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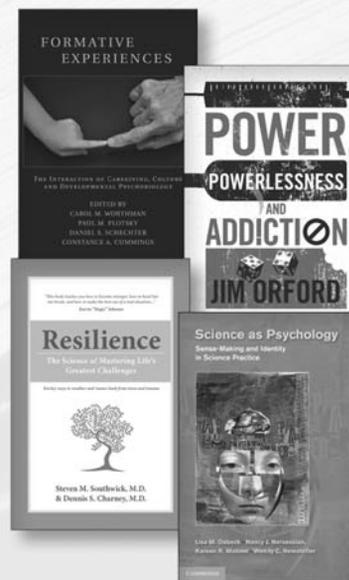
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**Martin J. Pickering and Simon Garrod**

## Toward a second-person neuroscience

**Leonhard Schilbach, Bert Timmermans, Vasudevi Reddy, Alan Costall, Gary Bente, Tobias Schlicht, and Kai Vogeley**

**To appear in upcoming issues (2013)**

## Navigating in a three-dimensional world

**Kathryn J. Jeffery, University College London, Aleksandar Jovalekic, University College London and Axona Ltd., Madeleine Verriotis, and Robin Hayman, University College London**

Spatial cognition research has provided considerable insights into how navigation occurs on the horizontal plane. However, the real world is three-dimensional, presenting additional challenges for representation and navigation. This article reviews emerging behavioral and neurobiological findings on spatial cognition in non-horizontal environments and suggests that in surface-travelling animals, and perhaps even more generally, three-dimensional spaces are represented in a quasi-planar "bicoded" fashion, with space in the plane of locomotion being represented differently from space in the orthogonal axis. We suggest that the mammalian spatial representation comprises a mosaic of these locally planar fragments, rather than a fully integrated, volumetric map.

**With commentary from** A Badets; M Barnett-Cowan & HH Bühlhoff; A Berthoz & G Thibault; I Bianchi & M Bertamini; T Burt de Perera, R Holbrook, V Davis, A Kacelnik & T Guilford; C-C Carbon & VM Hesslinger; PA Dudchenko, ER Wood & RM Grieves; FH Durgin & Z Li; AG Dyer & MGP Rosa; KJ Holmes & P Wolff; AM Howard & DM Frigaszy; C Hölscher, S Büchner & G Strube; DM Kaplan; RL Klatzky & NA Giudice; SR Lehky, AB Sereno & ME Sereno; KA Longstaffe, BM Hood & ID Gilchrist; CF Moss; D Nardi & VP Bingman; GA Orban; A Pasqualotto & MJ Proulx; H Peremans & D Vanderelst; JG Phillips & RP Ogeil; DMW Powers; HE Ross; F Savelli & JJ Knierim; H Schultheis & T Barkowsky; FT Sparks, KC O'Reilly & JL Kubie; F Stella, B Si, E Kropff & A Treves; RF Wang & WN Street; SM Weisberg & NS Newcombe; H Yamahachi, MB Moser & El Moser; S Zappettini & C Allen

## Climato-economic habitats support patterns of human needs, stresses, and freedoms

**Evert Van de Vliert, University of Groningen, Netherlands, and University of Bergen, Norway**

Why are fundamental freedoms so unevenly distributed across the earth? A new theory proposes that humans adapt needs, stresses, and freedom of choice to climatic demands of cold winters or hot summers by using monetary resources. An array of studies examines geographic variations (across 174 countries, 50 U.S. states, and 15 Chinese provinces) in freedom from want, fear, and discrimination; freedom of expression, of participation, and of self-realization. Results consistently show that freedom is lowest in poor populations threatened by demanding climates, intermediate in undemanding temperate climates irrespective of income per head, and highest in rich populations challenged by demanding climates.

**With commentary from** J Adamopoulos; G Ainslie; J Allik & A Ralo; J Arantes, RC Grace & S Kemp; RF Baumeister, J Park & SE Ainsworth; GM Burghardt; L Chang, B-B Chen & HJ Lu; S de Oliveira Chen & S Kitayama; M Desselles, C Duclos, V Flohimont & F Desselles; R Fischer; MJ Gelfand & J Lun; CD Güss; S Hrotic; R Iyer, M Motyl & J Graham; M Karwowski & I Lebuda; K Leung & GHL Cheng; JL Locke & CM Flanagan; S Loughnan, B Bratanova & P Kuppens; DR Murray; F Pahlavan & A Ammirrezvani; C Paternotte; A Sparks, S Mishra & P Barclay; A Terracciano & W Chan; JM Vigil, TJ Swartz & LN Rowell

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