FONDAMENTI CONCETTUALI ED EPISTEMOLOGICI DEL DETERMINISMO NEURALE. SUL VOLUME *MYTHOS DETERMINISMUS* DI B. FALKENBURG

di Paolo Giuspoli

Abstract. *In her* Mythos Determinismus – Wieviel erklärt uns die Hirnforschung?*, Falkenburg claims that in current debate in Neurosciences, traditional deterministic models are still widely employed even though they have been abandoned in Physics. Such models are useless both for explaining the rise of states of consciousness and for expounding the neural activity as such. In the following review article the main topics supporting this theory will be analysed, valuating the fundamental limits of neuroscientific explanation in the field of the conceptual and epistemological justification of research. Moreover, it will be highlighted: a) the connection between neural structures and cognitive functions; b) the limits of current methods of measuring brain activity; c) the use of the notion of «mechanism» in neurobiology and the irreversible nature of the brain processes; d) downward causation and the «mental causation» problem.*

Keywords. *Sciences of Mind; Determinism; Neuroscientific Explanation; Mechanism*