

swers. In the post-Darwinian world another answer seems fairly clear: man is responsible to himself and for himself. "Himself" here means the whole human species, not only the individual and certainly not just those of a certain color of hair or cast of features.

The fact that man knows that he evolves entails the possibility that he can do something to influence his own biological destiny. The fact that uncontrolled evolution often leads to degeneration and usually to extinction makes it highly advisable that man take a hand in determining his own future evolution. If man proceeds on

the wrong evolutionary assumptions—for instance, on those of Neo-Lamarckism or Michurinism—whatever he does is sure to be wrong. If he proceeds on the right assumptions, what he does may still be wrong, but at least it has a chance of being right.

A world in which man must rely on himself, in which he is not the darling of the gods but only another, albeit extraordinary, aspect of nature, is by no means congenial to the immature or the wishful thinkers. That is plainly a major reason why even now, a hundred years after *The Origin of Species*, most people have not really

entered the world into which Darwin led—alas!—only a minority of us. Life may conceivably be happier for some people in the older worlds of superstition. It is possible that some children are made happy by a belief in Santa Claus, but adults should prefer to live in a world of reality and reason.

Perhaps I should end on that note of mere preference, but it is impossible to do so. It is a characteristic of this world to which Darwin opened the door that unless *most* of us do enter it and live maturely and rationally in it, the future of mankind is dim, indeed—if there is any future.

Science in the News

Environmental Radiation Studies Begun by Public Health Service in New Mexico and Missouri

Two long-range studies of the effects of environmental radiation on the health of large populations were begun in March by the U.S. Public Health Service in cooperation with state and local health agencies. One study is in San Juan County, New Mexico, site of one of the largest uranium-producing areas of the country. Earlier studies showed the radioactivity from radium in the surface water of the Animas River in San Juan County to be higher than the level in most areas in the United States. The other study is in the St. Louis, Missouri, region. Earlier studies showed levels of strontium-90 to be somewhat higher in the St. Louis milkshed than in other areas.

The San Juan project, on which preliminary work has already begun, involves detailed medical and laboratory examinations of approximately 100 families totaling about 400 individuals. Teams of federal and state physicians, nurses, and technicians will obtain complete medical histories of each individual in the cooperating families and will determine a typical week's diet. The

typical diets will be analyzed to determine the amount of radioactivity taken in. Body wastes and breath samples will be collected and analyzed to determine the amount of radioactivity excreted.

Exhaustive study will also be made of vital statistics for the area. Some aspects of the research project will require follow-up interviews, medical examinations, laboratory studies, and statistical analyses over a period of several years.

Arrangements have been completed to develop laboratory facilities and offices for the staff of the project in the San Juan District Health Department Building in Farmington, N.M. Laboratory analyses will be performed there and at the new Public Health Service Laboratory in Las Vegas, Nev.

Howard McMartin of the Public Health Service will be the medical officer in charge of the field activities. He will be assisted by six full-time resident staff members and four part-time staff members. The San Juan County Health Department and the County Medical Society will cooperate in the project.

Describing the new study, Surgeon General Leroy E. Burney of the Public Health Service said that selection of San Juan County for the first of these

radiation studies does not mean that the health of people in this area is known to have been adversely affected by environmental radiation. On the contrary, official health records and observations of local physicians indicate no unusual health problems.

Effective steps have already been taken to reduce the amounts of radioactive waste discharged into the rivers in this area from milling operations, Burney said. However, the extensive data recently obtained on environmental radioactivity in the area presents a good opportunity to determine through further study the amounts of radioactivity that are currently being taken in by people, the amounts retained, the total body burden, and the effects upon their health.

Plans for the St. Louis Project

The St. Louis project will begin with a preliminary survey of dairy farms in the St. Louis milkshed. The survey will consist of investigations of water supplies, sources of animal food, climate, farming practices, animal feeding practices, and other variables that may be associated with different types and levels of radioactivity in milk. The final phase of the milkshed study will consist of field experiments to determine whether, if necessary, the level of radioactivity in milk can be reduced by modifications in dairy-farm practices.

The St. Louis study is an outgrowth of negotiations over the past several months that culminated in agreements among the federal, county, and city health agencies. Under these agreements the federal government will reimburse the St. Louis County Health Department for the cost of personnel, mate-

rials, supplies, and travel directly involved in the first phase of the study. The County Health Department is authorized to enter into agreements with local health departments in adjacent states concerning the collection and delivery of samples of milk, water, cattle feed, and other materials to be analyzed. The federal government will furnish certain necessary equipment to the St. Louis group, and the Public Health Service's Sanitary Engineering Center in Cincinnati, Ohio, will assist in laboratory analysis of samples.

The federal government's share of the costs for the remainder of fiscal year 1960 will amount to \$35,700; its share for fiscal year 1961 will be about \$100,000.

Because of the quantity of general information to be obtained in environmental radiation studies, it is expected that more elaborate investigations will follow the studies in San Juan County and the St. Louis area. Such additional research would be part of the nationwide effort of the Public Health Service and of state health departments to determine the significance of radioactivity in the environment.

Eisenhower and Macmillan Hold Talks on Soviet Call for a Moratorium on Underground Tests

On 19 March the Soviet delegate to the three-nation talks on a nuclear test ban called a special meeting—the 188th since the Geneva talks began. Semyon K. Tsarapkin announced Soviet willingness to accept, with one condition, President Eisenhower's proposal of 11 February, which called for the United States, Great Britain, and the Soviet Union to agree on a controlled ban of high-powered blasts. The condition was that the three nations must also agree on an unpoliced moratorium on small underground explosions.

Tsarapkin explained that during the moratorium there would be further research on methods of detecting smaller explosions, but he did not fix the duration of the moratorium and he did not discuss what would happen at its conclusion. Observers in this country expect that the Russians have in mind a moratorium of 4 or 5 years, possibly longer.

The Soviets have been insisting, until their most recent proposal, that a treaty must ban all nuclear explosions:

in the atmosphere, in outer space, under ground, and under water. President Eisenhower proposed that underground blasts of less than 19 kilotons be excluded from the treaty until measures for policing them could be agreed upon.

Initial Reaction

The Soviet suggestion has been the subject of lively debate in Washington. According to reports, Secretary of State Christian A. Herter, Secretary of Defense Thomas S. Gates, Jr., John A. McCone, chairman of the Atomic Energy Commission, Allen W. Dulles, director of the Central Intelligence Agency, and George B. Kistiakowsky, the President's scientific adviser, found it impossible at a meeting on 22 March to reach an agreement on the United States response. The participants agreed that the Soviet proposal was not acceptable as it now stood, but Herter suggested a counteroffer, while Gates and McCone favored standing by the earlier American proposal for a limited ban.

Also on 22 March, the chairman of the Joint Congressional Atomic Energy Committee, Senator Clinton P. Anderson, Democrat of New Mexico, called the Soviet offer "phony." He claimed that the proposed moratorium on small underground explosions, if accepted, would achieve the Soviet goal of a total ban without proper controls. Anderson's remarks are significant because any test ban treaty must eventually go to the Senate, and the joint atomic energy committee would play an important part in the debate on ratification.

As the week progressed, however, the Administration seemed to be moving towards some kind of counteroffer. At his news conference on 25 March, Secretary of State Herter said that the Soviet plan was neither "completely unacceptable" nor "completely acceptable." He indicated that the President might view favorably a "relatively brief" testing moratorium on small underground blasts. Further, Herter pointed out that the latest Soviet proposal recognized for the first time Western reservations about the efficacy of present detection methods in distinguishing between small underground explosions and earthquakes. On 26 March Senator Anderson said that perhaps the United States should chance a 1-year moratorium on the smaller underground tests.

Eisenhower and Macmillan Meet

On the same day that Anderson gave his new appraisal Prime Minister Harold Macmillan of Great Britain and his staff flew to Washington to confer with President Eisenhower about the Western reply to the Soviet offer. The general impression is that the British are willing to assume more risks than the United States to get a test ban treaty. They feel that the Soviet offer represents a step that is worth exploring. Their fear, at least at the beginning of the week when Macmillan's trip was first announced, was that the United States favored a flat rejection of the new Soviet proposal.

The small party Macmillan brought with him from London included Con D. W. O'Neill, Foreign Office Under Secretary in charge of disarmament; Sir Norman Brook, Secretary to the Cabinet; and Sir William Penney, a member of the British Atomic Energy Authority.

The Prime Minister met with Herter on the morning of 28 March for preliminary discussions, and in the afternoon went with President Eisenhower to Camp David, the presidential retreat in the Catocin Mountains of Maryland, 65 miles from Washington. Vice President Nixon and Secretary Herter joined in the talks with Macmillan.

A number of other points besides the question of a moratorium must be nailed down before the United States, Britain, and the Soviet Union can sign a treaty. The question of the nationality of the head of the commission responsible for policing tests must be settled, as must the composition of the staff at the control posts. And there is still the matter of how many on-site inspections are to be permitted.

Food Additives Law Reported To Be Curtailing Research

Research on additives for animal feeds may be the first casualty of the 1958 Food Additives Amendment, says the 21 March issue of *Chemical and Engineering News*. (The amendment to the Federal Food, Drug and Cosmetic Act was passed in 1958 but became fully effective only in March.) Drug and chemical manufacturers surveyed by the American Chemical Society weekly say that application of the amendment to drugs for use in feeds