Einstein's own writings. "Of what is significant in one's own existence one is hardly aware. . . ."

Berks blames the wave of criticism on the art critic of the Washington *Post*, who started it all with unfavorable articles, although he didn't even stay through the slide show about the Einstein memorial that Berks gave for the Washington press. Berks told *Science* the monument compares to "the work of Michelangelo and the ancient Egyptians." Asked what statue in history it would most resemble, Berks said, "It will live as long as the Moses of Michelangelo." And he notes that the monument is designed to last 5000 years, past even the demise of human language. "I'll have the last laugh because the statue will outlast all these people."

Aside from the statue fuss, the 1979 centennial may see some movement in the long-developing effort to have the huge volume of Einstein's unpublished papers see the light of day. Since his death in 1955, some 21 file drawers of Einstein's papers have been kept at the Institute for Advanced Study in Princeton, where Einstein worked. The papers include unpublished scientific manuscripts, which could shed light on both his intellectual development and his relationship to contemporary science. Also important to the history of science is his correspondence with other major physicists including Max von Laue, Erwin Schrödinger, Max Planck, and Otto Stern. Historians of the 20th century might find interest in unpublished correspondence with Mahatma Gandhi, Jawaharlal Nehru, and Sigmund Freud, among others. And the material regarding the founding of Israel and the Hebrew University of Jerusalem will be of interest to scholars of Zionism. According to John Stachel, the editor of the collection, Einstein's biographers have barely drawn on this material; one reason being that the papers are only now being indexed and copied so that they can be accessed by scholars.

The papers are the property of the Einstein estate, whose executors, Otto Nathan and Helen Dukas, signed a contract in 1971 with Princeton University Press to publish them. Stachel was hired in 1976, and in 1977 the National Science Foundation awarded the first of two planning grants to pay for the copying and indexing.

But at the moment, it is not clear how the massive publication project will be funded. Experts say that to pull together such a collection could take 15 to 20 years and cost $100,000 to $200,000 a year. In other words, the project could cost $1.5 million to $4 million, and this, Princeton press chief Herbert Bailey says, would not include the cost of actually publishing the volumes, which could run another $1 million. At the moment, a private donor has endowed the job of the collection's editor, and the National Science Foundation is expecting to receive a formal proposal to fund the publishing project. But some people have suggested that private contributions during the centennial go to this "living monument" to Einstein.

The most comprehensive listings of other Einstein related activities—television shows, exhibits, films, symposia, and the like—have appeared in the *Chronicle of Higher Education* (11 December 1978, p. 9) and *Physics Today* (November 1978, p. 88). Significant among the many things planned in the United States and abroad is the Institute for Advanced Study's symposium from 4 to 9 March. This will involve celebrated scientists, particularly physicists, who will capitalize on the recent revival of interest in proving Einstein's theories. President Carter is expected to address the group, the Institute says.

The Institute is also sponsoring a traveling exhibit and film for the general public and is raising money to support young scientists and endow an Einstein chair, the sum needed for the latter being on the order of $1 million.

But the most sweeping intellectual effort will be at the Hebrew University in Jerusalem, from 14 to 23 March, where a star-studded cast of internationally known scholars will gather to discuss and evaluate Einstein's relationship to many aspects of the 20th century.

Psychologist Jean Piaget will discuss Einstein's influence on his field; and art expert Meyer Schapiro will talk on relativity in 20th-century art. There will be panels on Einstein in the context of the Germany of his time, and on his impact on Jewish thought and the Jewish world. Daniel Bell will talk on "The Shock of Uncertainty" and Nobel economist Kenneth J. Arrow will talk on "Physics as a Metaphor for Economics." A separate session will be devoted to Einstein and the nuclear age, which presumably will get into his championship of peace. There will be separate sessions on unified field theory, general relativity, theories of gravity, and quantum chromodynamics. So, while it may be hard to get through 1979 without stumbling across some meeting, book, exhibit, or other item or Einstein memorabilia, they all may remind us that in some ways Einstein's legacy *is* the 20th century.

—DEBORAH SHAPLEY

Chinese and Americans Similar in "Temperament"

Edward C. T. Chao, a China-born research geologist in the U.S. Geological Survey's office of energy resources, believes scientific cooperation will flourish between the United States and China, in part because he thinks Americans and Chinese show a marked "similarity of temperament."

Chao, who has made several trips to his native country since relations between the United States and China took a dramatic turn for the better in 1972, presented at the AAAS meeting in Houston a paper on the state of the geosciences in China and the prospects for cooperation between American and Chinese geoscientists. In his visits to Chinese universities and earth sciences institutes, Chao found his Chinese colleagues to be "frank, friendly, and at ease," and willing to discuss their work with him in a remarkably open manner.

Chao says the Chinese scientific delegations that have come to the United States have been similarly impressed by the friendliness and openness with which they have been received here. On the other hand, on visits to the Soviet Union, Chinese scientists have found the Russians "cold or indifferent, and not easy to get to know."

Chao came to the United States as an adult in 1945, at the close of World War II, while his parents remained in China (his father, aged 92, is still alive and Chao visited him last year in Peking). He had received a bachelor of science degree in 1941 from the National Associated University of China in Kunming and worked for the next several years for the Geological Survey of Szechwan Province. He did his graduate work at the University of Chicago and received his Ph.D. in 1948.

According to Chao, Chinese geoscientists are "very dominantly trained on the job," for advanced graduate training is not available at the Chinese universities. Of an estimated 800,000 Chinese engaged in geology-related activities, some 50,000 to 60,000 have had 3 to 5 years of professional training, although "very few" (probably less than 1 percent) have had formal training of the kind represented by

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a Ph.D. Inasmuch as only a few hundred geoscientists could be found in all of China in the 1940's, the earth sciences have truly made a great leap forward since that time.

In Chao's view, Chinese geoscientists are not far behind their colleagues in the western world in fields such as paleontology, stratigraphy, regional geology, and geologic mapping. But, as he sees it, they are some 5 to 15 years behind their American counterparts in "more equipment-oriented disciplines" such as mineralogy, petrology, geochemistry, and geophysics.

With the undertaking of the Chinese People's Republic's new 8-year modernization plan, a rapid expansion of work in geology-related activities is expected. Chao thinks prospects for U.S.-Chinese cooperation and collaboration are especially good in earthquake forecasting, computer applications for evaluation of mineral mineral resources, energy resource studies, and remote sensing.

New CEQ Regulations Reform NEPA Process

Regulations issued by the Council on Environmental Quality (CEQ) late last year on compliance by federal agencies with the National Environmental Policy Act (NEPA) could have a significant effect on the quality of federal decisions affecting the environment and the way they are made.

Since early 1970, when NEPA became law, the environmental impact statement or "EIS" has been one of the staples of the bureaucratic process. These statements, which have seemed to get bulkier and more verbose every time a federal judge has found one to be inadequate, have tended to respect more the letter of the law than its spirit.

What was intended by NEPA was a fundamental reform of decision-making, whereby the EIS and the analysis going into it would inform and help shape the decisions rather than serve merely to justify them. But, often as not, preparation of the EIS has not in fact been an integral part of decision-making, but something added on to keep the agencies out of trouble with the courts.

The CEQ has wanted for years to do something about this perversion of the NEPA process. But until President Carter gave it the authority to issue binding regulations to replace the advisory guidelines put out in the past, the council has not been in a position to take forceful action.

The new regulations, if faithfully observed and enforced, could bring about the long-awaited reform. Besides doing an EIS on any project or permit-granting decision which will significantly affect the environment, an agency must prepare and make public a concise "record of decision." This record will show what the final decision was and how it was made. If the alternative chosen was not the one (or ones) identified as "environmentally preferable," the decision document will explain why the environmental considerations were outweighed by other factors.

The regulations also promise to make impact statements shorter (normally, not over 150 pages), more analytical, and better written. The authors will be named and their qualifications stated. The purpose of this will be to establish greater accountability and to show that the disciplines represented are those needed to address the issues identified in the "scoping" process with which the preparation of every EIS is now supposed to begin.

Moreover, agencies shall "insure the professional integrity" of the impact statements prepared under their auspices. To this end, they "shall make explicit reference by footnote to the scientific and other sources relied upon for [the statements'] conclusions." Uncertainties and data gaps will not be fudged but frankly acknowledged. The aim of all such safeguards written into the regulations is to put to rest the allegations sometimes heard in the past that NEPA statements represent an immense "gray literature" not worthy of being taken seriously.

Charles Warren, the chairman of the CEQ, told *Science* that the regulations have been extremely well received by virtually all who have been involved in the effort to reform the NEPA process, including the federal agencies, the environmental groups, and organizations such as the U.S. Chamber of Commerce. Business and industry groups are said to be pleased because the regulations call for speeding up the whole process of environmental review. The environmentalists are delighted because now there seems a better chance that NEPA will serve to make environmental considerations weigh more heavily in agency decision-making.

Yearly Scientific Freedom Report Proposed by FAS

The AAAS should issue a report each year on the "state of scientific freedom" around the world, according to Jeremy J. Stone, director of the Federation of American Scientists (FAS).

Stone put forward his proposal in a talk given at a symposium sponsored by the AAAS Committee on Scientific Freedom and Responsibility (CSFR) at the association's annual meeting in Houston. Stone said that such a report would represent an important step toward "even-handedness" and "universality of protest" by scientists with respect to denials of scientific freedom and would put scientists in a better position to support colleagues who are in difficulty. "People traveling to countries where freedoms are under attack especially need to know the issues of the day in that country and the way in which their protests can be made effective," Stone observed.

Besides preparing the yearly report, the AAAS could make the report the subject of a special program or event at its annual meeting, Stone suggested. These steps would serve to help sustain and institutionalize the human rights campaign, he added.

According to Rosemary A. Chalk, AAAS staff officer for the CSFR, there is "general support" within the committee for Stone's proposals. But whether the yearly report can be prepared may depend on the availability of foundation funding to support increased activity on the part of the AAAS Clearinghouse on Science and Human Rights. If the funds are soon forthcoming, the first report probably could be prepared by early next year, Chalk told *Science*. But, because the meeting agenda must be set by early this coming May, the first AAAS symposium on such a report probably could not be held until the association's meeting in January 1981.

Luther J. Carter