The UCSD Cognitive Science Department announces a Distinguished Speaker Series lecture by

Terrence W. Deacon, Ph.D.

Biological Anthropology & The Helen Wills Neuroscience Institute,
University of California, Berkeley

Evodevo, devodevo, and the brain: Explaining the emergent features of human cognition

Darwin's theory of natural selection was only half a theory of evolution because it was agnostic about the mechanisms involved. The basis of inheritance, the causes of variation, the mechanisms of development, and so on could be ignored and yet it was still possible to give a logical account of species descent and modification with respect to the environment. In the past two decades the theoretical and experimental tools to complete this synthesis have begun to become available. But with this information has come a new appreciation of how the peculiarities of these various mechanism each contribute to the forms that tend to emerge in evolution. What has only recently become evident is that the effects of some of these mechanisms may actually depend on a relaxation of natural selection. This may help to explain how significant aspects of developmental control can become offloaded onto epigenetic self-organizing processes, social transmission, and niche construction effects. Using supportive data from a number of sources I will argue that there is evidence for extensive offloading of developmental control in human evolution and that this can help to account for the emergent character of many uniquely human attributes, from language to aesthetics to morality. Incorporating this information about phenotypic development into our theories of brain function, cognition, and human universals will require something on the order of a figure/background reversal from our currently popular innate instructionism.

Friday, February 20th, 2009
2pm
CSB 003
Reception to follow