depths exceeding 5 feet in very few places; the area is 8 square miles. It is divided into an inner and an outer lagoon. The outer lagoon opens to the Gulf Stream through a narrow, deep natural channel. The outer lagoon also opens onto the Great Bahama Bank proper across wide, shallow flats, exposed at low tide. Tidal range in the lagoon is 2–3 feet; large volumes of water enter and leave the lagoon with each tidal cycle. In the lagoon, bottom communities, sediments, and currents are closely interrelated. Distribution of the communities is controlled by current action, and by the degree of tidal exchange of water with the Gulf Stream; the nature of the sediment is determined by the organism community present.

Most of the tidal exchange into the lagoon takes place through the deep channel. Current velocities exceed 2 knots. Consequently the channel is floored by bare rock, sorted gravel, and coarse sand. The margin of the channel is marked by an abrupt rise and current velocities of about 1½ knots. The strong current over the channel margin promotes luxuriant growth of *Thalassia*, which acts as a sediment trap, and prevents erosion. The sediment is fine-grained and poorly sorted.

Away from the channel, the current velocity is less than 1 knot, *Thalassia* is sparse, and wave action affects the nature of the sediment. Many benthonic communities can be recognized.

The inner lagoon is an isolated hypersaline water mass. Current velocities are very low. Most of the bottom is covered by bare sand with a few species of algae, but the richest molluscan faunas occur here.

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A.A.P.G. PUBLIC INFORMATION COMMITTEE—WHAT IT CAN DO FOR GEOLOGY

The A.A.P.G. constitutes an enormous reservoir of knowledge, experience, material—and money—which can and should be used to aid in the dissemination of geological information to an interested public.

It is not now effective in that area, largely because the emphasis always has been on geologist talking to geologist—not on geologist talking to public. The budget, the interest, the organization, and the function of the A.A.P.G. emphasize this point.

Furthermore, in a world which is made by scientific knowledge and which, if it is to be destroyed, will be destroyed by misapplication of scientific knowledge, a scientifically alert populace is essential to human survival. Public information on scientific matters is, therefore, not an opportunity but an obligation—the greatest obligation.

What geologists have failed to acknowledge is that the future of the A.A.P.G.—of petroleum geology—of geology in general—rests largely with non-geologists. To the degree that geologists interest and educate the public—the ultimate decision-makers—the profession will be rewarded by public understanding and support.

Public information—public education—is an enormous task, but fortunately there is one route open to all the public—the public schools. Other routes lead to various groups of adults and children. These routes need only to be used.

The A.A.P.G. as an organization with a vast and competent membership, a wide geographic distribution, and the money to do whatever must be done has the obligation to take the lead in the area of public information in geology.

The opportunity is there—the capability is there—only the awareness is limited.

Geologists can remove that remaining limitation, for it is of their own making.

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EDUCATION FOR A SCIENTIFIC AGE

Science will play an increasingly significant role in the lives of educated people in the years ahead. For this reason, young people going through school now, and those who are yet to be educated, should be getting a basic understanding of the language of science as part of their general education. Most students now in schools, including colleges and universities, are not getting the kind of education in science which will prepare them for life in a scientific age. Science is being presented to them as a body of facts and techniques. Consequently students have little, if any, opportunity to develop an understanding of the basic principles and concepts common to science.

Facts and techniques have a short half-life—a way of becoming obsolete in a hurry. Individuals whose science training has been largely fact- and technology-oriented also become obsolete in a hurry. It is grossly unfair to the young people who are now being educated and those who will be educated in the future to burden them with obsolete training in science. New materials and new courses, which emphasize the "structure or broad unifying principles" of each science discipline, need to be developed and teachers trained to present science as inquiry. Sound training in science should begin in the early school years to provide children with a conceptual framework which they can use as a base for assimilating and understanding later experiences in science.

The new elementary and secondary-school science curriculum materials provide a base on which a sound curriculum can be built, but much remains to be done if tomorrow's citizens are to be scientifically literate.

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BASIC FRAMEWORK, DEFORMATION, AND PETROLEUM IN MIDDLE EAST

The most prolific oil-producing area of the Middle East lies on the southern flank or extension of the ancient Asiatic Tethyan geosyncline and was at least partly subjected to the same tectonic forces which produced the Alpine-Taurus-Himalayan Mountains.

The importance of these tectonics is second only to depositional conditions in the Arabian-Persian Gulf geosyncline during which occurred the proper distribution of salt and anhydrites in time and place. To emphasize the importance of the evaporites, most if not all of the large gentle structures of Arabia and the southern gulf are salt-generated and the remaining structures in Iran and Iraq were created or modified by plastic deformation of salt and anhydrite. The Hith Anhydrite caps Jurassic oil in Arabia; the Fars Anhydrite caps Cretaceous-Miocene oil in Iran and Iraq.

Late Tertiary deformation and fracturing of the Cretaceous Bangestan and Miocene Asmari Limestones created the long lines of story-book folds of the Zagros Mountains and oil reservoirs in Iran and Iraq. Fractured Bangestan oil reservoirs leaked much of their contents upward into fractured Asmari reservoirs where oil finally was trapped by the plastic Fars Formation.