mounted, providing abundant material for morphologic, evolutionary, and taxonomic study.

In many places conodonts and scolecodonts are associated with arenaceous Foraminifera. Extensive studies and publications on these forms in Europe and North America provide a basis for stratigraphic association of all the microfossils. Such knowledge can be utilized to identify and correlate beds in places where only Foraminifera are present, thus providing an additional tool and means for correlation that previously has not existed.

JACKA, ALONZO D., Geoscience Department, Texas Technical College, Lubbock, Tex., and LOUIS C. ST. GERMAIN, Humble Oil and Refining Company, New Orleans, La.

DEEP-SEA FANS IN PERMIAN DELAWARE MOUNTAIN GROUP, DELAWARE BASIN, WEST TEXAS AND NEW MEXICO

Ancient deep-sea fans, consisting of channel, overbank, and fringe deposits, are recorded in the Permian Brushy Canyon, Cherry Canyon, and Bell Canyon Formations (Guadalupian) of the Delaware basin.

Sediment economics and depositional processes that characterized the Delaware basin were very similar to those operating in modern continental borderland basins off southern California.

Margins of the Delaware basin were incised by numerous submarine canyons. During times of lowstanding sea-level, concurrent with glaciation, large volumes of clastic sediment were prograded across constricted shelf lagoons, swept into heads of submarine canyons by longshore and tidal currents, and introduced into the Delaware basin through the channel-levee-over-bank system. Carbonate production and reef growth ceased on the outer platform. As sealevel rose during de-glaciation, shelf lagoons expanded and the volume of clastic sediment reaching the outer platform progressively diminished; carbonate production and reef growth resumed.

Basinward from the margin, where channels are narrow and deeply incised, channel width increases and amount of incision decreases. *Major flow units* (3-10 feet thick), restricted to deep-sea channels, commonly consist upward from the base of the following units: (a) massive. (b) large current-ripple cross-bedded sets (sand waves), (c) plane-parallellaminated sandstone, (d) small current-ripple crossbedded sets, and (e) plane-parallel laminae consisting of sandstone, siltstone, and shale laminae. Both large and small ripples consist predominantly of climbing