has resigned from that position after completing the plans for the laboratory and the award of the contracts and has been appointed assistant to the president of the Pennsylvania State College, where he has for four years been dean of the school of chemistry and physics. He will continue as acting dean for a year but will devote himself primarily to research administration and the development of the large research program of the college.

DR. JACQUES BRONFENBRENNER, of The Rockefeller Institute for Medical Research, has been appointed professor and head of the department of bacteriology and immunology at Washington University Medical School, St. Louis.

DR. OSCAR V. BATSON, professor of anatomy at the University of Cincinnati College of Medicine, has been called to the chair of anatomy in the graduate medical school of the University of Pennsylvania, where he will take up his duties in the fall.

IN the department of anatomy in Columbia University, Dr. Dudley J. Morton, assistant professor of surgery at Yale University, has been appointed associate professor, and Dr. W. M. Copenhaver, instructor in anatomy at the University of Rochester, assistant professor.

PROFESSOR L. W. CURRIER, associate professor of mineralogy at the Missouri School of Mines, has been appointed associate professor of engineering geology at Purdue University.

DR. J. E. WELSTER, Ph.D. (Ohio State, '28), formerly of the Boyce Thompson Institute, Yonkers, has been appointed assistant professor of agricultural chemistry at the Oklahoma Agricultural and Mechanical College.

DR. DEA B. CALVIN, now holder of a Porter fellowship of the American Physiological Society at Yale University, has been appointed instructor in physiological chemistry at the University of Missouri.

DR. HUBERT ERHARD, professor of zoology at the University of Giessen, has accepted the chair of zoology at Freiburg.

DISCUSSION AND CORRESPONDENCE

THE APPORTIONMENT OF REPRESENTATIVES

PROFESSOR HUNTINGTON'S criticism in SCIENCE for May 18 (p. 509) of my action regarding apportionment invites me to discuss in your columns a question of much public importance.

A census of the United States was taken in 1920, but no apportionment law redistributing members of the House among the several states has since been passed and it seems practically certain that none will be passed until the next census is taken. This is the first time in 130 years that Congress has neglected its duty to apportion representatives. The primary reason for the failure is the sharp difference of opinion between two groups of representatives nearly equal in size, one wishing to apportion but unwilling to increase the present size of the House, the other unwilling to apportion unless that size should be increased by the same act, perhaps to the point at which no state would receive less than its present number of members. The second group has been successful in each apportionment since 1880 and the size of the House increased thereby from 332 to 435 members. Owing to this clash of opinion Congress has been deadlocked for seven years. After the next census shall have measured the population changes between 1910 and 1930 it will probably appear that if the House is not increased in size about seventeen states would each lose one or more representatives and that if each state is to retain or increase its present membership it would be necessary to increase the House by about 100 members, nearly one fourth of the present number. Under those conditions the difficulty in securing the passage of an apportionment law will be greater and the precedent for inaction set in the decade now ending seems likely to be followed.

To diminish this danger I revived a suggestion which I had made in 1915 that Congress should revert to the precedent set in 1850 and make the decennial apportionment a ministerial act. For that purpose it would need to pass a law authorizing the President or the Secretary of Commerce, in whose department the bureau of the census lies, to apportion the present number of representatives, 435 (or any other number that might be preferred) by the method last used by Congress (or any other method that might be preferred) as soon as the figures of each successive census were announced and report the results to Congress. This would not, of course, tie the hands of any future Congress but it would secure an automatic readjustment of the number of members last approved to the changes of population in each decade in case Congress by its inaction failed to express any other preference in the matter. The committee welcomed the suggestion and amended the original draft to give Congress one session after the census figures were reported in which to agree upon a bill. If it did not so agree the apportionment was to be made by the executive acting under these instructions.

This proposal raised the question: What method should be prescribed in such a bill? My own view

was and is that the method as well as the number of representatives last approved by Congress should be prescribed and that view was adopted by the committee.

It is this decision which is distasteful to Professor Huntington. After the census of 1910 improved methods of dealing with the apportionment problem were laid before the committee on the census by Dr. J. A. Hill and by me. The committee approved my proposal and based the apportionment law of 1911 upon it. In 1921 Professor Huntington improved upon Dr. Hill's method and urged this method of equal proportions, as it was then called, upon Congress. It was considered and approved by the advisory committee to the director of the census but neither Congress nor a committee of Congress has endorsed it. In 1927 and 1928, when the committee on the census held hearings on the bill for ministerial apportionment, each method was advocated and the committee decided to follow congressional precedents in the matter. In my opinion the prescription of a novel method would have increased the obstacles to the bill, obstacles which I regret to say have proved insurmountable, the bill having been defeated in the House May 18th by a vote of 164 in favor and 186 opposed.

Perhaps the main difference between Professor Huntington and me is over the nature of the problem. He treats it as a statistical or "purely mathematical" question which mathematicians and statisticians are to solve, while Congress should accept their solution. I regard it as a political problem in which the scholar should attempt first to find what end the constitution or Congress aims at and then devise or improve a method by which Congress may accomplish that end. The function of mathematicians in the problem is not to choose among ends but merely to determine how some primary end of apportionment can best be secured.

Upon this main difference another depends. Professor Huntington thinks I owe it to the world of scholars to defend my heterodox opinions by publishing them "in some regular journal." My main purpose, however, has been to help Congress out of a dilemma and I am not interested in justifying my course in so doing to my academic colleagues. If any reader wishes to obtain the material for an independent judgment about my position and arguments and the validity of Professor Huntington's criticisms of both he can best do so by asking the Chairman of the House Committee on the Census, Honorable E. Hart Fenn, for a copy of the Committee Hearings of February, 1927, and February, 1928.

One of the main objections to the method of equal proportions is that to the non-mathematician in Congress or out it is almost unintelligible. The comments upon that method made by two scholars who at my request read the hearings before the census committee, including testimony and memoranda by Dr. J. A. Hill, Professor A. A. Young and Professor E. V. Huntington, may be cited in support of this claim. The late James Parker Hall, dean of the University of Chicago Law School, wrote about the method of major fractions: "It is much easier to explain (to any one but a society of mathematicians)." A distinguished teacher of political science in one of our leading universities wrote: "I read very carefully Professor Huntington's explanation of the method of equal proportions contained in the hearings. I confess my inability to comprehend it." In the congressional debate on the bill just defeated the leader of the opposition to it and the senior Democratic member on the Census Committee said: "I presume the mathematicians know what they are talking about. Nobody on the committee knew whether they were right or not."

WALTER F. WILLCOX

CORNELL UNIVERSITY

TRANSPLANTATION OF THE EUROPEAN OYSTER

IT is well known that the accidental introduction of the Portuguese oyster (*O. angulata*) into Arcachon Bay in France has led to the establishment there of a great breeding-ground and immense production of this oyster on beds which were formerly occupied only by the European oyster (*O. edulis*).[1] Portuguese oysters, which do not occur naturally on English oyster-beds, are also grown and well fattened on these beds on a commercial scale after transplantation of the young from Portugal or France. There is, therefore, evidence that this kind of oyster will live and thrive in situations other than those in which it occurs naturally, and there is every reason to believe that other kinds of oysters can be transplanted—with circumspection—to obtain similar results. The European oyster is generally regarded as a superior article of food to the American oyster, and for that reason should be of greater commercial value. There are indeed physiological reasons for believing that *O. edulis* fattened on the West Atlantic Coast would compare favorably with the best American shell-fish. The object of this note is to suggest that the European oyster especially may be expected to breed and flourish in the beds in the northern states and in Canada on the Atlantic coast and that the transplantation of this species should not be a difficult matter.

[1] M. Dantan, *Comptes Rendus Acad. des Sci.*, Feb. 2, 1914, Paris.