

Webinar by Elkhonon Goldberg, PhD

WEBINAR "HOW THE BRAIN DEALS WITH NOVELTY AND UNCERTAINTY"

Fully deterministic, fixed situations exist only in psychology experiments. By contrast, real life is full of novel challenges and uncertainties. Furthermore, complex systems, both biological and artificial, must have the ability to acquire new information without degrading previously acquired information. In this webinar we will discuss how evolution "solved" these challenges by distributing the responsibilities between the two hemispheres: the right hemisphere is more adept at dealing with novel, ambiguous situations; and the left hemisphere at preserving well established knowledge and cognitive routines. We will review the developmental and neuroimaging evidence for this broad functional distinction, its neural mechanisms, and its evolutionary history in primates, dolphins, birds, and even in invertebrate species. We will also examine how this new understanding of hemispheric specialization sheds new light on certain neurological disorders.

Date and time:

March 11, 2021 (Thursday) from 2pm to 5:15pm Eastern Time (1pm – 4:15pm Central Time, 11am – 2:15pm Pacific Time)

March 14, 2021 (Sunday) from 12pm to 3:15pm Eastern Time (11am – 2:15pm Central Time, 9am – 12:15pm Pacific Time)

Topics to be covered:

What is wrong with the classic view of hemispheric specialization.

Morphological, cellular, and biochemical asymmetries in the brain.

Novelty vs familiarity is a fundamental cognitive distinction throughout evolution and in human development.

Cognitive novelty and the right hemisphere.

Cognitive routines and the left hemisphere.

Functional lateralization in primates, dolphins, birds, and bees.

Neural mechanisms behind the novelty-routinization distinction.

Aberrant laterality and its clinical manifestations.

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ABOUT THE INSTRUCTOR



The webinar will feature Elkhonon Goldberg, Ph.D., ABPP., a clinical neuropsychologist and cognitive neuroscientist, Clinical Professor in the Department of Neurology, NYU School of Medicine and Diplomate of The American Board of Professional Psychology in Clinical Neuropsychology.

Elkhonon Goldberg, Ph.D., ABPP authored numerous research papers on functional cortical organization, hemispheric specialization, frontal lobe functions and dysfunction, memory and amnesias, traumatic brain injury, dementias, and schizophrenia. Goldberg's books *The Executive Brain* (2001), *The Wisdom Paradox* (2005), and *The New Executive Brain* (2009) have met with international acclaim. He coauthored *The SharpBrains Guide to Cognitive Fitness* (2013). He was a student and close associate of the great neuropsychologist Alexander Luria.

Dr. Goldberg's more recent books are:

1. **Creativity: The Human Brain in the Age of Innovation** (Oxford University Press, 2018)
2. **Executive Functions in Health and Disease** (Academic Press, 2017)