Letters to the Editor

Pectin Intravenously

In his communication under the above title Hueper (*Science*, 1945, 102, 233) commented on our note, "Uronic acids in animal bodies" (*Science*, 1945, 101, 670). We believe he may have overlooked our intent, which was to emphasize the importance, wherever practicable in future biological studies, of differentiating between glucuronic and galacturonic acids rather than masking probably galacturonic values under the designation glucuronic acid.

We suggest that those interested in the use of intravenous pectin should read carefully the complete articles referred to by Hueper as well as others which have appeared in medical literature. Because of space limitations neither our note nor Hueper's could treat this subject adequately.

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Genetical Studies of the Sesame Flower

A preliminary study of the flower of sesame (*Sesamum indicum* L.) has revealed 33 morphological and 30 color differences among the many varieties and hybrids in the collection of this department. The mode of inheritance of 24 of these basic flower types has been determined, showing simple segregations, modifying factors, complementary factors, multiple alleles, duplicate factors, and five cases of linkage (the first to be described in sesame).

Of particular interest is a type with all five lobes of the corolla completely separated, in contrast to the usual tubular form. Some of the other characters include the colors yellow, red, and purple in different intensities and distributions fused anthers, tuft of hair, double flower, double lip, elongated cells in the foveola, and glabrous.

These flower differences, in addition to supplying a wealth of material for determining the linkages of numerous other characters previously reported (D. G. Langham and Maximo Rodriguez. *Boletin No. 2, Instituto Exp. Agric.*, Caracas, Venezuela, June, 1945) and in study, may be extremely useful in a study of the geographic distribution of sesame with special reference to its place of origin.

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A Possible Source of Atmospheric N_2O

The existence of nitrous oxide (N_2O) in the earth's atmosphere has been established by the discovery and analysis of an absorption band at 7.77 μ in the solar spectrum (A. Adel. *Astrophys. J.*, 1939, 90, 627; 1941, 93, 509). The origin of this gas in the atmosphere is still in doubt, for its presence is not readily explained by the photochemistry of the air. It is the intention, in what follows, to call attention to an apparently plausible and interesting means of accounting for the phenomenon.

In recent examinations of soil air for hydrocarbon content, M. W. Kriegel, of the Carter Oil Company, Tulsa, Oklahoma, has found a hitherto unreported component; and on the basis of careful investigation of its properties, he suggests that the gas is very probably nitrous oxide (*Geophys.*, 1944, 9, 447–462). Kriegel points out that "nitrous oxide in the soil is not surprising when it is remembered that the element nitrogen in the form of ammonium salts, nitrites or nitrates is present in fertile soils; and that one method of preparation of pure Nitrous Oxide is according to the equation:

$$NH_4NO_3 = N_2O + 2\,H_2O$$

It is also probable that the slow decomposition of commercial fertilizers might account for some of the Nitrous Oxide in farming areas. In connection with the studies of decomposition of vegetation under aerobic conditions, it has been shown by this laboratory that a gas having properties similar to Nitrous Oxide forms a large portion of the condensed fraction."

If, as appears to be the case, it is indeed true that soil air contains N_2O, is it not reasonable to assume escaping soil air to be one source—perhaps the principal one—of the atmospheric nitrous oxide layer?

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The Function of Psychology

These remarks are suggested by reading the article by Captain Jenkins (*Science*, 1946, 103, 33–38), which seems to me too diffuse.

In a certain sense, it may be claimed that psychology is the most important of all sciences, since the future of the human race, and even its existence, depends on the actions of people, and those actions depend on their knowledge and beliefs.

I find myself with certain opinions, including opinions about psychologists. How did I come by them? Partly as the result of teaching, partly from direct experience. Owing to various inventions, such as those of the telescope and microscope, I find myself able to be directly aware of many phenomena which would be imperceptible to my unaided senses. This extension of the senses has been so remarkable in recent years that the range of direct observation or experience has been enormously extended. But a single mind cannot compass all these things, and for the most part I have to depend upon others to see what I might have seen, to hear what I might have heard.

Thus, at the beginning of the century the age of the various geological strata was carefully estimated by com-