Comparative assays for nicotinic acid, biotin and pantothenate using peptone and casein hydrolysate have yielded identical figures on a variety of materials.

A simple method is described for the preparation of charcoal treated peptone solution which may be substituted for casein hydrolysate in microbiological assays with *Lactobacillus arabinosus*.

HARRIS ISBELL

DIVISION OF PHYSIOLOGY,
NATIONAL INSTITUTE OF HEALTH,
BETHESDA, MD.

DISCUSSION

A PROPOSAL FOR THE FORMATION OF A WORLD ASSOCIATION OF PHYSICISTS OR NUCLEAR SCIENTISTS

THE construction of the atomic bomb was brought about chiefly by physicists. Two German chemical-physicists, Hahn and Strassmann, unmindful of the threat of impending war, gave to the world the key for unlocking the storehouse of one form of atomic energy. Physicists of the British Commonwealth and America, including recent refugee physicists from Continental Europe, under compulsion of self-defense in a war thrust upon us, have discovered new essential chemical elements and have carried through to a successful conclusion the vast enterprise of manufacturing atomic bombs of colossal destructive power. The war is over. Let us now organize a World Association of Physicists. Members in this association would subscribe to certain principles: (1) respect for and confidence in the labors of all its members irrespective of nationality; (2) a pledge not to give advice concerning, or assist in making, atomic bombs; (3) a pledge to continue research in fundamental physics, including the physics of the nucleus of atoms, all atoms; (4) to publish the results of such research; (5) to assist in experiments leading to the beneficial application of atomic energy to human problems, and (6) to welcome the physicists of other nations to our laboratories.

This association would be not only international, it would be supernational. At least its members would not take orders from any government to assist in making atomic bombs. And since its membership would probably include 99 per cent. of the physicists of the world, atomic bombs would not be made. For the making of such a bomb requires the ultimate in knowledge concerning radioactive and nuclear physics. No novice would dare handle the components of a bomb. To attempt to do so would probably lead to his own extermination and the extermination of everything and everybody in his vicinity. Workmen could not be hired to work in a plant in which the ingredients of a bomb were being assembled, unless they had vast confidence in the knowledge and skill of those in charge. All that would be necessary to bring about a complete exodus of workers from a plant would be for the leading physicists of the country to set forth their belief that the chief personnel of the plant were lacking in scientific knowledge and skill. The ingredients of atomic bombs would not be made in that plant.

The association would not be regarded as formed until 90 per cent. of the physicists of every major nation, as determined by the principal physics society of that nation, had subscribed to the principles and accepted membership. The holding back by the physicists of any major nation would release all tentative members of their pledges.

The details regarding officers would be worked out by representatives from the chief physics societies of the various major nations. This proposal, perhaps with variations, will be submitted to the members of the American Physical Society and affiliated societies at their forthcoming meeting in New York.

It is believed that the formation of an association of scientists as above outlined would do away with warfare by atomic bombs. There would remain the gentle kind of warfare that was in vogue up to August 5, 1945. Perhaps associations of scientists could outlaw also that kind of war.

GORDON F. HULL

HANOVER, N. H.

REVERSAL IN THE WINTER FLOUNDER, PSEUDO-PLEURONECTES AMERICANUS: THE THREE KNOWN CASES

IN 1935, in a paper on "Reversal of Sides in Flatfishes,"[1] I brought together all the accounts that I could find of reversal in flatfishes, and tabulated the specific data (dates, sizes, figures, etc.). After a careful search I found a solitary record of a reversed *Pseudopleuronectes americanus*.

No. I. In "Biological Notes" from Woods Hole, Mass.,[2] is this record from Vinal N. Edwards. "*Pseudopleuronectes americanus:* A male in spawning condition, 14 inches long, taken in a fyke net in Waquoit Bay, February 23, 1900, has eyes on the left side—the first of the kind I have taken." To those who know the meticulous care with which for over 30 years Vinal Edwards made his records, nothing more need be said. What became of this first recorded reversed winter flounder is not known, but it remained a unique record for over forty years.

[1] E. W. Gudger, *Jour. Morphol.*, 38: 1–39, 5 figs.
[2] V. N. Edwards, *Bull. U. S. Bureau of Fisheries*, for 1899, 1901, vol. 19, p. 305.