

Cardiovascular Disease: Rx for Research

A chronic problem for the managers of biomedical research is how to divide available resources between lone researchers and large-scale team efforts which require much bigger budgets and stronger central control.

Last week at the American Heart Association meeting in Florida, Irvine H. Page, an experienced hand at both heart research and research organization, expressed misgivings about the effectiveness of research in his own field and had some hard things to say about both research by individuals under the project-grant system and "targeted" or "mission-oriented" research.

Page's credentials as a critic are convincing. A pioneer in research on hypertension, Page from 1945 to his retirement in 1966 was director of research at the Cleveland Clinic. He was active in the successful effort after World War II to convert the Heart Association from essentially a professional body to a broadly based national voluntary organization which has raised funds for research on cardiac disease and helped to create a favorable public attitude toward biomedical research. Page also served on the council of the National Heart Institute in its crucial formative years after World War II. Now 67, Page is still active at the Cleveland Clinic and is editor of *Modern Medicine*.

Much of what Page had to say last week was aimed at investigators in his own main field of interest, atherosclerosis, the main type of arteriosclerosis, characterized by narrowing of the arteries and an acknowledged major element in heart attacks and strokes. Declaring his unhappiness with "the effectiveness of our research endeavor in atherogenesis," Page said, "I suspect the usual turn of events is occurring; the plumber surgeons are cutting in because we neither know how to prevent nor how to cure atherosclerosis." Emphasizing that "it is vastly more important, if not glamorous, to prevent atherosclerosis . . . than repair the damage after it is done," Page urged researchers to "quit wasting so much research effort on superficial study."

Surveying the field of atherosclerosis research, he was critical of tendencies toward "fragmentation" in research and toward "scientific opportunism." Here are a few of his more telling shots.

- "Why drop your current experiment to pile on the bandwagon of some new observation? It is good strategy to stay with a problem while others are in a headlong competitive race which has already been won by the originator."

- "Does the problem merely fit the instruments and experience of the laboratory and the investigator? Far too many tailor their work to the kinds of equipment they possess."

- "I believe you should feel at home with a problem. It should fit your capacities and not require the services of a whole team unless it is team research you are undertaking."

Moving on to questions of how to do research, Page noted that "many business men and legislators have become impatient with our research efforts. They believe we should use the methods of what Washington likes to call 'targeted or mission-oriented research.'"

Despite warnings against "the specter of empire building," Page is no unqualified foe of organized research and, in fact, played a central role in a recently completed national diet-heart study. He told *Science* he was "strongly for both" project research and large-scale planned research, but he thinks a hasty expansion now of big programs in the field of atherosclerosis would be "costly and unproductive."

One very knowledgeable federal government veteran said Page's "primary complaint is justified; people are doing too many things without direct relevance to arteriosclerosis and hypertension." But federal officials find themselves in a dilemma. NIH has been under growing pressure to see research results translated into clinical applications. To many this means the mobilization of money and manpower in concerted programs to exploit promising leads.

At the same time, the volume of good ideas being produced by researchers has risen, particularly since molecular biologists and others engaged in basic research moved seriously into biomedical fields.

NIH has expanded its support of field studies and other "special" programs in recent years. "Collaborative programs" are now allocated \$17 million of the \$160-million-plus annual budget of the Heart Institute.

The balance of Heart Institute funds still flows into research through the archetypal project grant system. In part this is because, as one official put it, "as yet, the scientists of the country have refused to sink their individually sponsored efforts" into big collaborative programs. Furthermore, NIH has stuck to the project-grant system in the conviction that it is likeliest to produce the new ideas leading to decisive advances.

The squeeze on federal research funds has struck the Heart Institute at a time when a need was being felt for an expansion of "organized research." A major specific question facing the Institute now, for example, is whether to channel resources into a large and expensive long-term diet study, involving as many as 50,000 people, when the program would inevitably compete for funds for support of individuals working on "less differentiated" projects. Decisions on such questions will shape the administration of NIH director Robert Q. Marston, successor to James A. Shannon.

Page's subject, of course, was not the federal dilemma. He was essentially appealing to the individual researcher to take an "overview," to consult his conscience rather than his career prospects.

Page's critique of research reflects nostalgia for what he describes as "the days of my youth, when research was very thinly populated, and even more sparsely paid. In general you had to be a kook or a near genius to elect to spend your life in it."

The world has changed, of course. Biomedical researchers need no longer take a tacit vow of poverty. And, even in view of his reputation for outspokenness, Page's candor in expressing criticism usually confined to the committee room or the company of colleagues indicates it is no longer necessary to observe a vow of silence either.—JOHN WALSH