EVENING MEETING—MARCH 7, 1983

FRANK H. T. RHODES—Biographical Sketch

Frank H. T. Rhodes is the ninth president of Cornell University. A geologist by training, he holds the faculty rank of professor of geology and mineralogy at Cornell.

Before assuming the Cornell presidency, Rhodes was vice president for academic affairs at the University of Michigan for three years. He joined the Michigan faculty as professor of geology and mineralogy in 1968, and, in 1971, was named dean of the College of Literature, Science and the Arts.

Rhodes was born in Warwickshire, England. He received a bachelor of science degree with first-class honors in 1948 from the University of Birmingham, England, and a doctor of philosophy degree there two years later. His honorary degrees include LL.D.s from the College of Wooster and Nazareth College of Rochester, L.H.D.s from Colgate University, The Johns Hopkins University, Wagner College, Hope College, and Rensselaer Polytechnic Institute, D.Sc.s from the University of Birmingham and the University of Wales, and a D.Litt. from the University of Nevada at Las Vegas. He is an honorary member of *Phi Beta Kappa*.

He went to the University of Illinois in 1950 as a postdoctoral fellow and Fulbright scholar. From 1951 through 1954 he was a lecturer in geology at the University of Durham, England.

He returned to the University of Illinois as an assistant professor in 1954, was named associate professor in 1955, and became director of the University of Illinois Field Station in Wyoming in 1956.

Rhodes then went to the University of Wales, Swansea, in 1956 as professor of geology and head of the geology department. In 1967 he was named dean of the faculty of science there.

He has received numerous awards, including the Daniel Pidgeon Fund, Lyell Fund and Bigsby Medal, all from the Geological Society. He was the Gurley Lecturer at Cornell in 1960 and director of the National Science Foundation-American Geological Institute First International Field Studies Conference in 1961.

Rhodes is a member of the Geological Society of America, American Association of Petroleum Geologists, Society of Economic Paleontologists and Mineralogists, and the Paleontological Society. He was chairman of the International Conodont Symposium in 1970. He has served as a council member of the Geological Society and as vice president of the Paleontological Association, and Section C of the British Association for the Advancement of Science.

He is a former member of the Smithsonian Institution's advisory research committee. He is a present member of the board of trustees of the Carnegie Foundation for the Advancement of Teaching, a member of the Board of Overseers of the Memorial Sloan-Kettering Cancer Center, and a member of the Board of Directors of The Continental Group, Incorporated.

He is the author of 62 major articles and monographs and five books. Among his publications are *Evolution, Fossils: A Guide to Pre-Historic Life, Geology, The Evolution of Life,* and *Language of the Earth.* He was the senior author of the monograph on undergraduate education published by the American Geological Institute in 1971.

Rhodes has been author, consultant and participant in several educational radio and television programs, including the British Broadcasting Corporation (BBC) television series "The Planet Earth" and the BBC radio series "Science, Philosophy and Religion."

Rhodes, a naturalized United States citizen, and his wife, the former Rosa Carlson, of Iron Mountain, Mich., have four daughters.

WHATEVER HAPPENED TO THE ENERGY CRISIS?

Amid all the apparent good news on the energy front —the declining price of petroleum products, the strong domestic production capacity, the shrinking role of imported oil, our diversifying "energy mix" — petroleum continues to be a finite resource for which there is as yet no economical, readily available, and environmentally acceptable alternative. We face a four-fold challenge.

First, we must devise better methods of petroleum exploration and production. We must extend exploration to unconventional structures and areas, from which extraction may not yet be technically feasible or economically practical, and we must devise better methods of secondary and tertiary recovery. We have yet to see a "taconite-approach" to oil and gas production.

Second, we must move ahead with the technologies that will ease the demise of the petroleum age and ensure our energy supplies in the year 2000 and beyond. Synfuel technologies, though now unfashionable, will be important elements of our long-term energy picture. They must be pursued, through research if not development, along with other long-term solutions — solar, geothermal, and nuclear energy. We cannot afford to wait until another "crisis" spurs us to action, for we are talking about ventures with at least 20-year planning horizons.

Among these long-term solutions must be conservation. Most of our present conservation has been of the easy, common-sense housekeeping variety. We now need research of a more fundamental kind — on combustion, on the thermal properties of materials, on energy-efficient processes, and on computerized energy management systems — in order to continue our progress in this area.

Third, we must ensure a supply of trained people. At the height of drilling and exploration activity in December 1981, it was estimated that the industry was short as many as 15,000 experienced petroleum and chemical engineers, geologists, and geophysicists, and that skilled manpower was perhaps the biggest obstacle to the development of synfuels. Yet at a recent Geological Society of America meeting, only three companies were recruiting geologists. We need a steady supply and reasonable prospects for trained scientists. Cyclical career prospects will destroy our future.

But we need more than this. As our conventional natural resources are depleted, our only competitive resource will be talented and superbly trained men and women, whose

creativity and intellectual boldness will match their technological sophistication. Production-line education will not do.

Finally, we need to pursue our national energy program in a spirit of cooperation perhaps unprecendented in history. A new era of partnership between universities and industry is beginning in biotechnology, but the earth sciences are no less amenable to this kind of partnership.

Moreover, there must be a sustained and substantial role for government on both the federal and state level. We need a continuing investment in research, especially in the long-range, high-risk technologies that are our best hope for abundant energy in the next century.

We shall forget at our peril that today's encouraging energy statistics are due in large measure to a world-wide recession, reduced demand, and conservation, and that they depend on the continuing stability of some rather unstable regions of the world. The need for a national energy partnership has never been more urgent.