

PW01-167 - THE EMERGENCE OF NEURAL STEM CELLS AS EXAMPLE FOR "KUHNIAN" REVOLUTION IN BIOLOGY OR MISCONCEPTION OF THE SCIENTIFIC COMMUNITY?

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In a thought experiment we want to test how the emergence of adult

neural stem cells could constitute an example for a scientific revolution in the sense of Thomas Kuhn. In his major work, "The structure of scientific revolutions, 3rd edn, University of Chicago Press, Chicago" , Thomas Kuhn, states that scientific progress is not a cumulative process, but new theories appear by a rather revolutionary sequence of events. Kuhn built his theory on landmark events taken from chemistry and physics, lacking examples from biology. Beginning with Ramon y Cajal's famous quote, "no new neurons after birth", from the early years of the twentieth century, and Reynolds and Weiss's conflicting finding in 1992 of adult neural stem cells giving rise to new neurons, we will test how the finding of neural stem cells in the adult brain matches with Kuhn's theory. The pivotal problem of defining a paradigm will be our main focus, since the emergence of adult neural stem cells has been acclaimed by the scientific community as the rebuttal of Ramon y Cajal's paradigm.