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The Gold in Useless Knowledge

Discussion of the value of basic research is as pertinent today as it was when Faraday, queried about the usefulness of his discovery of electric induction, countered with the question, "Of what use is a newborn baby?" The recent American Foundation study entitled *Medical Research* gives eloquent testimony to support the view that the solution of our major medical problems depends on basic research. Most such research in medicine is done in universities, the fountainhead of new knowledge. Yet the stark fact remains that basic medical research is not receiving proper support.

To give some idea of the state of medical research support in the United States today, I should like to cite a few figures. We are spending more than \$50 billion a year for defense. For research and development, we are spending about \$4 billion, of which only about 5 percent, or \$200 million, goes for medical research in its broadest terms. But only about \$80 million of this goes to support medical research in schools and universities, institutions in which most of the basic research is done, and this is supported about equally by the Federal Government and by universities and foundations.

If the federal contribution is, say, \$50 million a year, this would amount to only about 0.1 percent of what we spend for defense against an external enemy. We ought to consider whether we can afford to spend so little for defense against disease. Perhaps an incident from recent history will serve to illustrate the danger of inadequate research.

Many will remember the influenza epidemic in 1918, in which an estimated 150 million people had influenza and some 15 million died. The United States alone lost, in one 4-month period at the height of the epidemic, 400,000 people—a death toll about equal to our total deaths on the battlefield in the two world wars.

In 1918 the cause of influenza was unknown. It was not until 1931 that a lone investigator, Richard E. Shope, who was interested in an obscure disease of swine, discovered the first influenza virus and, thus, started the chain of events that today makes it possible to forestall another such catastrophe.

I do not argue for a decrease in defense spending but only for an increase in support of medical research. Nor, if I had a magic wand, would I increase support tenfold overnight, for the research people and the facilities needed for such an increase do not exist and would take several years to bring into being. What we need is to accept some desirable goal for basic medical research, say 1 percent of our national budget, and then to make a gradual and assured move toward that goal. "Contract" and "project" research will not fulfill our needs for basic research. There must be a marked increase in support with no strings attached for our "idea" men and women—that is, support for the person with ideas and not support for a project. No large numbers of people are involved; there are perhaps no more than 2000 senior investigators in basic medical research in this country. Surely 10 or 20 percent of these with ideas or of junior associates with ideas could be given the kind of support for research that is needed. Unrestricted support for our men and women with ideas would scarcely be noticeable in our economy and would bring incalculable benefits in health to millions who would otherwise suffer from disease.—WENDELL M. STANLEY, *University of California, Berkeley*.

This editorial is based on a speech given at a meeting of the American Foundation in New York, 15 Nov. 1955.