

Policy Shifts Mark Science's Year

by Warren Kornberg

Scientists began to worry in 1966 about the future federal support of basic science under the Great Society. They had reason to.



The worry intensified late in the year when President Lyndon B. Johnson called his health and biosciences administrators into an extraordinary meeting at the White House, and demanded "payoffs" from "all this money" being pumped into basic research. And as the year closes, it still looks like, in all fields, support of technology is up; concern for science is down.

Health, Education and Welfare Secretary John W. Gardner, under whose aegis come the National Institutes of Health—supporter of more than 40 percent of the biomedical research in the nation—tried to allay the fears, while other presidential aides were saying that only medical research is involved. Gardner called together several hundred of the researchers who sit on the NIH grant review panels, deciding whose research shall and whose shall not be supported, and assured them that there would be no cutback in support of basic research. Basic research and "payoffs," by now being called support of "health services," don't come out of the same pot, he insisted.

But he was unable to guarantee any level of research growth for the foreseeable future. Instead, he said continuing the recent levels of growth is unthinkable.

And an on-going National Science Foundation study is indicating that the cost of doing scientific research in recent years is growing faster than federal funding, creating an actual cutback.

NIH Director James A. Shannon denied at the time that there was any crisis in the offing for researchers. They can always shift into the applied fields, where support will accelerate, he suggested.

For example, his institutes expect to be shifting a part of their emphasis into such areas of pharmacology, interdisciplinary "basic research" aimed at the problems of preventive dentistry, and environmental health.

As a White House science aide close to President Johnson put it, "We're entering a new era."

The "old era," which may be seen as having ended this year, is the era that started with World War II and picked up momentum after Sputnik when public policy—either national security or, as in the case of the space race, national prestige—dictated a vast acceleration in the support of science and technology. It was aimed not only at developing the technology needed to accomplish the goals, but at providing a level of support for basic and university-based science that could keep the manpower pipeline filled for the future.

Now the technology needing support is not only medical services as opposed to biological research, but is in such down-to-earth applied fields as pollution control, urban problems, water resources and population problems where Congress is beginning to call the tune.

A report called "Hindsight," prepared for the Depart-

ment of Defense and taking root in the Department of Commerce as well, may help shape the future federal role. Hindsight concluded that development of systems, which is what most government agencies buy from science and technology, depends on science done decades ago; the "payoff" from basic science may be insufficient to warrant much support in its own right.

And the extension through the government of "cost-effectiveness" guidelines, first developed by Defense Secretary Robert S. McNamara, has federal administrators reviewing their programs, searching for the bang they're getting for their bucks, to see what costs they can justify by application and what may have to be cut.

The year has also seen the reestablishment of the National Bureau of Standards as the government's "industrial laboratory."

There are some who bewail the loss of NBS as one of the world's best pure physics laboratories.

But, in the words of a high official of the Department of Commerce this year, "Those people used to think NBS was just a place they could run around doing whatever they damned well please. It's about time they learned what they're there for."

During its history, NBS has had its fingers burned several times when it seemed to be encroaching on "the free play of the marketplace."

So NBS' director, Dr. Allen V. Astin will be cautious to avoid inviting the wrath of powerful groups by attempting to oversee industrial research, even when his help is called for.

But he will be setting standards of industrial research for government agencies which call upon him for guidance. And where they are big buyers—of computers, automobiles or buildings—NBS' science will be having a major effect on industrial science and technology.

On top of this, emerging this year was a greater feeling of confidence among Congressional committees in both Houses that they can understand and ought to control more of the direction of federal science policy.

They are coming up with such ideas as a joint Congressional conference on science and technology, a review panel to insure foreknowledge of the impact of scientific developments, efforts to strengthen the legislative hand on the scientific tiller and an "inventory" of scientific resources which can be mobilized against any problem that policy says is in the national interest.

Congress also wants the federal largesse spread to more parts of the country than just the areas which now get more than their share of both development contracts and university research support.

Behind this policy-cum-politics pulling and hauling, research and development continue. Whether federal contract and grant support to universities and industry peaks or plateaus, the best basic work will probably continue to be supported—out of private if not public resources. Federal policy, after all, is not science.

In an array of scientific fields, ranging from astrophysics to zoology, scientists, doctors and engineers this year produced these highlights as reported by the staff of SCIENCE NEWS.