5. RAYMOND M. THOMPSON, Consultant, Denver
Tectonics of Central Wyoming

Central Wyoming is bounded by mountain ranges which have moved along complex thrust faults. Some of these ranges lie on or very close to the basin deeps. Subsequent adjustment by normal faulting has further complicated much of the area. Crustal shortening is demonstrated, whereby tightly folded anticlines have formed within the basins and have moved along thrust faults upon the mountain flanks. The area apparently acted under the conditions of plastic deformation, in response to a series of pulsating movements affecting the entire Rocky Mountain area during Laramide time.

The tectonic pattern of the area was influenced by the sedimentary column. A relatively thin column of Paleozoic and Mesozoic rock represents transgressive overlap from the Cordilleran geosyncline. This thin column occupied a relatively stable area until Laramide time. Regional isopach work, however, indicates broad gentle arching throughout the sedimentary history. As early as Frontier time considerable local relief was present, and some folds were overturned in pre-Paleocene time.

Oil and gas accumulations are the best known result of the tectonic environment. Mineral deposits, particularly uranium, appear to be closely related to structural conditions in the area.

6. JAMES O. STAGGS, McAlester Fuel Company, Billings
Tectonics of Central Montana

Central Montana has been tectonically active at least since pre-Devonian time. This activity has been in seven stages: (1) pre-Cambrian to post-Devonian uplift and erosion, (2) early Mississippian Big Snowy downwarp, (3) Heath uplift, (4) pre-Jurassic epeirogeny, (5) late Laramide orogeny, (6) late Eocene or post-Eocene igneous intrusions, (7) pre-Pleistocene epeirogeny. The late Laramide orogeny and late Eocene or post-Eocene igneous intrusions account for the asymmetrical (Big Snowy Mountains) tectonic features and the laccolithic domes (Judith Mountains) visible to-day. Accumulation of oil in central Montana is found in both structural (Cat Creek field) and a combination of stratigraphic and structural traps (Northwest Sumatra field). Geologically the oldest producing formation is the Mississippian Kibbey sand (Ragged Point field) and the youngest is the Lower Cretaceous First Cat Creek sand (Cat Creek field).

The conclusion can be made that central Montana tectonics were not restricted to Laramide time. Oil has been found in lenticular or isolated sandstones but very little has been found in the widespread sandstones of the Jurassic and Lower Cretaceous. One may speculate that oil which initially accumulated in these sands migrated from the central Montana area or its margins prior to the late Laramide orogeny. The subsequent cropping out of the Jurassic and Lower Cretaceous strata during late Laramide deformation and erosion caused an increase in formation hydrostatic pressures making it more difficult for the oil to migrate back into central Montana and into the present structures.

7. W. B. GALLUP, Gallup, Buckland and Farney, Ltd., Calgary
Tectonics of Plains of Southern Alberta

Structures having two different origins are present. One is associated with the Sweetgrass intrusives and may have developed in two stages, beginning with the early Laramide. Later crustal movements were the result of adjustment following the removal of a large block of sediments known as the Cypress prism during the late Tertiary. Such structures are relatively superficial.

The area is glaciated, outcrops are sparse, and additional information must come from drilling. New subsurface data will be of interest only if it is considered in the light of the knowledge that such structures do exist on the plains.

8. G. M. KNEBEL, Standard Oil Company (New Jersey)
Part I, Future Role of American Association of Petroleum Geologists

The phenomenal growth in membership of the American Association of Petroleum Geologists since its organization has been matched by growth in stature in scientific, professional, and industrial fields as well.

Approximately one-tenth of the Association's 13,000 members are from outside the United States. This means the Association has become an international organization. Consequently, it is a challenge to our members to keep apace of the rapid changes taking place all over the world today and to meet the demands on our science in the future. This can best be done through research and through the printing and distribution of the results in the Association's excellent publications.

The recent legalization of the Association's Research Fund will encourage larger donations and bequests. Eventually, it is hoped to establish a "1,000" club composed of donors of $1,000 or more. With such a fund we could help our members develop their ideas; help and induce others to solve scientific problems beneficial to mankind; and to serve actively rather than passively as leaders in scientific progress related to our field.