The Neuron & Neural System A 21st Century Electrolytic Paradigm

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[This is a draft describing the content of the work, the page numbers are dummies at this time]

Overview of the Chapters Oct 13, 2009

- Presentation of a new framework for interpretation of the neural system. A focus on the electrical mode of signaling answers questions not answerable based on a chemical signaling assumption. The dichotomy between the holistic and reductionist approach to analysis is reviewed and an extended Neuron Doctrine is presented. After reviewing the necessary physical chemistry, the neuron is developed from a reductionist view (from bottom to top). The large variety of neurons is reviewed along with their varied features. The complex chemical environment surrounding the neurons is reviewed along with the electrostenolytic mechanisms powering the neurons. The result is a new electrolytic paradigm replacing the chemical theory of the neuron. functional stages and a variety of concurrent operating modes. The first presentation describing the detailed performance of both the inner and outer hair cells in their respective sensory roles, including their dynamic roles. The architecture and both signal convergence and signal divergence encountered in the analog signaling portion of the peripheral neural system of hearing. The techniques employed to convert analog signals into action potential pulse streams for efficient signal projection and the special histographic techniques required to understand the encoding/decoding mechanisms are presented. The differences between analog signal conduction and phasic signal propagation are discussed.
- 10. Stages 4 Signal Manipulation in the CNS (information extraction & saliency map) ... 357 The first description of the mechanisms and methods used to extract information from the signal streams presented to the CNS, along with the first appearance of "attention" in the

neural system is developed. [xxx old chap 11]

11. Stages 5 Cognition [xxx old 12]
10. Stages 6 & 7 Neural control of the muscular & glandular systems [xxx old 16] 357 The chemical interface between the neural system and the muscular and glandular systems.
11. Stages 7 Command Generation and the Neuro-affectors
12. The memory elements of the neural system–old 17 xxx
13. The elements of consciousness-old 18
14. Overall Performance from a functional perspective–old 19
15. Disorders of the neural system
[xxx alternate combine following into one chapter on sensory modalities]
11. The visual modality
12. The hearing modality
13. The olfactory and gustatory modalities
14. Other neural modalities

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