



THE YEAR BOOK
of
ENDOCRINOLOGY

(1967-1968 YEAR BOOK Series)

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SOME ASPECTS OF NEUROENDOCRINOLOGY

ANDREW V. SCHALLY, WILLIAM LOCKE,
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Many articles and comprehensive reviews of neuroendocrinology have been published in recent years.^{8 9 10 11 41 56,109,110} Instead of offering an exhaustive review of recent important advances in experimental and clinical endocrinology, the aim of this presentation is to discuss a few topics selected because of their special interest to us. We freely admit that our choice may show a definite bias, but we hope that the topics selected will be of general interest.

Control of Anterior Pituitary Function

After much simplification, it can be said that two or possibly three basic mechanisms^{80,123} are involved in the regulation and secretion of the hormones synthesized in the pituitary gland: (1) hypothalamic neurohormones (formerly called releasing factors),^{46,47,55 91,92 125,140,141} (2) feedback products from the target organs, (3) a short feedback system in which the inhibitory impulses are provided by pituitary hormones themselves.^{74 89}

The hypothalamic mechanism is stimulatory, except in the case of prolactin and melanocyte-stimulating hormone (MSH) secretions, which are inhibited.

We will elaborate on the second mechanism by explaining that adrenal steroids,^{35,55,59} calorogenic thyroid hormones^{43,108,109} and sex hormones¹¹ affect respectively the secretion of adrenocorticotrophin (ACTH), follicle-stimulating hormone (FSH) and luteinizing hormone (LH).

The nature of this feedback is clearly inhibitory except for estrogen, which under certain conditions appears to facilitate LH release.¹² As far as is known, secretion of neither prolactin