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Neuroendocrinology: Past, Present and Future

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Neuroendocrinology had a double origin in the 1940's and 1950's with the morphological recognition of neurosecretory cells from invertebrates to the hypothalamus of all mammals, and with demonstration of physiological controls by these neurosecretory cells of various functions including those of both lobes of the pituitary. The characterization of the molecules involved in these relationships, which turned out to be peptides, became a major undertaking with the methodology then available.

Many peptides controlling pituitary functions are now known. They and a large number of synthetic analogs are available and of major clinical significance in medicine, as shown in this symposium.

The latest and unexpected discoveries are the presence and effects – and definitely physiological roles of these peptides not only in the brain but also throughout the organism where their receptors have also been characterized and located. There is also increasing evidence that these peptides and their receptors are involved in various mental and behavioral activities, and we are re-cognizing the importance of what Selye called *stress* in this world as it is.

So much for the past and present.

As to the future, the obvious future is in the chemical synthesis of new (er) analogs as agonists or antagonists of the known ligands in relation to their receptors as our knowledge of the spatial conformations of these receptors, as well as of the binding proteins, progresses. The less obvious future, in my opinion, will be in the revolutionary conceptual formulations we are going to recognize and accept in which mind and body are more intricate than Descartes ever thought.

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