

of rural hospitals has been created. Dental clinics have been scattered around the country. And doctors have been sent out to the front lines to serve all elements of the population.

The government has ended physician maldistribution largely by compulsion. Newly graduated doctors are required to serve 3 years wherever the government sends them—usually 2 years in a rural area and possibly the third at a regional hospital. Some elect to stay.

The government also uses carrot-and-stick incentives to persuade specialists and even medical school professors to practice community medicine on the front lines in neighborhood clinics. It is not just “barefoot doctors” who are disdained by the Cubans; they also reject the notion of “family physicians” to handle direct contact with people in the community. Instead, they prefer sending specialists—such as pediatricians, internists, obstetrician-gynecologists, and dentists—to practice their craft in the community. The goal, according to Cosme Ordonez, director of Havana’s leading polyclinic, is to have specialists who are prepared to work at all levels of the health system—community clinics,

hospitals, and centers for advanced treatment. And what if a specialist, say a professor at a medical school, declines to leave his prestigious post at a teaching hospital? Well, then, he doesn’t have to. But he will hear mutterings about lack of revolutionary fervor, promotions may be slow in coming, and opportunities to buy scarce consumer goods, such as a car, will never arrive.

The key health facility increasingly is the polyclinic, which typically serves an area of 25,000 to 30,000 persons. The staff includes doctors, dentists, nurses, sanitarians, social psychologists, public health specialists, and a variety of auxiliary and technical personnel. They see patients at the clinic and make forays into the community for home visits and inspections as well. The best clinics have become teaching institutions, analogous to a teaching hospital. In some, patients and residents have a voice in operations. Ordonez, for example, took corrective action at his clinic after receiving complaints from a citizens panel that areas were unclean, phone service was poor, turns at the x-ray machine were not awarded fairly, and employees were allowing their friends to jump all sorts of

lines. But Ordonez refused to start clinic hours at 8 a.m. as requested because he needed the hour between 8 and 9 for medical lectures.

Judged by one yardstick—consumer satisfaction—the Cuban system rates high. My own haphazard survey elicited little but favorable comments. People tend to go to the doctor for the slightest ailment because service is free; few seem to mind the inevitable lines.

Psychological counseling was in surprising demand. I met one man who saw a psychiatrist weekly for 18 months to talk over problems resulting from a divorce. A 17-year-old boy saw a psychiatrist to recover from the termination of a love affair. And a homosexual university student went weekly for 3 months after the break-up of his affair. His “friendly and sweet” psychiatrist assured him he was “normal” and should live his own way without trying to change. Cuba seems far removed from those Communist states which use psychiatry as an instrument of political repression.

—PHILIP M. BOFFEY

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Cloning Caper Makes It to the Halls of Congress

In an interview in the June issue of *Penthouse*, David Rorvik, the author who has so cunningly put cloning on our minds, was asked how he would feel about a congressional investigation of his claim that a human being has been cloned and, now 18 months old, is living in California with Max, his millionaire parent-twin who loves him. “I’d welcome it,” Rorvik answered. But when a chance to testify before a congressional subcommittee materialized late last month, he refused to take it. The hearing was held nevertheless.

On Wednesday, 31 May, acting against the advice of some of his staff and many members of the scientific community, Representative Paul G. Rogers (D-Fla.), chairman of the House subcommittee on health and the environment, held a hearing on “the area of science most properly termed ‘cell biology,’ ” that really was an inquiry into Rorvik’s book, *In His Image, The Clon-*

ing of a Man. Although Rogers had summoned a stellar cast of scientists “to comment definitively on the state of the art with respect to the possibility of cloning a human being,” it was clear that he regretted Rorvik’s absence.

“It is unfortunate that the author of the book which began this controversy . . . is not with us today,” Rogers said in a prepared opening statement. The subcommittee had been in touch with Rorvik ever since he emerged from seclusion when his book was published the day before April Fool’s Day. At one point, he told Rogers’ staff that he would appear on 21 April but canceled because of “personal health problems,” and agreed to the 31 May date. But in midmonth, he wired Rogers that he could not come then either because he was extending a promotional tour in Europe. A subsequent telegram urging him to reconsider went unanswered. So, when the day came, there was Rogers, his hearing

room filled with reporters and television cameramen, telling everyone how Rorvik had snubbed the subcommittee. In the very act of holding the hearing, Rogers gave Rorvik yet another round of free publicity, while laying himself open to speculation that, in view of his upcoming race for reelection, he may also have been motivated by the desire for a bit of publicity of his own.

On the other hand Rogers, who long has been a friend of science, did seem motivated by a desire to discredit Rorvik and to head off at the pass so-called public interest groups like the People’s Business Commission that would like to see Congress at least consider setting limits to certain types of basic research. “I think it should be understood that cloning has a legitimate use, one which legitimate men and women of science are and have been employing in an effort to improve the general health and welfare of mankind,” Rogers observed.

Testifying first were four scientists whose work in cell biology, including cloning and related techniques for studying cellular development, puts them at the top of their fields: Robert Briggs, Indiana University; Clement Markert, Yale University; Robert McKinnell, University of Minnesota; and Beatrice Mintz, Institute for Cancer Research,

Philadelphia. Among them they gave the subcommittee a quick academic course on the state of the cloning art and concluded that there is no possibility that a human clone has been born. Mintz characterized *In His Image* as a "dull work of fiction" that is "full of scientific boners and errors."

Reading *In His Image* as if it were a mystery story has become a kind of sport for some scientists searching for clues of Rorvik's incompetence. Chief among those clues, with respect to the basic science in the book, is a colossal boo-boo about red blood cells. The scientist-hero of the story is a man named "Darwin," who manages in only 18 months to resolve all of the enormous technical and biological barriers to human cloning, including the problem of selecting a suitable type of adult donor cell from which to extract the nucleus that will "fertilize" an enucleated ovum. Darwin, obviously a man who will try anything to accomplish the feat, was, Rorvik tells us, "quite open about working with erythrocytes (red blood cells) . . ." as a possible source of a donor nucleus. What he fails to mention is that erythrocytes have no nucleus.

When it comes to clinical medicine, Darwin is not much brighter, according to Andre E. Hellegers, professor of obstetrics and gynecology and director of the Kennedy Institute of Ethics at Georgetown University. Hellegers told the subcommittee that Darwin is so weak on fetal physiology that he does not know the difference between events that occur during the first and third trimesters of pregnancy and seems unable to correctly distinguish a zygote from an embryo from a fetus—which any obstetrician could do.

Hellegers finds that Rorvik and his characters are not much better informed when it comes to biomedical ethics, which Rorvik discusses in sanctimonious tones at great length. Thus Hellegers testified that "... one can conclude that this is not a book about the cloning of the son of Max, but rather about the clowning of David Rorvik, a functional illiterate in ethics and medicine. . . . he overreaches and places in the mouths of his experts such inanities as destroy their credibility as scientific characters."

By now, most informed persons accept the judgment that *In His Image* is fiction, not fact, and that Rorvik wrote it either as a political treatise (he sees cloning as a metaphor for "the new genetic research") or for the money (he is quoted as saying he expects to make a million dollars). By insisting that his claim is true, Rorvik has capitalized on our instinct for the bizarre—when we think

about cloning our mental image is not of a single offspring but of a thousand copies all marching down the street at once—in a way he never could have done if he admitted his baby clone is just a metaphor.

What remains a puzzle is the J. B. Lippincott Company, which published the book after other reputable publishers turned it down. "Without [Lippincott's] complicity or incompetence, this fraud could not have been perpetrated," Helle-

Endangered Species Law Reviewed

The Endangered Species Act of 1973, perhaps best known for halting the completion of the Tennessee Valley Authority's Tellico Dam in order to save the habitat of a fishy denizen of the Little Tennessee River called the snail darter, is now up for congressional reauthorization. Environmentalists have been in a mild sweat over the past year worrying about whether Congress will let the act stand unmolested. Currently they are trying to mobilize public opinion against a loophole recently approved by the Senate Environment and Public Works Committee.

Introduced by subcommittee chairman John C. Culver (D-Iowa), the proposed amendment would add "flexibility" to the law by setting up a Cabinet-level committee that could grant a public works project an exemption from the law in cases where negotiations among relevant agencies have reached a deadlock. The way the pertinent part of the law, section 7, is set up, government agencies are not allowed to fund projects that would result in the destruction of an endangered species or habitat. Construction agencies are expected to consult with the Department of the Interior's Fish and Wildlife Service (which contains the Office of Endangered Species). If a collision between ecology and progress appears imminent, the interested parties are supposed to get together to figure out how to modify the project so everyone's values can be saved. Usually this procedure works; in a few instances, notably Tellico, the matter has been taken to court.

Culver's proposed Cabinet-based committee would swing into action in cases where negotiations with the Fish and Wildlife Service have resulted in a stalemate. It would have seven members: the secretaries of Interior, Agriculture, the Army, and the Smithsonian Institution; the head of the Environmental Protection Agency, the chairman of the Council on Environmental Quality, and the governor of the state in question. After holding formal hearings, the committee could, if no fewer than five members so decided, grant the project an exemption from section 7. According to the amendment, the committee would have to decide that there was "no reasonable and prudent alternative to the action," that it is of "national or regional significance," and that "the benefits of the action clearly outweigh the benefits of alternative courses of action consistent with conserving the species or its critical habitat and that such action is in the public interest." Boiled down, this means that an exemption would be all right if a project is deemed of greater worth to society than a species.

Culver, generally thought of as a friend of the environment, has portrayed the amendment as a way to head off far more drastic changes that some members of Congress would like to see in the act. There has been talk, for example, of inserting a grandfather clause that would exempt all projects from the act that were authorized prior to its passage—which would effectively suspend section 7 for some years.

Environmentalists, however, claim they do not see any evidence of a congressional backlash against the act and they therefore oppose any amendments at all. "Culver says he's trying to save the act," says Lewis Regenstein of the Fund for Animals. "I don't know who he's trying to save it from." Some environmentalists are ambivalent about the amendment—it could, after all, take the heat off members of Congress under political pressure to gut the law. But they fear the committee's existence could reduce the effectiveness of the consultation process—that is, an agency could take a hard line on its project and force the issue to be thrown to the committee. And, although the committee would be slanted toward environmental preservation with members from the present Administration, there is no telling what types might be on it in the future.—C.H.

gers noted at the conclusion of his testimony. Indeed, it is the role of the publisher that seems to concern Rogers as much as the Rorvik claim itself.

After the hearing, Rogers wrote to the Association of American Publishers to say, "I am somewhat surprised that the book publishing industry does not have some canon of ethics or at least guidelines. I am very concerned over the lack of responsibility on the part of the J. B.

Lippincott Company . . . in publishing the Rorvik book as non-fiction." (Lippincott officials have refused to deal directly with questions about their reasons for publishing the book—now on the best-seller lists—but it is known that the company is in such a poor financial state that its merger negotiations with Harper & Row are in peril.

There is, apparently, nothing illegal about what Rorvik and Lippincott have

done, although some groups, as well as individual scientists named in the book, have wondered about a suit for false advertising. As Rogers wrote to the publishers association, "There are good reasons why books are categorized as fiction or non-fiction. If the public is to continue to have confidence in these designations, then the industry must insure that they indeed have meaning."

—BARBARA J. CULLITON

President and Science Adviser Push for a Foundation for Development

The White House is backing creation of a Foundation for International Technological Cooperation designed to assist less developed countries (LDC's) to make more effective use of science and technology. President Carter launched the idea publicly in a speech to the Venezuelan Congress on 29 March. Carter's science adviser, Frank Press, who heads the Office of Science and Technology Policy (OSTP), was charged with working out basic details of form and function for the foundation and for doing the initial missionary work on its behalf.

After weighing the pros and cons of an immediate push to establish the foundation, the Administration has decided to wait and include it in a package of proposals it plans to put forward next year for the restructuring of the whole foreign assistance program. However, a start will be made in the interim by setting up a planning office to develop the foundation concept further. This planning office would report to Agency for International Development (AID) Administrator John J. Gilligan, but in his capacity as principal adviser to the President on development policy rather than AID chief.

When the idea of the foundation was broached on Capitol Hill some weeks back, the Administration appeared to have its work cut out for it. Congress is in the midst of its consideration of foreign aid legislation and, since the foundation idea was not included in Administration proposals on the subject, the proponents of the foundation were starting from scratch. Furthermore, the initial reaction to the foundation idea was colored by suspicion that the new entity might prove more effective in funneling R & D money to American universities than in

actually fostering development in LDC's. Efforts by OSTP representatives to explain the idea more fully seem to be earning it a friendlier reception.

Proponents of the foundation reject any implication of a Treasury raid. They argue that the whole point of the foundation is to enable LDC's to identify their own problems and build the scientific and technological capacity to solve them. To do this, advocates would like to see a public foundation operate in the style of the Rockefeller Foundation and with the status of the National Science Foundation. The Rockefeller Foundation has traditionally operated its overseas programs with a relatively small, highly professional headquarters staff in the United States. The emphasis has always been on building up indigenous staff in the country where a project is being carried out and on arranging for American experts to help the process by working abroad. NSF is seen as a desirable model for the new foundation since it has been able to support research and education on a long-term basis without the operational responsibilities which tend to distort the R & D efforts of mission-oriented federal agencies.

The weakness of the U.S. foreign aid program in introducing science and technology into LDC's is widely acknowledged. The original "know-how, show-how" methods which worked reasonably well in the technical assistance programs for industrialized countries have been much less satisfactory when applied to the LDC's.

The idea of a foundation to assist development is not new. The direct antecedent of the Administration proposal is a Brookings Institution study,

An Assessment of Development Assistance Strategies, commissioned by Secretary of State Cyrus R. Vance early in the new Administration and completed last fall. The Brookings study expounds a theory and strategy of development which over the past several years has won wide acceptance among those concerned with development issues in universities, private foundations, and advisory organizations such as the National Academy of Sciences. The Brookings study expresses a view of science and technology in the development process summed up in the following excerpt:

In the final analysis, development is an indigenous phenomenon. Aid givers can help to introduce new technologies, develop institutions, train people and make capital available. But local social and political factors, the culture, and the leadership must be receptive to change. The policies which emerge are the key.

Especially in dealing with the least developed countries, the United States has been finding it difficult to adapt existing AID machinery to achieve the goals of the successful aid giver. The U.S. foreign assistance program has gone through several major phases since it was established three decades ago. The first object was to rebuild the industry and economic infrastructure of the Western European countries and Japan. Then in the 1950's, prompted by the Cold War, the United States concentrated on providing economic and military aid to friendly countries on the periphery of the Sino-Soviet bloc and to "uncommitted" nations, particularly those which were strategically located. In the 1960's, emphasis shifted to development programs in Latin America and Southeast Asia, primarily because of the Castro revolution and growing U.S. involvement in Vietnam.

U.S. disengagement from Vietnam and the accompanying rise of public skepticism about American involvements overseas was a factor in forcing a reappraisal of foreign assistance policy. Inflation and increasing federal budget