

A delayed birth for an independent NIH

Dr. Dale W. Jenkins, chief scientist in the National Aeronautics and Space Administration's bioscience office, calls the Russian attitude "a cavalier approach." Sure, he says, they have a lot of data—"they got there fustest with the mostest; but much of this data is uninterpretable or ambiguous."

Nevertheless, the Russians did point out the possible influence of vibration, and they did it with *E. coli*, the same bacteria as that of Drs. Grosch and Von Borstel. Several of the Biosatellite experimenters agree. "For example," Dr. Von Borstel says, "vibration could dislocate a cell component, and the gravity-free state could keep the component from settling back to an earth-bound position in the cell."

The possibility of such an effect due to weightlessness was encountered by Dr. Luolin Browning of Rice University, who sent almost 1,000 adult vinegar gnats up in the Biosatellite. Of some 20,000 offspring produced by the gnats since the flight, only 14 showed chromosome changes due to radiation, but this is more than four times the percentage that appeared in the control group on the ground. "In this case," Dr. Browning says, "where the chromosome had been fragmented by prior radiation, weightlessness may have interfered with recombination."

Other Biosatellite passengers also showed effects apparently due to radiation and weightlessness acting together, but as yet they have offered few if any clues toward an explanation. A miniature field of blue wildflowers, for example, showed twice as much damage ("cell death, abortion of pollen and loss of reproductive integrity") from radiation as did a similarly irradiated group on earth.

In general, the greatest effects of weightlessness were found in young and actively growing cells and tissues, and rapidly dividing cells with high metabolic activity, rather than in less active or more mature organisms. But the question persists: what is the connection with radiation? Theories range all the way up to the bizarre chance that gravity may be "some kind of radiation shield."

It is possible that the mystery may not be solved even by the four elaborate missions remaining in the Biosatellite program. Next year two flights will carry macaque monkeys into orbit for 30 days each, and 1970 and 1971 are each scheduled for a three-week mission carrying rats, plants and even human liver cells. Though some of the passengers will be instrumented for zero-gravity radiation studies, none of the flights will carry on-board radiation sources. Thus only the low cosmic radiation of space will be available in the quest for an answer.

The reorganization of the health part of the Department of Health, Education and Welfare has been 16 months in gestation. Now, on the eve of delivery, there appears to be a blockage. The reorganization plan will not emerge for some time; when it does it might find itself in unfavorable surroundings.

Reorganization generally has been the byword in HEW since former Secretary Abraham Ribicoff left in 1962. Critics of the department have said it is too loose-knit, composed of too many maverick agencies acting without regard to central control. Ribicoff's parting, frustrated proposal was that the giant bureaucracy be dismembered.

Few wanted to go that far, but the atmosphere of change grew. This atmosphere gave Dr. James A. Shannon, director of the National Institutes of Health, the opportunity to push for independence of the Public Health Service, an NIH goal of some long standing. The Institutes are the Service's prime research arm, supporting some 60 percent of the nation's biomedical research. Independence has been as vigorously fought by Surgeon General William H. Stewart, who sees loss of the Institutes as a severe diminution of his jurisdiction.

The Public Health Service had its origin in 1798 as the Marine Hospital Service. NIH began almost a century later as a bacteriological laboratory in the Marine Hospital in New York City, and has been part of PHS since. Shannon, with his eye on basic research, feels that NIH should be separate from the service-oriented PHS. Forces in the other direction, notably President Johnson himself, would like to see more service, more applications, more payoff resulting from the research dollar.

Shannon has built NIH to its present eminence by sheer charisma. The fear at higher levels has been that his retirement would leave an administrative vacuum, and Stewart has moved his headquarters to NIH to prepare to fill it. Institute scientists fear a new director more devoted to bureaucracy than to science, and a consequent downgrading of the Institutes; thus the pressure for independence.

The reorganization now on ice would grant many of Shannon's wishes. About a year and a half ago Dr. John J. Corson, associated in one way or another with HEW since its birth and now a private consultant, was engaged by HEW Secretary John W. Gardner to help in drawing up the reorganization.

The plan calls for separation of PHS and NIH. The Institutes, the Bureau of Health Manpower, and the Na-

tional Library of Medicine would be drawn together under a Research and Education Administration (the name is open to discussion still). The National Institute of Mental Health, severed recently from NIH, would be one of the more service-connected health functions of PHS gathered into a Health Services Administration. A Consumer Protection Administration would house the Food and Drug Administration and various environmental health control programs.

These three administrations would be directly under Stewart, presently chief of PHS. Stewart in turn would become deputy to Dr. Philip Lee, since 1965 HEW's assistant secretary for health and scientific affairs. Lee, subject to Congressional approval, would be named Undersecretary for Health.

While Shannon missed his objective of making NIH entirely independent of the Surgeon General, it is known that Shannon and Lee see more eye-to-eye than either does with Stewart.

One effect of the shakeup would be to separate the President's heart-stroke-cancer program from NIH. This service program was taken on by the NIH scientists after the President's demand two years ago that research start producing some tangible results. The program was seen as a way to provide widely scattered, top-flight medical centers where the latest fruits of basic research can be translated into clinical applications. Secretary Gardner believes that under the reorganization this swift translation will be accomplished by a tough, central administrator such as Lee, who would keep one eye on research and the other on service at all times.

The heralded reorganization hit a snag, however: Shortly after announcing the plan Gardner announced his resignation. As might be expected, such sweeping changes appear to have been held in abeyance, awaiting the arrival of the new secretary. However, if there is any substance to the suggestion that Gardner and the President did not part amicably, the picture may be complicated. The President, if he was in disagreement with Gardner, would be unlikely to replace him with a man holding the same views, and thus the new secretary may have his own ideas about the reorganization plan.

Also casting a shadow over the plan is the mandatory September retirement of Shannon, one of its strongest champions. There is talk of appealing to Congress for an extension of Shannon's tenure. If such an appeal is not made, or is unsuccessful, Shannon's influence over the plan may be weakened by his lack of involvement in its results.