able to tryptophan conversion is equivalent to a 0.015 per cent. yield of indoleacetic acid from pure tryptophan, versus a 0.022 per cent. yield of indoleacetic yield from crude corn. If tryptophan were the corn auxin precursor, then corn would have to be pure tryptophan, which is obviously absurd. It may be safely concluded, therefore, that tryptophan is not the corn auxin precursor to which most of the auxin activity is attributable.

On the other hand, it may be concluded from the work of other investigators[5,6] as well as from that of Gordon and Wildman, that tryptophan is a plant auxin precursor of a low degree of activity. Their results[4] suggest that auxin yields obtained from green tissues by methods involving extraction periods of many weeks[12] may possibly be attributable to tryptophan conversion into auxin.

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THE ROOTS OF SPINAL NERVES

EVERY one acquainted with the structure and function of the spinal nerves is aware of their threefold origin. Although this fact was recognized and generally accepted during the closing years of the nineteenth century, present-day descriptions of the spinal nerves continue to be based on the knowledge of a still earlier day. Consequently, they are initially misleading and always cause the beginner unnecessary difficulty in gaining an appreciation of the sources and functions of the fibers in peripheral nerves.

Each spinal nerve contains axons arising from cell bodies located in dorsal root ganglia, in the spinal gray matter and in the ganglia of the sympathetic chain. Fiber bundles from the first two mentioned sources are known as roots of the nerve, but the bundle from the third source is reduced to the status of a branch or ramus in all current descriptions. There seems to be no reason for continuing this erroneous designation except long-established custom. While it is true that the gray root is much smaller and joins the rest of the nerve at a point some distance removed from the union of the dorsal and ventral roots, such differences are mere details of pattern in comparison to the complete reversal of meaning occasioned by referring to a root as a branch; or, in the sense that these terms are employed, in speaking of a contribution as a derivative.

To obviate the above-mentioned misnomer in present terminology the following changes in the description of spinal nerves are proposed: (1) With an occasional exception, all spinal nerves are formed from three roots, a dorsal, a ventral and a gray (sympathetic). (2) Every spinal nerve gives rise to three primary rami and some of them give rise to four; the constant rami are the dorsal, the ventral and the recurrent, while the one arising from only certain of the nerves is the white (visceral) ramus. A white ramus springs from each of the thoracic nerves, the cranial three lumbar and the third and fourth sacral nerves; in addition, a white ramus may issue from the eighth cervical, the fourth lumbar or the second sacral. (3) The trunk of the spinal nerve is the portion between the roots; *i.e.*, it extends from the junction of dorsal and ventral roots to the point where the gray root joins the bundle formed by the union of the other two. By this definition the dorsal, the recurrent and the anterior rami arise directly from the trunk; but the white ramus is peculiar in that it may arise from the trunk, from the anterior ramus, or pass to the sympathetic chain enclosed in a sheath common to it and the gray root.[1] As to the composition of the rami with respect to the triple origin of the parent trunk, the dorsal and ventral rami contain fibers from all three roots, the recurrent carries fibers from the dorsal and the gray roots, and the white ramus receives fibers from the dorsal root and from the ventral root. It is to be noted that the white ramus alone carries dorsal and ventral root fibers only as implied for all rami in the usual introductory description.

That all spinal nerves have not two roots, but three, is factually correct. The question raised is: Shall all three roots be known as such or shall one of them remain disguised as a ramus and so continue to confuse and confound those who must eventually learn that the nerves to skin contain not only afferent fibers but efferent fibers as well; that in nerves to muscle, fibers from all three sources are generously represented; and that the white rami instead of being strictly efferent contain abundant afferent fibers? The author is aware that some afferent fibers may course with the gray ramus, that dorsal roots apparently carry efferent impulses as well as afferent, and that the possibility of afferent fibers in the ventral roots may not be excluded entirely. However, the errors imposed in neglecting to mention these facts in an introduction to the subject seem trivial compared to the continued persistence of the term "gray ramus" when the structure so named has long been established as a root—and an important one—of each and every spinal nerve.

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TAXONOMY AND GENONOMY

SYSTEMATIC biology has been occupied in the past primarily with the end results of speciation. The object of practising systematists has been to define

[12] K. V. Thimann, F. Skoog and A. C. Byer, *Amer. Jour. Bot.*, 29: 598–606, 1942.

[1] D. Sheehan and J. Pick, *Jour. Anat.*, 77: 125, 1943.