has been a member of the university staff continuously since 1901, and has been chairman of the department of mathematics since 1926.

DR. SAMUEL SOSKIN, director of metabolic and endocrine research at the Michael Reese Hospital, Chicago, has been appointed medical director. This inaugurates a new program of medical teaching at that institution. It will be developed first on an intramural basis, and will then gradually merge into postgraduate teaching available to the medical profession at large. It is hoped that the program will be sufficiently advanced by the end of the war to help to meet the demand for refresher courses for physicians now in the armed forces. The hospital is able to draw upon its Research Institute and extensive full-time staff for teachers of the basic sciences to supplement its clinical teaching staff. Dr. Soskin, who will organize the teaching faculty of which he will be dean, originally came to the hospital from the University of Toronto, where he worked with the late Professor J. J. R. Macleod. He is also professorial lecturer in physiology at the University of Chicago.

DR. STERLING BRACKETT, assistant professor of public health in the School of Public Health of the University of North Carolina, has been appointed malariologist in the Stamford Research Laboratories of the American Cyanamid Company.

DR. ARNOLD D. WELCH, who since June, 1940, has been in charge of the pharmacological research laboratories of the Medical-Research Division of Sharp and Dohme, has been made director of research for this division. He will continue to direct the general activities of the pharmacological and nutritional laboratories. Dr. Karl H. Beyer, who recently joined the Medical-Research Division, has been appointed assistant director of pharmacological research. Dr. Beyer will have the cooperation and assistance of Dr. Paul A. Mattis, who is actively supervising the histological and toxicological work of the department and who will also serve as assistant department manager.

ALFRED C. WEED, curator of fishes at Field Museum of Natural History, Chicago, has retired.

DR. T. C. SCHNEIRLA, associate curator of animal behavior at the American Museum of Natural History, has been appointed editor for the Section of Animal Behavior of *Biological Abstracts*.

PROFESSOR ARTHUR M. CHICKERING, Albion College, expects to spend the greater part of the coming summer in the Museum of Comparative Zoology of Harvard College engaged in the study of Panamanian spiders.

DR. HERBERT M. COBE, of the department of bacteriology of Temple University Professional Schools, Philadelphia, has been granted leave of absence for the duration of the war to accept a commission as First Lieutenant in the Army of the United States. He is stationed at Fort Devens, Mass.

THE James Arthur Lecture of the American Museum of Natural History on the evolution of the human brain was given on May 27 by Dr. James W. Papez, professor of anatomy at Cornell University. He spoke on "Ancient Landmarks of the Human Brain and Their Origin."

SIR LAWRENCE BRAGG, Cavendish professor of experimental physics in the University of Cambridge, left late in April for Sweden, where he planned to give a series of scientific and popular lectures under the auspices of the British Council. He will give popular lectures on "Seeing Ever Smaller Worlds" and on "Metals," and scientific lectures on "X-Ray Optics," on "The Structure of a Protein" and on "The Strength of Metals."

THE Southeastern Section of the Botanical Society of America, acting through its committee on activities, has cancelled the 1943 summer meeting, normally held in June. The membership voted unanimously, by mail, to retain all present officers until a meeting is next held. These officers are: Dr. O. E. White, University of Virginia, *Chairman;* Dr. K. W. Hunt, College of Charleston, *Secretary;* Dr. S. L. Meyer, University of Tennessee, Dr. F. A. Wolf, Duke University, and Dr. G. T. Weber, University of Florida, *Committee on Activities.*

DISCUSSION

IS WAR THE PROGENY OF SCIENCE, OR SCIENCE THE PROGENY OF WAR, OR ARE BOTH OF THESE SUPPOSITIONS FUNDAMENTALLY FALSE?

MANY answers are given as to what has brought about the present crisis. Most of them are wrong. Some say pressure of population! Wrong! To see how wrong it is only necessary to call attention to the fact that all the aggressors are trying to stimulate the birthrate in their countries. Others say needed access to raw materials! Wrong! for there has never been any lack of such access for non-aggressor nations.

Denmark had the highest standard of living in Europe and she had almost no raw materials but had no trouble in getting what she needed through the normal processes of trade. Some say that science must be held responsible, since it has made possible the development of the instruments of destruction and created the conditions that bring on these clashes. They say that man's moral development has not kept pace with his scientific progress. Therefore call a halt to science till morals catch up.

That is how one group talks. Are they right or are they wrong? If they are right, then all institutions of higher learning in the world are wrong in the whole of their objectives, for they consider it their main job to increase and disseminate knowledge, which is only another word for science. They look upon this as mankind's greatest need.

But there is another group that turns the foregoing statement around and asserts, not that science is responsible for war, but that war is responsible for science—that science is the progeny of war, that war has stimulated all the great inventions. Now, it has in fact stimulated some of them, but a reputable writer has recently gone so far as to make the statement that in view of the conditions brought about by modern science a man's life was safer a few hundred years ago than it is to-day.

That is an interesting and an arresting statement which one might possibly think was true if he had somehow been kept in ignorance of the *statistical fact* that the average span of life for all of us to-day is about sixty years, whereas only 150 years ago it was about thirty years.

Again, I have seen it asserted that war begat science because it was the discovery of gunpowder that first taught man that he could get enormous power out of chemical combinations. That assertion also might make a convert of one who was completely ignorant of the following whole series of historic facts: (1) That gunpowder was invented and first used only for peaceful purposes about 850 A.D. by the most peaceful people on earth; (2) that there is no record that it was in any way applied to warfare until 600 years at least after its invention; (3) that the wide application of chemical forces to the relief of human muscles for doing the world's work is a phenomenon of essentially the past 150 years; (4) that that application first began on a serious scale about 1800 A.D., 1,000 years after the invention of gunpowder, with the appearance of Watt's steam engine; (5) that the industrial revolution neither did nor could come about until after the discovery and development in the two centuries between 1600 A.D. and 1800 A.D. of the principles of Galilean-Newtonian mechanics, of which it was itself an outgrowth; and these had nothing whatever to do with war; (6) that I estimate that more than 99 per cent. of the world's development and application of science up to 1914 was actually made, not in the midst of wars, but in the hundred years from 1814 to 1914—in that very century that was so unusually free from major wars that it is generally known as the century of the "Pax Britannica"—a peace made possible because of the beneficent policing of the world by the British fleet; (7) that there is not the slightest *historic* warrant, taking history as a whole, for calling science and technology the offspring of war; (8) that the opposite assertion is a perfect illustration of the fundamental error of getting the cart exactly before the horse.

ROBERT A. MILLIKAN

THE "SCIENCE MOBILIZATION BILL"

THE introduction of this bill, S.702,[1] is a significant event. Senator Kilgore is to be congratulated for appreciating the practical values of science and for being a pioneer in a highly important field of political action. However, only a narrow body of opinion was influential in the preparation of the bill. It professes to advance "the full development and application of the Nation's scientific and technical resources." These have been created by the joint efforts of research workers, educators, inventors, engineers, manufacturers, mechanics, etc. Senator Kilgore and Representative Wright Patman, sponsor of the same bill in the House, H.R. 2100, have courteously circularized members of some of these groups requesting comments.

Opinion of experts is strongly against the bill. Professor William S. Carpenter, chairman of the department of politics in Princeton University, may be quoted: "It is a bill which should be opposed by every scientist and every student of government." Leading objections may be summarized under three heads:

(1) In times past, existing Federal agencies which are carrying on excellent scientific and technical work have been hampered by insufficient funds. Congress ought to consider giving more adequate support to them before undertaking the commitments of S.702—which are in some measure competitive with existing bureaus.

(2) It is the free man's tradition that every proposed law should be examined as to its potential misuse. Clauses in the bill can establish a new "pork barrel" for the benefit of localities rather than of science, subject to arbitrary Executive disposition. Where a Congressman could have no more than a river dredged or a post office built, the proposed new Office of Scientific and Technical Mobilization

[1] SCIENCE, May 7, 1943, pp. 407–412.