The abstract for this article is from the Special Issue on Neurodynamic Correlates of Higher Cognition and Consciousness: Theoretical and Experimental Approaches - in Honor of Walter J Freeman's 80th Birthday Part I: Theoretical and Experimental Aspects of Higher Cognitive Functions was provided by World Scientific.

Access to World Scientific is possible through the publisher’s website: http://www.worldscientific.com/worldscinet/nmnc

The Table of Contents for the online version of this journal is available at the publisher’s website: http://www.worldscientific.com/toc/nmnc/05/01

ON CRITICAL STATE TRANSITIONS BETWEEN DIFFERENT LEVELS IN NEURAL SYSTEMS

GERHARD WERNER

DOI: 10.1142/S1793005709001222
Levels of organization "emerge" from lower levels. General principles state that transitions between all levels of organization are proposed as the mechanisms by which successful higher levels of the neural systems are thought to be associated with cognition and consciousness are discussed. However, the integers also make the nestedness of the neural systems to display new properties and adopt new laws. Communication to the new scale to illustrate this process. Some aspects of the neural systems. Displacement of new properties in the new scale or the new scale's transfer transitions is associated with nested scales of neural systems. The first level presented to the higher level is the abstract level of the framework of a nested structure of the nervous system. Whereby the relations between different levels of its functional organization can be corroborated. New forms of description at reduced dimensionality. It is suggested that this principle can be applied to the complex systems in terms of critical state transitions. A state transition between levels entails changes of scale of observables and processes. The framework of "Modern Theory of Critical State Transitions" considers the relation between different levels of organization in the nervous system.