Comments and Communications

A Useful Prefix for the Extension of a Systematic Nomenclature for Intact Polycyclic to Related Open-Ring Systems

The failure to assign systematic generic names to the open-ring systems closely related to the steroids has led to a confusing array of trivial nomenclature for their important derivative forms that completely masks the significant structural relationships which exist. Since the structural difference which obtains usually is merely the opening of one of the condensed rings of the cyclopentanoperhydrophenanthrene system, it would seem logical to devise a simple prefix which would denote this and allow the extension of the systematic nomenclature of the parent series to their derivative forms. Such a prefix is readily derived from the Latin verb *seco*, meaning "to cut," which is easily adaptable and exact in connotation. The use of this proposed convention allows the numbering system of the parent structure to be retained for the derivative ring system. Thus, for instance, the systematic generic designation of the bilianic acids formed by scission of the 3 : 4 bond of the A-ring in the cholane series would be *3 : 4-seco-Cholanic acids*, e.g. desoxybilianic acid = 3 : 4-*seco*-12-keto-3 : 4 : 24-tricarboxycholane; the generic name of the vitamin D series would be *9 : 10-seco-Cholestane*, e.g. calciferol = $\Delta^{5(6)}$: 7 : 10(18)-9 : 10-*seco*-Cholestanetrienol-3 (α); and for the estrogenic acid series, formed by scission of the D-ring at the 16 : 17 bond, the generic designation would be *16 : 17-seco-Estranolic acids*, e.g. doisynolic acid = Δ^{1} : 3 : 5(10)-16 : 17-*seco*-17-carboxyestratrienol-3. (Compare present nomenclature, 1-ethyl-2-methyl-7-Hydroxy-1,2,3,4,9,10,11,12-octahydrophenanthryl-2-carboxylic acid.)

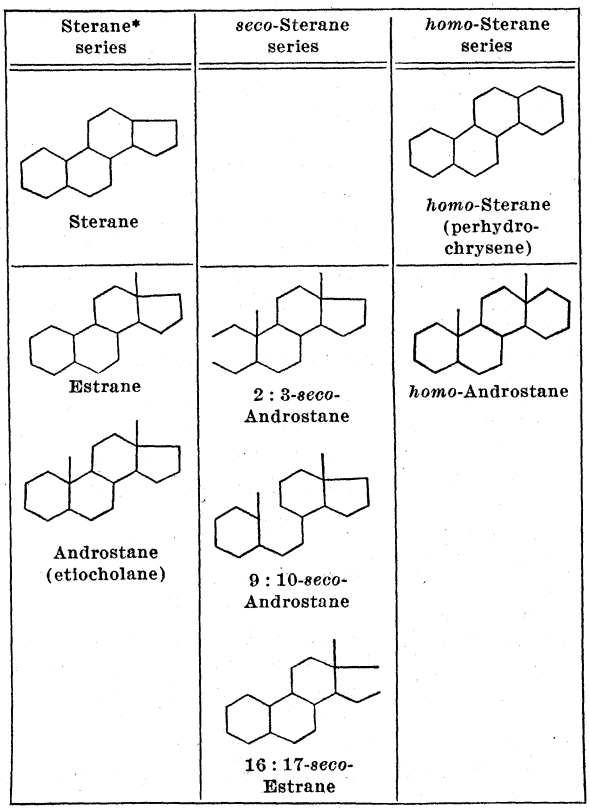

FIG. 1.

It is obvious that this prefix is of general advantage to systematic chemical nomenclature where it is neither feasible nor desirable to establish an entirely new nomenclature for such complex derivative ring systems, viz., of the steroids, porphyrins, and carotenoids. Although the simplified nomenclature thus allowed does not include stereochemical considerations, it does lend itself as well as any of the existing terms to stereochemical specifications by a system of prefixes to be worked out in the future.

Furthermore, the use of this form of nomenclature allows a very useful and consistent classification of the principal steroid structures, as shown in Fig. 1.

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* This term is an obvious and useful simplification of the more cumbersome accepted terminology of cyclopentanoperhydrophenanthrene for the bare ring nucleus of the steroids, and in fact this term has been suggested previously by Sobotka (personal communication).

National Science Foundation—A Peril or a Hope?

Most readers of *Science* are no doubt sufficiently familiar with the discussions which have gone into the proposal for a National Science Foundation and sufficiently familiar with the provisions of the present bill before Congress (H.R. 6007 and the identical Senate Bill S. 2385) to give proper discount to the perils of this legislation which have been set forth by John L. Rich (*Science*, May 14, pp. 505–506). Nevertheless, I cannot let his remarks go unchallenged.

The comments I wish to make may possibly not go far toward reassuring those who have no faith whatever that one can ever hope to find even a spark of intelligence in any branch of our Federal Government or in any of our universities. But if even a slight amount of such faith is granted, the provisions of the present bill would seem to warrant considerable hope that the perils which Mr. Rich describes can be avoided.

His first peril is "that the National Science Foundation itself will be controlled by politicians rather than