

might as well be realized that L. H. Fountain is now a permanent fixture in the politics of medical research and that no good can come of maintaining only distant relations with him.

Fountain has made it clear that his interest in NIH is neither short-range nor casual. "My feeling is," he said, "that the committee will have to keep surveillance over NIH indefinitely, particularly because of the wide range of discretion that they have in using funds."

At the moment, no date has been set for further hearings, but material is being collected, some of it not particularly flattering to NIH (disappointed grant applicants are the source of some of it), and before the session is out it is probable that Congressman Fountain and NIH will meet again in the hearing room. In the meantime, would it be too impertinent to suggest that since Fountain and Shannon are in the same business—promoting the public welfare—they might find something useful to discuss over lunch?—D. S. GREENBERG

Space Controversy: Senate Committee To Hear Scientists on Moon Program

Controversy over the high priority assigned to the lunar landing program is beginning to bubble through the scientific community and will be the subject of a Senate hearing on 10 and 11 June. Meanwhile, the latest entry in the conflict is a public statement by eight prominent scientists in defense of the space effort. Perhaps the most noteworthy thing about the statement is that, while pro-space sentiments abound, the *New York Times* felt it was sufficiently significant at this time to be given front-page attention.

The hearing, called by the Aeronautical and Space Sciences Committee, is scheduled to receive testimony from Philip H. Abelson, Lloyd V. Berkner, Lee Du Bridge, H. H. Hess, Polykarp Kusch, C. S. Pittendrigh, Simon Ramo, Martin Schwarzschild, Frederick Seitz, and Harold C. Urey.

The statement of the eight scientists who endorsed the Apollo project reads as follows.

"Some members of the scientific community have criticized the Apollo project, which is aimed at the achievement of the manned lunar landing in this decade. The critics assert that the scientific benefits of space research can be gained by heavier reliance on robot

instruments, with the manned flight program carried out at a slower and less expensive pace.

"This criticism raises important issues regarding the motives which underlie the United States space effort. In 1961 the Congress responded to the call by President Kennedy for a vigorous space program, including a commitment to the manned lunar landing within the decade, by voting overwhelmingly in favor of the funds requested. The support was reaffirmed in 1962.

"Was this support tendered for scientific reasons primarily, or was it motivated by a broader concern with national interests and national goals?

"We believe that the support given to the enlarged space program by the people and the Congress was not based primarily on scientific grounds. We believe it was based on a conviction that this program will, for many reasons, make an important contribution to the future welfare and security of the United States.

"On this basis we take issue with those of our scientific colleagues who criticize the Apollo program by contending that it does not have scientific value. We regard the criticism as invalid for two reasons.

"First, man-in-space makes an essential contribution to the scientific objectives of lunar exploration. The exploration of space will pose an immense variety of challenges, unexpected opportunities and unforeseen obstacles. In the early stages of experimentation, automatic apparatus is effective. In later stages, when important questions have to be answered by difficult experiments, very complicated instruments must be developed to attempt a crude imitation of human judgment and flexibility. Robot instruments will always play an important role in the exploration program, but situations are bound to arise in which the human performance is indispensable for achievement of the scientific objectives. A sound approach requires both the development of automatic instrumentation and a vigorous program to achieve an early capability for manned exploration.

"Second, science plays an important role in lunar exploration but is not the sole objective of that project. The momentum and significance of the lunar program are derived from its place in long range United States plans for exploration of the solar system. The heart of those plans is man-in-space. Although it is the responsibility of the scientist to see that research is a strong

element within the framework of the program, nevertheless, the impetus of the program is not derived from scientific research alone. Therefore, the pace of the program cannot be set only by the steady flow of scientific developments. It is essential that it be influenced also by the urgencies of the response to the national challenge.

"In making these remarks we wish to stress that the space effort is a national program which warrants the interest, criticism and active participation of the entire scientific community."

The statement was signed by Maurice L. Ewing, Robert Jastrow, Joshua Lederberg, Willard F. Libby, Gordon J. F. MacDonald, Lyman Spitzer, Harold C. Urey, and James A. Van Allen.—D.S.G.

Civil Defense: New Program in Race with Growing Apathy and Apathy Is Pulling Ahead

Cracks in the wavering foundation of the Administration's civil defense policy opened wider last week, when the abolition of civil defense in the state of Oregon coincided with the inauspicious opening of a broad civil defense review by the House Armed Services Committee. The modest program of surveying, marking, and stocking areas in existing buildings that offer some hope of fallout protection has aided states and local communities in achieving some protection for some of their citizens for some of the time, but it has never been popular, either in or out of Congress. Views of fallout protection have always shifted between the opinion that it costs relatively little and may possibly be of some use, and the opinion that given the strategic uncertainties, shelters for fallout alone are a cruel joke. If last week's events are a sound indicator, the latter view is gaining adherents, leaving some doubt that the Administration's program will survive intact.

What Oregon has done is to respond belatedly to an invitation issued by President Kennedy in his first major statement on civil defense, in May 1961. "Every American citizen and his community," Kennedy said, "must decide for themselves whether this form of survival insurance [fallout shelters] justifies the expenditure of time, effort and money. For myself, I am convinced that it does." Oregon, however, is apparently convinced that it does not. Two weeks ago the City Council of

Portland voted 4 to 1 to end the city's participation in the federal civil defense program; three counties had earlier done the same thing. The state civil defense agency was abolished last week, when the legislature refused to appropriate the \$410,000 requested by the Governor for continuing the 20-man operation. Instead, the legislature voted \$50,000 for a three-man team to coordinate existing disaster-relief agencies.

Portland has gotten most of the attention so far. Even though the option to withdraw was always there, the city's action has shocked Washington—in part because the matter-of-fact attitude of its people, and its officials, has reinforced repressed doubts that Washington and the rest of the country are speaking the same language. The Administration has never gone all out for its shelter program but is distressed to hear it given a blanket rejection as “ineffectual,” and to have its shelter provisions (biscuits, water jugs, and medical supplies) described as “a bunch of empty water cans,” as they were by Portland City Commissioner Stanley Earl. There is little doubt that the Council's action is supported by the people, who twice in the past few years have rejected modest levies for civil defense programs that would have cost only 15 cents annually per person.

Oregon's Doubts

The doubts that nagged Portland are no different from the doubts that have made the shelter program a halting one ever since it got off—or under—the ground, during the Berlin crisis in the summer of 1961. The native skepticism about civil defense that Oregonians share with the rest of the country, however, was reinforced there by the paralysis of civil defense during a violent windstorm that struck the state last October. As Oregon's Senator Wayne Morse explained to the Senate: “The disruption was just a taste of what civil defense would be confronted with in a nuclear attack. Yet the setup on which Oregon and the Nation have spent a good deal of money was completely immobile. Not even its communications system, which is alleged to be a major function of civil defense, was brought into operation.” In one of the horrendous operations of chance that must haunt all government officials, the director of radio communications of the state's civil defense agency had left for a hunting trip shortly before the storm broke; the state was never alerted to the danger. With this

experience behind them, Oregonians seem to feel—rightly or not—that they are just as well off without formal arrangements for civil defense.

Oregon's action marks the second serious blow in a short time to the Administration's program; the first came in April when the House Appropriations Committee vetoed a \$61.9 million supplemental appropriation needed for finishing up the marking and stocking of 70 million shelter spaces across the country this year (*Science*, 19 April). It made life particularly trying for Assistant Secretary of Defense Stuart Pittman, who appeared before the House Armed Services Committee on behalf of an expanded civil defense program the same day the Portland story hit the newspapers.

Pittman, an able Washington attorney who has given civil defense the only effective leadership it has ever had, expressed his dismay in a telegram to Portland's City Council and to Oregon's congressional delegation that reopened the familiar arguments. “Our conclusion is simply that a nuclear war, while not likely, is a possibility over the years ahead which we cannot ignore,” Pittman said. “If it should occur, the chances of Portland being passed up by nuclear explosions but subjected to lethal radiation would be very real. If this should happen, the failure to organize the effective use of existing shelter space . . . would mean that a large part of the Portland population would be overexposed to radiation with tragic consequences which could have been avoided at negligible cost and considerable application to a difficult management task.” Pittman halted delivery on federal shelter supplies en route to Portland “pending clarification of Portland's capacity and intention to use [them],” and he offered to meet with local officials to discuss the decision.

Pittman's only reward for his prompt effort to save Portland's shelters was a rebuke from Oregon's Senator Morse. (The city itself has rejected the suggestion for a meeting.) In a speech on the Senate floor, Morse called Pittman's arguments “unconvincing.” Portland's action, Morse said, is indicative of the “increasing suspicion in our country that much of the civil defense program is unrealistic, wasteful, and tends to create a false sense of security in case of nuclear war.” Morse was backed by Senator Stephen Young (D.-Ohio), who hailed the withdrawal of Portland as “the first of many withdrawals as State

and local officials come to learn that civil defense has been a huge boondoggle,” and who accused Pittman, a Presidential appointee, of being “presumptuous” in trying to interfere with the decision of Portland's elected officials. Pittman could drum up no support, either, from the rest of Oregon's six-man congressional delegation, four of whom were reported to be definitely pleased with the decision.

Hearings Open

Meanwhile, on the other side of the Capitol, the legislative subcommittee of the House Armed Services Committee opened rather extraordinary hearings on the Administration's proposed new shelter program with a 50-page attack on civil defense prepared by the subcommittee's counsel, Philip Kelleher. The basic question before the committee, Kelleher suggested, is “whether the prosecution of the currently planned fallout shelter program, or any extension or expansion of it, would work a cruel and dangerous deception on the American people, or . . . on the other hand, constitute the salvation of this country both for itself and as the leader of the free world?” Kelleher stressed that his purpose was only to raise questions that should be answered before the committee committed the nation to an expanded program, but he did his work thoroughly. It is certain that every argument against the shelter program—from its technical feasibility to the question of whether, granting feasibility, the program might still be morally damaging or politically or strategically unwise—will remain in the committee's mind as it reviews its troops in the next 6 weeks. Kelleher made no secret of his view that “any attempt to concentrate on . . . shelter directed only to fallout could well lead to erroneous conclusions, for blast and fallout in a nuclear attack are inextricably entwined.”

The outlook was thus not rosy when Pittman took the stand to defend the Administration's expanded fallout shelter program, and Pittman acknowledged it when he told reporters after the session that “the mood of Congress is the same as the country. They would rather think of other things.”

Administration's Bill

The new program (H.R. 3516) needs the Committee's authorization because it would mark civil defense's first venture into new construction. Of the \$300 million civil defense request for fiscal

1964, \$175 million would assist communities and nonprofit institutions in modifying their existing capacities to create more shelter space. With only minor construction—thickening masonry, blocking off ground-area windows, providing additional ventilation—approximately 10 million more spaces could be added next year. The government would pay up to \$25 per shelter space added under this incentive system, and would also pay about 60 percent of the cost of adding shelter facilities to buildings under construction.

Although Pittman described the program as one that, while providing federal leadership, “defers for one year the decisions on a full shelter program,” in fact it is not quite that, and the Armed Services Committee knows it. As Kelleher pointed out, “approval of the bill or any variation of it would very probably constitute the taking of an irretraceable step.” The program has in fact been designed to slide easily into the larger one of providing shelter for everyone—at an estimated cost to the government of \$2.1 billion over the next 5 years. Altogether, the Administration’s proposal, if followed through, would produce an estimated 240 million fallout shelter spaces by 1968: 95 million from the new development-incentive program and another 5 million through the bill’s provision for adding shelters to federal civilian and military constructions; 90 million from the current survey program; and 50 million unsubsidized privately built shelters. The current proposal is thus a classic instance of the camel’s-nose theory of politics.

Other Alternatives

The Administration had considered asking for the whole camel this year before settling for the nose. It also considered other alternatives. One was to end the civil defense program altogether, except for such scattered activities as existed in the past; another was to continue the program at its present level, marking new spaces as they became available and spending about \$100 million a year in support of civil defense activities. “This is where we stand today,” Pittman told the committee, but he rejected the alternative as a “half-shelter” system that distributes protection inequitably throughout the population and leads to “confusion, anxiety and lack of confidence in local civil defense plans.” The other alternatives were the more costly ones of combining full fallout shelter protection

with, in one case, some blast protection in likely target areas and, in the other, an antiballistic missile system.

The crude terms to which the government is reduced in calculating alternatives probably adds little to the warmth of congressional response. Cost-benefit analysis may be useful for selecting hardware, but its application appears callous when the items weighed are human lives, on the one hand, and money on the other. Nonetheless, the figures Pittman gave the committee are interesting, and go a long way to explain why the Administration has settled on fallout, rather than blast, protection. Full fallout protection—the ultimate object of H.R. 3516—would cost \$12 per person and an estimated \$45 per life saved. Blast protection would cost \$90 per person and \$240 per life saved. For each dollar expended, Pittman explained, “the potential in lives saved would be lower than for fallout protection.” The difference over the next 5 to 7 years would be about \$18 billion.

If the Armed Services Committee rejects the Administration’s bill—and the chances are high that it will—the reason will be not only that the costs are high but that the benefits seem so uncertain. Congress may agree instead to continue civil defense spending at the present levels, but its apathy—combined with the initiatives in Oregon—suggest that civil defense will enter into a slow decline.—ELINOR LANGER

Announcements

The first patients were admitted last week to a new **psychiatric treatment research** center in New York City. The facility, located in Kings County Hospital, is a cooperative effort of the State University of New York’s Downstate Medical Center and the city-owned hospital. It is supported by a U.S. Public Health Service grant and has a professional staff of 25. Harley Shands, a psychiatry professor at the Downstate Medical Center, is its director.

The center is designed to study advantages and limitations of processes now used in treating severely ill psychiatric patients, and to develop new techniques. A maximum of 20 persons will be treated at a time; these will be drawn from patients at Kings County Hospital who volunteer for the project and whose cases suit the center’s research needs.

Scientists in the News

Thomas F. Frawley, professor of medicine and chairman of the subdepartment of endocrinology and metabolism at Union University’s Albany Medical College, Albany, N.Y., has been named professor and director of the department of internal medicine at the St. Louis University medical school.

The University of Michigan has named **John E. Powers** professor of chemical engineering, effective with the fall semester. He is now professor and chairman of the chemical engineering department at the University of Oklahoma.

Peter J. Morgane has been named chairman of the neurology division at the Communication Research Institute, Miami, Florida.

Charles F. Jones, general manager of the central region, Humble Oil and Refining Co., has been elected president of Esso Research and Engineering Co.

Andreas Acrivos, formerly associate professor of chemical engineering at the University of California, has become professor of chemical engineering, Stanford University.

Carl F. Schmidt, research director of the Aviation Medical Acceleration Laboratory, U.S. Naval Air Development Center, Johnsville, Pa., has received the Schmiedeberg-Plakette of the German Pharmacological Society. He was cited for “contributions to . . . pharmacology, and in recognition of his spirit of magnanimity and great humanity.”

At the Academy of Natural Sciences, Philadelphia, **Harold J. Grant, Jr.**, has been appointed chairman and associate curator of the entomology department, and **Alfred E. Schuyler** has become chairman of the botany department.

Joseph C. J. Finney, formerly associate professor of psychology at the University of Hawaii, has been appointed associate professor in the psychiatry department of the University of Kentucky Medical Center.

Erratum: in the report “Carbon-isotope composition and the origin of calcareous coal balls,” by J. N. Weber and M. L. Keith [*Science* **138**, 900 (1962)], the heading of column 3, Table 1, should have been δO^{18} rather than δO^{17} . The units in columns 2 and 3 should have been per millage rather than percentage.