

Now it's Nixon's turn

The new team will manage more, innovate less, "building on what has gone before"

When Richard Milhous Nixon became the 37th President of the United States last week he made it clear that, at least in the foreseeable future, his will be a managerial Administration rather than an innovative one.

Part of the new management will involve sweeping reorganizations of Federal agencies and their relationships with such non-Federal institutions as state governments, universities and industry. Reorganized programs and agencies will be ones in which the trend is toward heavier reliance on research and technology.

- A Department of Food and Fiber, built around the core of the existing Department of Agriculture, is a likelihood, under Secretary Clifford M. Hardin, the first cabinet member to be a member of the National Science Board as well.

- A Department of Science, assembling those science agencies, like the National Science Foundation, not in direct service to some key agency mission, is strongly under consideration.



Nixon: "We are approaching the limits of what Government alone can do." UPI

Presidential Science Adviser Lee A. DuBridge has not yet committed himself to the idea, but some strong pressure for it is building among members of the scientific establishment, concerned that basic science, at least, suffers from lack of a friend in high-enough places.

- A Department of Human Resources, assembling the fragments of social programs now scattered through housing and transportation departments and the many-faceted Department of Health, Education and Welfare, is another likelihood.

- A vastly expanded and reorganized oceanographic program will also be sought.

At the same time, the nation's space program, awaiting the procedural changes a new administrator is likely to make, and the Department of Defense, again committed to setting the Government pace of growth in research and technology, have apparently already assumed the roles they will play in the next few years.

With reorganization and consolidation as the watchwords, there will be few new starts in the first few years of the Nixon Administration. As the President himself said, "Our task is to build on what has gone before." And HEW Secretary Robert H. Finch, a close friend and adviser of the President, has interpreted this to mean implementation, rather than innovation.

One area President Nixon did single out for specific mention in a generally non-specific inaugural address was protection of the environment.

This will probably involve another reorganization proposal, probably to move air pollution control programs over the route followed three years ago by water pollution: out of HEW and into the Department of Interior. This will consolidate pollution control under Secretary Walter J. Hickel, who will carry the ball for the President in efforts to replace a Government focus with a voluntary industry focus backed by tax incentives for pollution control.

In the critical areas:

Defense



The key to understanding changes in R&D direction is that they are determined by political developments and military threats, actual and imminent. The political aspect is in flux. As Secretary of Defense Melvin R. Laird has pointed out, the United States and the Soviet Union are leaving an era of confrontation and "moving into an era of negotiation."

This aspect alone could affect the direction of R&D; an agreement between the United States and the Soviet Union to limit the arms race would force a change in missile emphasis on the part of the United States. The U.S.S.R. has invited Mr. Nixon to open talks; the President is holding off.

"The program for the next four years," says Dr. John S. Foster, who will stay on as director of defense research and engineering, "will depend on the nature of the threat and the major changes Mr. Nixon and Laird choose to apply to the program."

The uncertainty factor, however, accounts for the increase in the amount of money to be spent on R&D in 1970. The pace will be accelerated by an imminent decision, reversing a cost-conscious policy of former Defense Secretary Robert S. McNamara, to let promising but competing systems proceed through parallel development phases before choosing between them. McNamara forced less expensive decisions in the earlier research stages, turning some projects off before their potential was fully evaluated, in Laird's view.

Because of the susceptibility to

change, Dr. Foster refuses to predict specific directions for R&D in the next four years. He has indicated, however, that he would like to see some consolidation of the various defense laboratories and a continuation of the role of the universities in the R&D program, a role he defined as threefold:

- Training: 20 percent of engineers in national security programs come directly from universities.

- Research: Project Themis contracts support defense-oriented research in universities.

- Manpower: Universities make individuals available with unique experience and ability.

Secretary Laird is a known advocate of building a new manned bomber and beefing up missile technology. One change he has proposed would be in the role of the systems analysts from one of policy making to one of advising.

One area certain of emphasis is in sensor devices to detect and track enemy activity. This is a direct outgrowth of the Vietnam War, which has had a tremendous effect on R&D. Because of the war, reports Leonard Sullivan Jr., head of a special Vietnam office, three revolutionary concepts are coming into focus:

- Provision of complete battlefield surveillance 24 hours a day by instrumentation.

- Development of weapons to destroy small, fleeting targets.

- Elimination of the difference between night and day fighting.

About 10 percent of the defense R&D budget, or \$800 million, went for equipment improvement in Vietnam last year. Future expenditures will be determined by how the war and Paris peace talks go.

Health, Education and Welfare



When President Richard M. Nixon offered his closest adviser and confidant any cabinet post he wanted, Robert Hutchinson Finch opted for the Department of Health, Education and Welfare.

A lawyer and former lieutenant governor of California, 43-year-old Finch sees his sprawling department as an agent for tackling social problems—particularly those of the urban poor. “I regard myself as a pragmatist,” he says. “Our job is to rationalize and implement the legislation now on the books, improve the delivery system and avoid proliferation and duplication.”

In matters of welfare and other

Federal aid to the poor, observers expect Finch to take a less permissive stance than his predecessor, Wilbur Cohen, who masterminded Medicare and has recently been pushing for a loosening of welfare red tape.

Finch's avowed first interest is welfare. On the health side, by his own admission, he has a lot to learn and intends to listen to his aides.

The medical profession seems clearly pleased with Finch's ascendancy. Calling him “genuinely intellectual” and “eminently fair,” they anticipate a good working relationship. “With Wilbur Cohen and the rest,” one American Medical Association spokesman says, “the decisions were made before we were heard.”

Whatever course the generally popular, affable new Secretary chooses, he is likely to get his way because of his close relation with the President. Their friendship, which dates back 20 years, may make him the most influential Secretary HEW has ever had.

Space

Though not headed by a cabinet-rank secretary, the U.S. space program commands the second-largest segment of the R&D budget, exceeded only by that of the Defense Department. The awesome industrial complex generated by Government-sponsored aerospace projects, together with the national prestige riding on the moon program, place space-related decisions among the most significant of those to be made by the new Administration.

Between the National Aeronautics and Space Administration and the other agencies involved or becoming involved in space, these decisions may produce a changing complexion over the whole field.

New Air Force Secretary Dr. Robert C. Seamans Jr., as a former deputy administrator of the space agency, is likely to work diligently for a more active military role in the space program. This could lead to a more diversified effort than the present one, which largely centers around the not-overfinanced Manned Orbiting Laboratory.

Also, President Nixon's task force on space, headed by Dr. Charles H. Townes of the University of California at Berkeley, has recommended that military and civilian manned space programs both be continued.

At NASA, the future looks as though manned space flights over the next decade or so will become centered around increasingly elaborate operations in earth orbit, while unmanned probes will be used for exploration of most of the rest of the solar system. There will be some lunar exploration

following the initial Apollo landing, but that could be completed within the new Administration's first term in office.

Interior



Alaskan Gov. Walter J. Hickel faced a strong challenge to his confirmation by the Senate as the man to head what many choose to think of as the conservation

department of the Government. Well-circulated comments about not believing in “conservation for conservation's sake” raised howls everywhere.

The fuss was a prelude to discussion of the Governor's real qualifications for the job. During hearings on his nomination questions were raised about Hickel's possible involvement with the oil industry and his feelings about the development of publicly owned lands. He had applied for a string of oil leases in the past, and last week disclosed two small ones he promised to dispose of.

Most basic is the fact that Hickel is from Alaska where the problem is underdevelopment, yet will determine department policies for the lower 48 states and Hawaii where the problem is loss of environmental quality. It has been said that Hickel holds too narrow a view to deal with national problems of pollution and degradation of surroundings.

Hickel made his views on resources quite clear just after being named. He is not in favor of putting federally owned lands “under lock and key” but instead favors multiple use—under which industrial resources might be developed where it is possible to do so without serious loss of recreational and esthetic resources.

He also opts for various pollution control standards in various areas: “If we set standards too high we might even hinder industrial development. . . in some areas you may even have to use a subsidy to solve it.”

He originally promised a direct solution to what is known in Alaska as Udall's Freeze. Two years ago the Johnson Secretary of Interior put a halt to the process by which the state of Alaska is acquiring title to federally owned lands (the Federal Government still owns nearly all the land in Alaska). Udall said the state cannot continue to acquire land until promises made to Indians by Congress are fulfilled. Hickel says the freeze has hamstrung oil prospecting and the state's industrial development. He says the natives

can be protected without a freeze.

"What Udall can do by executive order, I can undo," was one fast Hickel comment on this matter.

But later, under hammering in the Senate Interior Committee prior to his confirmation—and virtually as a price of confirmation—Hickel reversed himself and committed himself to the freeze. The question, among others, is likely to come up again.

Agriculture



Dr. Clifford M. Hardin, secretary-designate of the Department of Agriculture, has a reputation for quiet competence and toughness almost as conspicuous as is

Gov. Hickel's renowned directness.

Dr. Hardin, chancellor of the University of Nebraska and a long-time member of the National Science Board, is every bit an academician who is coming into a hot spot focused on by consumers on one hand and producers on the other. Yet he is reputed to have a good grasp of farm problems, partly gleaned from a farm upbringing.

That he is tough and competent is evidenced by his performance as chancellor. When he came to the university in 1954 it had a student body only a little over 7,000 and was fast losing its faculty to better-paying jobs at other universities. Currently Nebraska's enrollment is nearing 30,000, the school is expanding its programs, and the faculty is among the best paid in the nation.

Under his administration the university has operated agricultural training programs in South America, Japan and Okinawa. Most recently it has sent a team to Colombia.

Dr. Hardin sees agriculture continuing its movement to fewer, larger farms with increasing automation. He has predicted that by the end of the next decade farmers will be using computers to plan their production.

Science policy



The Johnson Administration left a route marker in its budget requests for fiscal 1970 for the Nixon Administration to follow.

These point to increased support for research into social problems and more or less holding the line on support for

basic research in the hard sciences, with some shift in implementation to grants to institutions rather than individual researchers.

Institutions are geographically widespread—no self-respecting state is without a university—while deserving individuals tend to cluster in a very few places. Congress finds this porkbarrel aspect of science increasingly attractive; President Nixon and Dr. DuBridge will find it as hard to resist as did their predecessors.

Although social engineering research is hardly likely to stop under the new Administration, Mr. Nixon's attitudes and his choices so far give the impression that the hard scientists are likely to feel less out in the cold than they do now. Defense and related pace-maker budgets have kept many hard scientists in laboratory smocks over the past 20 years.

Ironically Mr. Nixon's campaign decisions on defense research probably accounted for a good deal of the opposition to his candidacy among members of the scientific establishment. These people belong to the so-called Los Alamos generation and have painful emotional scars about research related to weapons.

But the people who will be doing the research these days are more likely to belong to a younger generation that has fewer scars. To them the bomb is not something they were responsible for but something they grew up with. They are likely to take the money and go on working, as indeed they have been doing.

Oceanography



The nation's oceanographers have long regarded the sea as a potential source of food, fuel and minerals, and President Nixon shares this view.

In a letter to Dr. Edward Wenk Jr., director of the National Council on Marine Resources and Engineering Development—a letter he didn't have to write—Mr. Nixon has expressed his desire to see the nation move ahead in utilizing the untapped wealth of the oceans. In effect, the President is holding on to the council, and Wenk's first job will be to steer through the Congress a vastly expanded national oceanographic program.

The program was outlined in a report by the Commission on Marine Science and Engineering Resources, headed by Dr. Julius A. Stratton, chairman of the Ford Foundation. It recommends an independent Federal agency called the

National Oceanographic and Atmospheric Agency (SN: 1/18, p. 62). The agency would unify the activities of 24 bureaus and 11 Federal agencies now conducting the nation's work in oceanography and related areas, such as weather monitoring and prediction.

The commission report also urges more basic research, to enable understanding of the oceans, predicting their behavior, exploiting the sea and assuring national security.

One task emphasized by the commission is developing technology to enable man to work as deep as 20,000 feet. Undersea operations are presently hampered by inadequacies in compact power sources, electrical systems and special equipment for vehicles and habitats. Instrumentation is graded "inefficient, unreliable and inadequate."

Closer inshore, the Stratton Report considers the problem of pollution of the nation's coastal waters and advocates research into the cause of the pollution and developing methods to handle waste collection and treatment. It singles out the Great Lakes as an area urgently in need of help. The rehabilitation of the domestic fishing industry is called for as well as research and development in aquatic farms.

All of these projects and many others envisioned will require billions of dollars. The 1970 budget allots \$528 million for all marine science activities, \$36 million of the sum going for military needs. The NOAA alone would require an annual operating budget of \$2 billion by 1980. A total cost of \$8 billion for the first 10 years of oceanographic effort is forecast, a sum approximating the present annual total for research and development in national defense. ◇

PULSARS

Optical signals at last

The pulsar in the Crab nebula, NP 0532, has been playing the part of a bellwether lately. At 33 milliseconds it is the quickest of the pulsars, and was the first to show that its period is slowing down (SN: 12/7, p. 574). It was also used by Prof. Thomas Gold of Cornell University as an example of what his rotating neutron star model for pulsars is able to predict (SN: 1/4, p. 9).

Now the useful NP 0532 appears also to be the first to show pulsations in visible light.

Drs. William J. Cocke, Michael J. Disney and Donald J. Taylor of the University of Arizona's Steward Observatory report that on the night of Jan. 15-16 they observed pulsations in visible light from a source they believe coincident with the pulsar. The optical