

temperature of between 5 and 6 keV will be sufficient for breakeven.

During the spring, further PLT experiments will include raising the neutral beam energy by approximately a factor of three, which is expected to increase overall plasma temperature to about 3 to 4 keV. These experiments will be carried out on a new plasma heating device, designed to achieve breakeven and now under construction at Princeton. This device, the Tokamak Fusion Test Facility, (TFTF), is expected to use neutral beam heating to the 5 to 10 keV range in order to achieve energy breakeven. The TFTF is expected to be completed by late 1981, if the projected construction schedule can be maintained. However, cutbacks in funding for fusion research announced in the national budget for 1979 may postpone the timetable. Although specific funding

for the project has not yet been revealed, Furth thinks funding is "skimpy but not catastrophic."

In other U.S. experiments, the Doublet III device under construction by General Atomic Company in San Diego is scheduled for operation early this year using neutral beam heating. When brought up to full utilization this is expected to produce energy outputs approaching those required for commercial reactors.

In Dr. Furth's opinion, the Soviets are lagging behind the U.S. in the neutral beam heating approach, having entered the field relatively lately. The French TFR reactor, on the other hand, is very nearly as capable a device as the PLT, achieving plasma temperatures only about 10 to 21 percent lower than those reported from Princeton. The British are entirely out of the running, with no comparable results to report.

— Dr. John Schoonover

FEF Conference Participants

The Honorable Paul Lattimore is in his tenth year as Mayor of Auburn, N.Y., where he is well known for his effectiveness in attracting industry to the central New York State Auburn region. He is presently Chairman of the National Joint Task Force on Energy Strategy of the League of Cities and U.S. Conference of Mayors. Mayor Lattimore was the first recipient of the Citizens Award of the New York State Chapter of Professional Planners.

Uwe Parpart is the Fusion Energy Foundation's Director of Research. Mr. Parpart is a graduate of the West German Naval Academy and has taught and written on basic questions in mathematical physics and strategic planning. He is the author of "The concept of the Transfinite," an important evaluation of the work of Bernhard Riemann and Georg Cantor.

Dr. Morris Levitt is Executive Director of the Fusion Energy Foundation, and also editor of its publications, *Fusion* magazine and the *International Journal of Fusion Energy*. He has testified before numerous congressional committees and state legislatures on energy policy.

His Excellency Iqbal A. Akhund is Ambassador Extraordinary and Plenipotentiary, Permanent Mission of Pakistan to the United Nations.

Eric Lerner is Director of Physics of the Fusion Energy Foundation. He is a graduate of Columbia University and has written extensively on global and regional economic planning and development.

Dr. Mohammed Rabie received his Ph.D. from the University of Houston, and for five years taught economics at Kuwait University. He was also a visiting scholar at Georgetown University's Center for Contemporary Arab Studies, and is the author of a number of books and articles in Arabic. Presently, Dr. Rabie is a private consultant in Houston with Universal Enterprises, Inc., and is a member of the permanent delegation of the Arab League to the Euro-Arab Dialogue with the European Economic Community.

Dr. Richard Dekmijan was born in Syria, and was educated at Boston University and Columbia University, where he received a Ph.D. in political and Middle East studies. He is the author of several books, including *Egypt Under Nasser* (1971) and *Patterns of Political Leadership: Egypt, Israel, Lebanon*, as well as numerous articles including works published in the *Middle East Journal*. He is presently writing a book on President Sadat of Egypt. Dr. Dekmijan is currently a professor at the State University of New York at Binghamton.

Faud Taima has been recently appointed Regional Vice President of the U.S.-Arab Chamber of Commerce for Washington, D.C., after having served as President of the Baltimore-based Mid-Atlantic Arab Chamber of Commerce. Mr. Taima is a prominent figure in commercial, professional and governmental circles both in the U.S. and the Middle East. For the past eight years, Mr. Taima has been President of Averroes, Inc., a McLean, Virginia-based consulting company, and has worked closely with the U.S. business community and the private and public sectors in several of the Arab countries.

Dr. Parviz Morewedge completed his studies in philosophy, mathematics, and Near Eastern studies at the University of California at Los Angeles. He worked as a research mathematician and logician in the computer industry, and has taught at UCLA, the State University of New York at Binghamton, and Columbia University. He is now teaching and lecturing at Fairleigh-Dickinson University, the City University of New York, and the Center for Near Eastern Studies at New York University. Dr. Morewedge is also the Secretary-Treasurer of the Society of Islamic Philosophy and Science, and is the coordinating editor of the series, *Studies in Islamic Philosophy and Science* and translated, with a commentary, the *Metaphysics* of Ibn Sina.

Dr. Clovis Maksoud was born in Lebanon and was trained in law, serving as an attorney in Beirut. From 1961

-1966, he was a visiting professor at the Indian School of International Studies at New Delhi; he also served as the Chief of Mission, League of Arab States, in New Delhi. In the past, Dr. Maksoud has served as a senior editor at Al Ahram and An Nahar. In 1974, he was named Special Envoy of the Arab League to the United States. He is the author of many works, including *Crisis of the Arab Left: The Meaning of Nonalignment*, and various articles in leading journals. Dr. Maksoud is presently a visiting scholar at the Center for Contemporary Arab Studies, Georgetown University.

Dr. Steven Bardwell is Director of Plasma Physics of the Fusion Energy Foundation. Dr. Bardwell received his Ph.D. in plasma physics from the University of Colorado in 1976. He has done research in a wide variety of self-organizing phenomena in plasmas and fluids. He has spoken widely in the United States and Europe on fission and the transition to fusion.

William Cornelius Hall, a member of the Board of Trustees of the FEF, is President and Chief Scientist of the Chemtree Corporation. He is former chairman of the metropolitan New York section of the American Nuclear Society. Mr. Hall is chairman of the policy board of the *Journal of Civil Defense*. He has published widely on nuclear power and the structural design of reactors, and holds patents on high-density concretes. Mr. Hall is a fellow of the President's Council of the American Institute of Management and is a Member of the *Societe des Ingenieurs Civils de France*.

Prof. Charles F. Bonilla is Vice-Chairman of the Department of Chemical Engineering at Columbia University. He is the author of a widely used text, *Nuclear Engineering*, published in 1957, and is a recognized authority on heat transfer and fluid flow processes in nuclear power engineering. He was

recipient of the Kern Award of the American Institute of Chemical Engineering, and is at present editor of *Nuclear Engineering and Design*.

Dr. Stephen O. Dean is Assistant Director for Confinement Systems, Division of Magnetic Fusion Energy, Department of Energy. Dr. Dean received his masters degree in nuclear engineering from the Massachusetts Institute of Technology in 1962 and worked in the Atomic Energy Commission from 1962 until 1968. From 1968 until 1972, he did research in laser fusion at the Naval Research Laboratory, in the course of which he received his Ph.D. from the University of Maryland in 1971. Dr. Dean has held his present position since 1972, first with the Energy Research and Development Administration and now with the Department of Energy.

John Causten Currey is presently Senior Editor of the *Oklahoma Times*, *Daily Oklahoman*, and *Colorado Springs Sun*. Mr. Currey was formerly a nationally syndicated columnist. He also served with Air Force Intelligence.

Dr. Stefan T. Possony is Director of the International Studies Program at the Hoover Institution in Palo Alto, California. He has published many books and articles on strategic doctrine and analysis, and on energy policy. Dr. Possony is presently a member of the American Security Council and Associate Editor of *Defense and Foreign Affairs Digest*.

Criton Zoakos is a member of the National Executive Committee and Director of Intelligence of the U.S. Labor Party. A graduate of City College of New York, Mr. Zoakos has recently authored "Ibn Sina and the Dawn of the Humanist Heritage." He presently heads an investigative team studying Arab and Islamic culture and ideology.

PRE-PUBLICATION ORDERS NOW BEING TAKEN FOR

**Transcripts
of the
FUSION ENERGY FOUNDATION'S
conference on**

**MIDDLE EAST PEACE *and*
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Held in New York, January 24, 1978

Because of the historic significance of this conference, the Fusion Energy Foundation plans to immediately publish a limited number of **excerpted transcripts** for subscribers at a cost of \$25.00 each. Excerpts will deal with the highlights of the Jan. 24 conference, where more than 200 participants — including representatives from a dozen Middle Eastern and African governments, from U.S. military, intelligence, and energy agencies, and from several American trade unions, corporations, and universities — debated the need for industrial development in the current peace process in the Mideast.

Included in this document will be:

- * U.S. Department of Energy official Stephen O. Dean's announcement of new scientific results which confirm fusion power "as a practical option for future energy use" worldwide.
- * Pakistani Ambassador to the U.N. Iqbal Akhund's discussion of the need for fundamental changes in the world monetary system to facilitate expanded trade and development.
- * The conference's keynote address by Dr. Clovis Maksoud, former Arab League special envoy now at Georgetown University, on the crucial importance of a political solution in the Middle East to a workable U.S.-Soviet detente.
- * Statements by Stefan Possony of the Hoover Institution, Dr. Mohammed Rabie, a Permanent Delegate to the Euro-Arab Dialogue, Oklahoma Times editor John C. Curry, and others.
- * The FEF's proposed program for Mideast industrial and nuclear development — and part of the conference participants' debate on that program.

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