Chaotic Hermeneutics for Understanding the Brain

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The brain theory is constituted to describe how an observer works. We have to deal with the system where the observer is involved. The brain theory is thus a theory for an observer, who tries to understand the meaning and the information structure of the environment, referred to his internal state. Here, the environment cannot be separated from the observer. This process for understanding is inevitably interpretative. The classical Hermeneutics may serve a methodology for understanding such a system. We recognize the necessity of chaotic dynamical systems as serving a mechanism for reorganization of the system.

A chaotic dynamical system is a typical conceptual example of a system in which an intrinsic observer is present. If we define the Markov partition, the Markov partition provides an intrinsic precision, according to which the external observer has to tune in his observation precision in order to obtain the correct description of the system. This always succeeds for chaos with uniform Markov partition, whereas for chaos with nonuniform Markov partition the tuning is impossible, since determination of intrinsic precision is an undecidable problem. Actually, when the observer tries to calculate the chaotic orbit with some fixed precision, the chaotic orbit disappears. Thus, the Markov partition is an intrinsic observer in chaotic dynamical systems.

Taking into account the observations of chaos in various kinds of animals, one may discuss the possibility that chaos works functionally in the human brain. The notion of observation with chaos can be applied to the interpretation process of brain. With some intensive theories we will develop an extensive theory for chaotic Hermeneutics in brain.