Current Topics in Behavioral Neurosciences

Volume 41

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Timothy Hodgson
Editor

Processes of Visuospatial Attention and Working Memory

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Editor
Timothy Hodgson
School of Psychology
University of Lincoln
Lincoln, UK

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Visuospatial Integration and Hand-Tool Interaction in Cognitive Archaeology

Emiliano Bruner, Annapaola Fedato, María Silva-Gago, Rodrigo Alonso-Alcalde, Marcos Terradillos-Bernal, María Ángeles Fernández-Durantes, and Elena Martín-Guerra

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Abstract Testing cognitive hypotheses in extinct species can be challenging, but it can be done through the integration of independent sources of information (e.g., anatomy, archaeology, neurobiology, psychology), and validated with quantitative and experimental approaches. The parietal cortex has undergone changes and specializations in humans, probably in regions involved in visuospatial integration. Visual imagery and hand-eye coordination are crucial for a species with a remarkable technological and symbolic capacity. Hand-tool relationships are not only a

E. Bruner (✉), A. Fedato, and M. Silva-Gago
Centro Nacional de Investigación sobre la Evolución Humana, Burgos, Spain
e-mail: emiliano.bruner@cenieh.es; annapaola.fedato@cenieh.es; maria.silva@cenieh.es

R. Alonso-Alcalde
Museo de la Evolución Humana, Burgos, Spain
e-mail: ralonso@museoevolucionhumana.com

M. Terradillos-Bernal
Universidad Internacional Isabel I de Castilla, Burgos, Spain
e-mail: marcos.terradillos@ui1.es

M. Á. Fernández-Durantes and E. Martín-Guerra
Sociograph Marketing Science Consulting, Valladolid, Spain
e-mail: mafernandez@sociograph.es; emartin@sociograph.es

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Zelditch M, Swiderski D, Sheets DH, Fink W (2004) Geometric morphometrics for biologists: a primer. Elsevier Academic Press, Waltham

Zhang S, Li CSR (2012) Functional networks for cognitive control in a stop signal task: independent component analysis. Hum Brain Mapp 33:89–104

Zilles K, Amunts K (2010) Centenary of Brodmann's map – conception and fate. Nat Rev Neurosci 11:139–145

Zlatkina V, Petrides M (2014) Morphological patterns of the intraparietal sulcus and the anterior intermediate parietal sulcus of Jensen in the human brain. Proc Soc Biol 281:20141493