gienic merits of paper money and coin has recently been carried out in Berlin. The results are published in the *Archiv für Hygiene*. In commenting on them the *Lancet* states that 'infectious diseases may be spread by paper money more frequently than by any other article in use among the people.' It was found that coined money is innocuous, owing to the self-disinfecting action of the metal itself, and because its small, smooth surface prevents the development of germs. 'The dirtiest piece of copper is, from the standpoint of a bacteriologist, better than newly-issued paper money.' In post-war banknotes for some time in circulation up to 143,000 bacteria were found. In pre-war notes the highest find was 3,000 bacteria. The post-war note is, of course, much more frequently handled than were the notes of the pre-war period. The notes manufactured of 'laid' paper were the worst offenders, as germs tend to stick to them. The investigator studied the vitality of the germs and found that *streptococci*—the germs of blood and other poisonings—were virulent 54 hours, while enteric fever bacilli lived 11–96 days. Dysentery germs lived 17–52 days."

UNIVERSITY AND EDUCATIONAL NOTES

STUDENTS of the International Y. M. C. A. College at Springfield, Mass., have pledged approximately $30,000 to the $2,500,000 endowment and expansion fund of the college. The undergraduate pledge brings the total amount now subscribed to the fund up to $1,523,935 with $976,065 yet to be raised before the campaign ends July 1, 1925.

JOINT action by the trustees of the Johns Hopkins University and the Johns Hopkins Hospital was taken on May 14, in the appointment of a joint committee headed by Dr. Frank J. Goodnow, president of the university, to bring into closer association the two institutions. The joint committee is charged with the responsibility of surveying and providing for the needs of the two institutions in connection with the university's coming semi-centennial, in 1926.

DR. W. S. LEATHERS, executive officer of the Mississippi State Board of Health and dean of the University of Mississippi School of Medicine, has accepted the appointment of professor of preventive medicine in Vanderbilt University School of Medicine. He will take up his work at Nashville following a year of travel and study in Europe. Dr. Hugh J. Morgan, at present resident physician at the Hospital of the Rockefeller Institute, and Dr. C. Sidney Burwell, instructor in medicine at the Johns Hopkins Medical School, have been appointed associate professors of medicine.

AT Harvard University Dr. Frederick H. Verhoeff has been promoted to a professorship of ophthalmic research. Other promotions in the Medical School include: Dr. Joseph T. Wearn to assistant professor of medicine; Dr. Robert M. Green to assistant professor of applied anatomy; Dr. Frederick S. Burns to assistant professor of dermatology, and Dr. Benjamin White to assistant professor of bacteriology and immunology and preventive medicine and hygiene.

AT the University of Chicago, Associate Professor A. C. Lunn has been promoted to a full professorship of mathematics.

DR. W. KOEHLER, professor of psychology at the University of Berlin, will lecture at Clark University during the second half of the coming academic year.

DISCUSSION AND CORRESPONDENCE

DALTON AS A NAME FOR THE UNIT OF ATOMIC WEIGHT

THE unit of atomic weight is the only unit of measurement in wide use without a name, and a suitable name for it is often desirable for clear expression of ideas. Especially is such a name desired when one is attempting to explain the concept of atomic and molecular weights to beginning students of chemistry. There was a time when the reality of atoms and molecules was questioned by some of the most eminent chemists, and therefore it was well to cultivate the concept of atomic weights as being merely relative weights. But that day has passed. The actual existence of atoms is universally accepted and therefore atomic weights are not only relative weights but are also actual weights. To continue to instruct a student that atomic weights are simply relative weights is not modern. If the concept of actual weights is to be presented it can not be done conveniently without the unit having a name. Because of the historical connection the name dalton is suggested. The atom of oxygen would weigh 16 daltons, hydrogen 1.008 daltons, etc.

Correlation of the dalton with the gram can be made through Avogadro's number. If 32 grams of oxygen contain 6.06×10^{23} molecules (12.12×10^{23} atoms) and if each atom is given a weight of 16 daltons, then one dalton $= 0.0_{23}1650$ grams.

H. G. TANNER

DEPARTMENT OF CHEMISTRY,
UNIVERSITY OF OREGON

THE CARDIO-INHIBITORY CENTER

IN a recent article (*Journ. Physiol.*, vol. lviii, p. 168, 1923) on the localization of the vaso-motor center, Scott and Roberts refer to a paper (*Amer. Journ. Physiol.*, vol. xxxix, p. 149, Dec., 1915) on the cardio-inhibitory center by Bowman and myself and, by their remarks, indicate that they have not clearly understood our meaning. I desire to em-

phasize the fact that the other writers studied mainly vaso-motor effects, whereas we were concerned solely with cardio-inhibitory manifestations.

Bowman and I were the first to prove, by the method of unipolar faradization, that the cardio-inhibitory center is located in the dorsal vagus nucleus or ala cinerea. In a fresh specimen of the medulla oblongata of the dog the dorsal vagus nucleus (ala cinerea) is easily recognizable as a translucent-looking ridge, forming the lateral margin of the calamus scriptorius. Its position and appearance, as shown in Fig 1 of our paper, are identical with those indicated by Ellenberger and Baum in Fig. 165 in their "Anatomie des Hundes."

In localization experiments, like those described in our paper, it is essential that the excitability of the medulla oblongata be carefully maintained and that the current applied by the stigmatic electrode be of threshold value. Such a current yields definite cardiac inhibition from the dorsal vagus nucleus but fails to yield it from points 1 mm or less mesially or laterally to the nucleus. Slightly stronger currents applied to the nucleus elicit complete inhibition (Cf. Figs. 1, 2, 3 and 4 of our paper).

The view expressed above that the dorsal vagus nucleus is the source of the cardio-inhibitory fibers is held by the following authorities: Kohnstamm, van Gehuchten and Molhant, Herrick, Ranson, Tigerstedt (the latter in "Physiol. d. Kreislaufes," vol. 2, p. 424, 1921).

FREDERICK R. MILLER
DEPARTMENT OF PHYSIOLOGY,
UNIVERSITY OF WESTERN ONTARIO

SELF-FERTILIZATION IN NICOTIANA

IN a recent paper,[1] Morgan describes the removal of the "block" to self-fertilization in *Ciona* by the removal of the membrane around the egg, and compares it to experiments on the self-fertilization of self-sterile plants. In this connection, he states that "in self-sterile plants it has not been possible to demonstrate whether the pollen could fertilize the egg cell if it reached it."

Leaving aside the consideration that Morgan's work with *Ciona* may not be strictly comparable to that with self-sterile plants, there are certain unpublished data obtained by Dr. E. Anderson and myself which show that there is no "block" to self-fertilization in *Nicotiana*. It was conceived that, since self-sterility (according to East) is due to the fact that pollen tubes after self-pollination show no acceleration in growth, and hence fail to reach the ovary before the decay of the flower, if unopened buds were self-pollinated, additional time would be gained, and the pollen tubes might reach the ovary before the flower decayed. In several instances, pollinations were simultaneously made on the unopened bud, the first, and the second flowers[2] on the same branch of the panicle of both *Nicotiana alata* plants and hybrids between *Nicotiana alata* and *Nicotiana Forgetiana*. Seeds were set in 68 per cent. of the pollinations of unopened buds, whereas in the first flowers seeds were set in only 16 per cent. of the cases and in the second flowers there were none set. This indicates that the gametes are not incompatible, and that self-fertilization can take place in *Nicotiana* provided the male gamete can reach the egg.

FANNY FERN SMITH
MISSOURI BOTANICAL GARDEN,
ST. LOUIS,

THE INFLUENCE ON FISHERIES OF THE WAR

IN many places the war made it necessary to discontinue fishing during a considerable period of time, as most of the active fishermen were called to the colors.

This involuntary cessation of fishing was most noticeable where the struggle took place actually within fishery districts, and it is interesting to study how it influenced the abundance of fish in such places after the close of the war. There was a marked influence in southeast Russia in the mouths of the Volga River, where the most important Astrakan fisheries are located. I recently met a business man interested in the Astrakan fishery who had received news from his locality to the effect that the run of every kind of commercial fish in the Volga River was an unusually large one last spring and fall; individual catches were of fabulous size. Nevertheless, the entire amount of fish landed was only half what it had been before the war. This latter is mostly due to absence of organization and fishing outfit (nets).

The unusually strong run of fishes here is rightly attributable to the fact that during 1918 to 1920 a civil war was in progress within the Astrakan government and nationalization of the fishery industry was effected, which resulted in stopping regular fishing. This enabled various fishes like vobla (*Leuciscus rutilus*, var.), Caspian herring, pike-perches and sturgeons to enter the Volga River untroubled by fishermen and to spawn freely and abundantly. Most of these fishes reach maturity (and spawn) at their third or fourth year, and therefore they appeared in the river after this period of time in great quantities. Now, because of shortage of fishing tackle, they have doubtless again propagated in quantities (1923),

[1] Proceedings of the National Academy of Sciences, Vol. 9, No. 5, pp. 170–171.

[2] The flowers have been numbered from the apex to the base of the branch of the panicle, thus making the first flower the youngest.