# Chapter 2 The Alarm Phase and the General Adaptation Syndrome

# Two Aspects of Selye’s Inconsistent Legacy

R. McCarty

Vanderbilt University, Nashville, TN, USA

# Abstract

The general adaptation syndrome (GAS) was first proposed by Hans Selye in his classic 1936 letter to the editor of *Nature*. The GAS consisted of three phases: (i) the alarm phase, (ii) the phase of adaptation, and (iii) the phase of exhaustion. Selye held that the stress syndrome was always a nonspecific response of the body to any demand and included a triad of responses: enlargement of the adrenal cortex, decrease in size of the thymus and lymphatic tissue, and ulceration of the stomach and duodenum. Selye also promoted the concept of diseases of adaptation that were connected to stressful stimulation. Much of Selye’s work has been discounted as knowledge of neural and endocrine systems expanded and new analytical techniques were introduced. In particular, the doctrine of nonspecificity has been rejected and replaced with the indication that a given stressor stimulates a unique neuroendocrine signature in test subjects. In addition, many studies have demonstrated that prior stress history affects future stress responses across several neural and endocrine systems. Stress remains a key component of the etiology of many diseases and that is an enduring part of Selye’s legacy.