Rethinking Homeostasis: Allostatic Regulation in Physiology and Pathophysiology

Jay Schulkin
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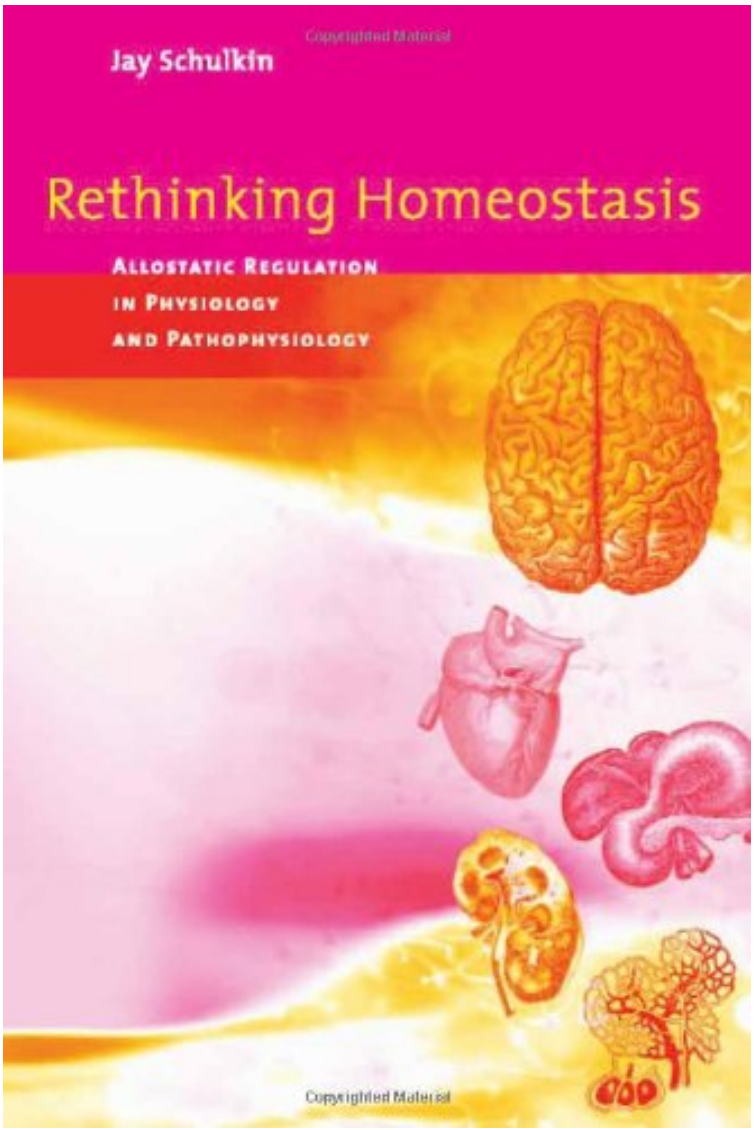

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Jay Schulkin : Rethinking Homeostasis: Allostatic Regulation in Physiology and Pathophysiology before purchasing it in order to gage whether or not it would be worth my time, and all praised Rethinking Homeostasis: Allostatic Regulation in Physiology and Pathophysiology:

0 of 0 people found the following review helpful. Five StarsBy Jianghui LiGood book.

An overview of allostasis, the process by which the body maintains overall viability under normal and adverse conditions.Homeostasis, a key concept in biology, refers to the tendency toward stability in the various bodily states that make up the internal environment. Examples include temperature regulation and oxygen consumption. The body's needs, however, do not remain constant. When an organism is under stress, the central nervous system works with the endocrine system to use resources to maintain the overall viability of the organism. The process accelerates the various systems' defenses of bodily viability, but can violate short-term homeostasis. This allostatic regulation highlights our ability to anticipate, adapt to, and cope with impending future events.In Rethinking Homeostasis, Jay Schulkin defines and explores many aspects of allostasis, including the wear and tear on tissues and accelerated pathophysiology caused by allostatic overload. Focusing on the concept of motivation and its relationship to the central nervous system function and specific hormonal systems, he applies a neuroendocrine perspective to central motive states such as cravings for water, sodium, food, sex, and drugs. He examines in detail the bodily consequences of the behavioral and neuroendocrine regulation of fear and adversity, the endocrine regulation of normal and preterm birth, and the effects of drug addiction on the body. Schulkin's presentation of allostasis lays the foundation for further study.

Jay Schulkin has written a balanced and authoritative discussion of a very interesting topic. His book contains a wealth of interesting and important information from his own research experiences in different aspects of physiological psychology. (Bruce S. McEwen, Alfred E. Mirsky Professor, Rockefeller University)The work is original and its scholarship quite broad. Because of its breadth, it should appeal to graduate students and researchers in several fields. (Jeffrey Rosen, Department of Psychology, University of Delaware)A thoughtful and articulate examination of a hallowed physiological concept by an author skilled in both the experimental and conceptual aspects of behavioral neuroscience. Schulkin considers some of the best thinking and experimentation on neural and hormonal management of central motivational states. He is daring in that he extends his coverage to excruciating real-world human problems such as those of low birth weight babies and drug addiction. (Donald Pfaff, Professor and Head of the Laboratory of Neurobiology and Behavior, Rockefeller University)For the past century, the concept of homeostasis has been often invoked but poorly understood. Jay Schulkin, in Rethinking Homeostasis, explores the limits of this concept. In this synthesis across several different biomedical disciplines, Shulkin provides a useful framework with which to consider both the beneficial effects of homeostasis as well as how it can lead to disease. (Joseph A. Majzoub, Chief, Division of Endocrinology and Professor of Pediatrics, Harvard Medical School)Schulkin gives us a provocative and clearly written account of how the fundamental problems of anticipation and adaptation have moved physiological thought beyond traditional homeostatic, negative-feedback mechanisms. He breaks fresh ground by demonstrating that feedforward mechanisms, such as adrenal steroid stimulation of central peptides, are essential to the brain's integration of adaptive patterns of behavior and physiology. (Gerard P. Smith, Professor of Behavioral Neuroscience in Psychiatry, Weill Medical College of Cornell University)About the AuthorJay Schulkin is Research Professor in the Department of Neuroscience at Georgetown University, where he is also a member of the Center for the Brain Basis of Cognition.