# Chapter 4 The Fight-or-Flight Response

# A Cornerstone of Stress Research

R. McCarty

Vanderbilt University, Nashville, TN, USA

# Abstract

The fight-or-flight response was a concept developed by Walter B. Cannon in the course of his studies on the secretion of epinephrine from the adrenal medulla of laboratory animals. This concept was an outgrowth of his studies of homeostatic mechanisms, particularly as they related to the sympathetic-adrenal medulla system. Cannon’s research on homeostasis and the fight-or-flight response led him to delve into mechanisms of “voodoo death” and to propose a new theory of emotions, known as the Cannon-Bard theory. Cannon thought that the sympathetic nervous system and the adrenal medulla operated as a functional unit, with epinephrine as the chemical messenger. He did not understand that the postganglionic sympathetic nerves utilized norepinephrine as a chemical transmitter. Cannon’s research legacy is a rich one and his work is still cited frequently by contemporary researchers in the field of stress.