H. Stewart, of the Ohio State University, jointly received the third cash award of $250 and a scholarship of like amount presented in their names to the department of civil engineering. In all seventy-seven awards amounting to $5,000 were made to students representing thirty-three colleges and universities.

DURING the year ended September 30, 1942, according to its annual report, the National Foundation for Infantile Paralysis received an income of $1,896,257, of which amount $1,827,345 represented net proceeds from celebrations of the President's birthday, the remaining $68,912 representing miscellaneous donations and refunds and cancellation of grants and appropriations authorized in prior years. In the same year the foundation made grants and appropriations amounting to $1,142,009, all of which, with the exception of $278,706, had been actually disbursed prior to November 30, 1942. Of the net proceeds of the 1942 Birthday Celebration, $2,099,617 was given for direct relief in communities throughout the United States.

DR. C. J. ELMORE, professor of biology at William Jewell College, Liberty, Mo., who died on May 19, 1940, bequeathed his diatom collection to the New York Botanical Garden.

THE University of Chicago has instituted the Lichtstern research assistantship in anthropology. It carries a stipend of $1,000 for nine months' work and will be filled each year in which a suitable candidate appears on nomination made by the chairman of the department of anthropology. The incumbent will devote most of his time during the year to performance of a piece of library, laboratory or field research, although he may also take one course or seminar each quarter. Applicants for the position will be asked to submit their research plans. The assistantship is supported by the Lichtstern Fund and commemorates Adolph Lichtstern, who established the fund by bequest.

FORMATION of a committee of Chicago chemists and other scientific men which hopes to uncover new sources of industrial fats and greases to salvage for war needs is announced by officials of the War Production Board, Chicago. Working with the War Production Board and the Chicago section of the American Chemical Society, the committee will promote improved and new methods of fat collecting among industries such as dairies, meat packing and margarine processing. The national goal for 1943 has been set at 500,000,000 pounds and chemists are being asked to help in the drive, which has its headquarters in Chicago.

DISCUSSION

THE MOBILIZATION OF SCIENCE

IT is to be sincerely hoped that every one concerned with the welfare of the future of science gives careful reading to the so-called "Mobilization of Science" bill presented to the Senate (S. 702) on February 11 by Senator Kilgore of West Virginia and reprinted in SCIENCE in the issue of May 7. The bill has been referred to the Committee on Military Affairs.

Every scientist professionally or otherwise engaged in scientific research, whether allied to public, private or industrial institutions or independently pursuing a field of scientific investigation, and every benefactor and patron of science must needs be affected by this bill.

The bill includes the establishment of an Office of Scientific and Technical Mobilization which shall be administered by an administrator to be appointed by the President of the United States and to serve at his pleasure, to authorize such administrator to formulate and promote scientific projects and programs, to assess scientific and technical developments with relation to the national welfare, to coordinate scientific facilities and personnel, to make and amend appropriate rules and regulations which shall have the force of law, to appropriate the sum of $200,000,000 to carry out the provisions of this proposed act and to provide maximum penalties of $5,000 and/or one year's imprisonment for certain infringements of the regulations that such an administrator may set up.

It is of course gratifying to learn in the declaration of policy of this bill that "the Congress hereby recognizes that the full development and application of the Nation's scientific and technical resources are necessary for the effective prosecution of the war and for peacetime progress and prosperity. . . ." It is less gratifying to note that "serious impediments thereto consist in the unassembled and uncoordinated state of information concerning existing scientific and technical resources; the lack of an adequate appraisal, and the unplanned and improvident training, development and use of scientific and technical personnel, resources, and facilities in relation to the national need; . . . the trend toward monopolized control of scientific and technical data and; . . . the absence of an effective federal organization to promote and coordinate . . . scientific and technical developments."

It is some two years since the organization of the National Defense Research Committee and the Office of Scientific Research and Development together with the National Roster of Scientific Personnel. The remarkable results to the war effort which have already been obtained thereby with the large expenditures of over $100,000,000 during the current year may well make one wonder as to the implications of the impedi-

ments cited. It is to be noted furthermore that the object of the bill is not solely to aid in the prosecution of the war but for "peacetime progress." If the passage of this bill were to insure not alone for the war but continuing thereafter the federal control of all science, scientists, scientific institutions and scientific funds, then perhaps a truer title for the document would be "a Bill for the Regimentation of Science." If so, then it would appear that this act if passed would effect the next to the last step in the breath-taking program of the complete socialization of our "democracy" under executive order. The last stage to take place would be the regimentation of religion were it possible to regiment the emotions.

This year celebrations are being carried on throughout the country in connection with the quadricentennial of the death of Copernicus and the publication of his epoch-making volume "De Revolutionibus Orbium Coelestium." Forgetting for the moment the three hundred years of controversy with organized religion which the promulgation of the heliocentric system of the universe engendered, one can not but wonder if Copernicus had lived in an era of government regulation of science such as is proposed whether his work would have fared better.

One has only to recall the history of science to recount a few of the outstanding scientific developments due to private enterprise and genius that undoubtedly would not have been possible under any enforced program of regimentation in science had such existed. Would any governmental administrator with a board of technical advisers politically appointed have ever sponsored the revolutionary experiments of Galileo, the doctrine of the origin of the species as advanced by Darwin or the germ theory of contagious disease and the technique of immunization developed by Pasteur? Would Morton and Warren, who with great difficulty introduced anesthesia against the prejudice of organized medicine, ever have been able to succeed in eliminating terror and pain from surgery if they also had been opposed by a board with federal authority? Would the two bicycle mechanics tinkering with gliders and flying machines ever have obtained a government subsidy for their Kitty Hawk experiments after the demonstrated failure of the Langley aeroplane which had been constructed under the Smithsonian Institution with a Congressional subsidy of $50,000? What board of experts politically appointed would have known how to evaluate these discoveries from out-of-the-way sources at the times when even colleagues and medical and scientific organizations looked askance upon the early stages of these developments?

When, in 1714, the British Government offered a prize of 20,000 pounds for a means of finding longitude at sea with an accuracy of one half of a degree, and James Harrison, a clever carpenter, in 1735 succeeded in solving the problem by the invention of the temperature compensated chronometer, would a regimented scientific body have been more speedy in the recognition of the ultimate recipient of the prize money than the British Admiralty who stalled over Harrison's invention because it was not the kind of a solution to the problem that occupied the categories of their thinking? When Federal authorities regarded the dreams of Samuel Morse as fantastic when he sought Congressional funds for the first telegraph line, would the inventor have made better progress under the investigation of such an advisory body than through his persuasive sincerity in gaining private capital?

The history of science would appear to point otherwise. Many American scientific inventions of utmost military value, notably the submarine, the airplane, aerial photography and gyro-direction finders had to be financed by other nations before federal appropriations gave our own country the advantage of the inventions.

Could the progress of science into new and unforeseen fields that has been made possible through the private capital and foresight of Carnegie and Rockefeller, neither of whom was tutored in the technicalities of science, have succeeded equally well under a government-controlled board having a like sum of money at its disposal? Fortunately or unfortunately genius is a strange plant in the economy of nature. One can not foresee the territories in which the germs of genius may sprout, nor can one produce the plant of genius by the mere application either of fertilizer or of the pruning knife. It is significant that many of the major discoveries of science have been made by individuals and not by organizations of science or scientists.

Very essential for the progress of scientific thought and development is freedom for the exercise of individual initiative. To have large funds at one's disposal for the furtherance of these ideas is, of course, to be highly desired, but what assurance exists that any politically created federal agency should have the uncanny perspective for evaluating initiative and enterprise except in terms of the categories then existing. Certainly the confusion that has arisen in Washington in our present-time "managed economy" and in the control of prices and man power is not sufficiently convincing to foster the belief that a federal administration of science would work more effectively.

The first attempt to institute a federal scientific advisory body for the benefit of national welfare was the creation of the National Academy of Sciences by President Lincoln in 1863 at the time of a national emergency.

At the beginning of World War I and at the request of President Wilson the National Research Council was established to act as an advisory body in scientific matters pertaining to the national emergency.

It is to be emphasized that in the executive order this Research Council was "to survey the larger possibilities of science, to formulate comprehensive projects of research and to develop effective means of utilizing the scientific and technical resources of the country for dealing with these projects. To promote cooperation in research at home and abroad in order to secure concentration of effort, minimize duplication and stimulate progress; but in all cooperative undertakings to give encouragement to individual initiative as fundamentally important to the advancement of science."

With the inauguration of the New Deal administration under President Roosevelt a new kind of national emergency existed and a Science Advisory Board was called into being to implement the functions of the National Research Council and to advise the government relative to the administration of its scientific bureaus. It was noteworthy that most of the recommendations made by this advisory board as to specific questions raised by the government were acted upon favorably. However, additional recommendations initiated by this Science Advisory Board, though of far-reaching significance especially as concerning government bureaus of science, were not acted upon.

With the imminence of threatened hostilities the Science Advisory Board was rendered obsolete by the creation of a new organization, the National Defense Research Committee, for the complete organization and coordination of all scientific interests in the country in the interests of total war. This was done by executive order of President Roosevelt. This organization later became subordinated to a newly created Office of Scientific Research and Development directly responsible to the Chief Executive. What assurance is there that another newly created Office of Scientific and Technical Mobilization may be anticipated to be more successful than the collection of scientific advisory boards that they have supplanted.

It is certainly to be hoped that Senate Bill 702 will be given serious consideration by the scientists and scientific societies of the country not alone for its national but for its international implications. Unless those most concerned in maintaining conditions for the future progress of science give heed, it is not unthinkable that such a bill could be passed through the ignorance or lack of action on the part of those supposedly most intelligent in evaluating it. One may be tolerant of centralization of science during a war emergency, but when projected into a peacetime economy such centralized power may not only be inefficient but extravagant of public funds and may seriously jeopardize our international cooperation in science.

One is concerned in the preamble of this bill that so little recognition is given for the many well-known and effective scientific agencies that already foster and promote the welfare of science not only nationally but internationally, and that have deliberately made for the free exchange of ideas and the dissemination of information to the public. Every taxpayer should be made to understand the full implications of this bill before increasing the load of government expenditures by $200,000,000 plus for the beginning of an organization that in the end could well defeat the very purpose for which the mobilization of science act was proposed.

Unfortunately, apparently, it is not possible with present methods of bookkeeping to evaluate the cooperative scientific research of individuals, institutions and private capital which has been placed unstintingly at the disposal of the National Defense Research Committee in the interests of the war; but it is obvious that the total dollar value of salaried research men and laboratory equipment which has been freely placed at the government's disposal would render the $200,000,000 appropriation asked for in the Kilgore Bill, for the complete centralization of the science of the nation, wholly inadequate for the accomplishment of an equivalent effort.

The most significant new proposal of the Kilgore Bill not included in the executive order creating the National Research Council is "to make, amend, and rescind appropriate rules and regulations . . . which shall have the force and effect of law."

Moreover, it is to be observed that the proponents of this bill request Congress to pass a law that shall transfer their law-making power so far as it concerns the future of science to an unknown administrator without offering the benefit of knowledge of the kind of laws that such an administrator proposes to set up.

HARLAN T. STETSON

NEEDHAM, MASS.

THE OPPOSITION TO THE KILGORE BILL

THE two articles opposing the Kilgore Science Mobilization Bill which appear in SCIENCE for May 14, 1943, are certain to arouse widespread criticism. In particular, the article by the director of research of the Universal Oil Products Corporation, Dr. Gustav Egloff, who is also president of the American Institute of Chemists, contains statements so misleading as to require immediate correction. It is certainly not true that "over 95 per cent. of our scientific and technical manpower and facilities are now highly organized and coordinated to the single end of advancing the war effort." The statement that "practically every laboratory in the nation is in the service of the government"