ceived too late to be so published will be brought to the attention of the International Commission at the time of the commencement of voting on the application in question.

5. Under the decision by the International Congress of Zoology, the period within which comments on the applications covered by the present notice are receivable is six calendar months calculated from the date of publication of the relevant parts of the *Bulletin of Zoological Nomenclature*. The five parts now in question were scheduled to be published on September 28, 1951. In consequence, any comments on the applications published in these five parts should reach the Secretariat of the International Commission at latest by March 28, 1952.

FRANCIS HEMMING
Secretary to the International Commission on Zoological Nomenclature

Bovine Albumin Standard for Serum Protein Determinations

THE usual procedures for the determination of serum proteins are the falling drop, Kjeldahl, and the biuret reaction. The biuret method depends upon the use of pooled sera as a standard protein solution. Anyone experienced in the use of the latter knows the unreliability of such solutions as standards, and the difficulty encountered in the duplication of calibration curves with the same biuret reagent and a new lot of pooled sera. In addition, their keeping qualities are very poor. We have found that the only reliable and reproducible standard for protein estimations is a pure protein such as albumin. We have employed such a standard in all our protein work for a considerable length of time and have found it to be completely satisfactory.

We originally employed a salt-poor 25% human albumin solution as standard. Protein concentrations varying between 100 mg and 6.0 g % were prepared by dilution with physiological saline. The protein content of each of the diluted solutions was determined in triplicate by the Kjeldahl method ($N \times 6.25$). For the biuret reaction, the procedure described by Gornall, Bardawill, and David (*1*) was used. Suitable calibration curves were prepared from the results of each set of determinations. Exactly the same procedure was employed, using pooled sera as the standard. Under the same experimental conditions, when protein determinations were made upon fresh specimens of serum, it was repeatedly observed that the readings from the albumin curve gave the most consistent and reproducible results.

The use of human albumin is not feasible in general routine work, because of its high cost and unavailability; however, we have found that bovine albumin is a perfect substitute for the preparation of protein calibration curves. Lever and his co-workers (*2*) have suggested the use of crystalline bovine albumin for the preparation of a calibration curve obtained from biuret determinations, but this requires very accurate weighing and is time-consuming. The present communication proposes the use of a bovine albumin solution as a protein standard. It is a sterile, stable solution, the albumin content of which has been carefully standardized by its nitrogen content.[1] The bovine albumin curve obtained from the biuret determinations can be superimposed upon the curve obtained by the use of human albumin.

The most important features of the proposed bovine albumin solution for the calibration of serum protein curves are: (1) The solution keeps indefinitely; (2) the protein content is guaranteed to be accurate; (3) it may be used to spot-check reagents and previously prepared calibration curves; (4) it is economical to use; (5) it is easily obtainable. The use of this bovine albumin solution offers clinical biochemical laboratories a means of standardization of serum protein determinations hitherto unobtainable.

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References

1. GORNALL, A. G., BARDAWILL, C. J., and DAVID, M. M. *J. Biol. Chem.*, **177**, 751 (1949).
2. LEVER, W. F., *et al. J. Clin. Invest.*, **30**, 99 (1951).

[1] We are indebted to Albert H. Holland, Jr., of Armour Laboratories, Chicago, for supplying the standard bovine albumin solution.

Catalysis and Olfaction

I AM preparing a paper on the sense of smell for Vol. VIII of the international series "Colloid Chemistry, Theoretical and Applied," and will appreciate receiving any germane reprints and information, so that they may be given consideration.

Most of the papers dealing with olfaction published recently in SCIENCE center about the views of L. H. Beck and W. R. Miles (SCIENCE, **106**, 511 [1947]), which Professor Pfaffmann in Steven's recent *Handbook of Experimental Psychology* (New York: Wiley [1951]) characterizes as a restatement of the infrared theory in vogue "ever since Faraday first noted that many odorous materials strongly absorb radiation in the infra-red region of the spectrum." All these writers were obviously unaware of the catalyst theory of olfaction advanced by J. Alexander in *Colloid Chemistry*, 4th ed. (New York: Van Nostrand [1937]), which was epitomized in *Chemical and Engineering News* of Aug. 1, 1949 (p. 2227) as follows: "The odor-producing substances affect the catalyst balance of the olfactory cells by any or all of the following mechanisms: (1) by modifying existing catalysts, an effect analogous to that of promotors in commercial catalysts; (2) by forming new catalysts (neocatalysts); (3) by inhibiting all or part of the activity of normal cellular catalysts—e.g., H. S. Taylor showed that catalysts may have several different specific catalyst areas, which can be selectively inhibited."

About a year after publication of the above abstract, G. B. Kistiakowsky (SCIENCE, **112**, 154 [1950]), obviously unaware of these earlier publications of the catalyst theory, advanced as something new an emas-