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Sommario/riassunto	This volume introduces some basic theories on computational neuroscience. Chapter 1 is a brief introduction to neurons, tailored to the subsequent chapters. Chapter 2 is a self-contained introduction to dynamical systems and bifurcation theory, oriented towards neuronal dynamics. The theory is illustrated with a model of Parkinson's disease.

Chapter 3 reviews the theory of coupled neural oscillators observed throughout the nervous systems at all levels; it describes how oscillations arise, what pattern they take, and how they depend on excitory or inhibitory synaptic connections. Chapter 4 specializes to one particular neuronal system, namely, the auditory system. It includes a self-contained introduction, from the anatomy and physiology of the inner ear to the neuronal network that connects the hair cells to the cortex, and describes various models of subsystems.