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Insights from the brain

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Few developments in the world of science today attract as much curiosity, attention, and sheer excitement, as those originating in the brain sciences. Ideas, concepts, and images disseminated by brain scientists have quickly become part of our popular culture, and our growing obsession with the brain is shaping how we think of ourselves and of the human condition at large.

Exploiting the latest technological advances in imaging techniques, the recent explosion of the brain sciences has been nothing short of remarkable. The 1990s came to be known as the “Decade of the Brain”, as new non-invasive imaging technologies allowed the scientific community to peer into the living human brain and disclose a brave new neuro-world hitherto almost completely unknown to us. Their discoveries, as often rendered in the media through a combination of catchy headlines and colorful snapshots of the cortex, beckoned a promise of self and social improvement through the progressive unraveling of and the potentially dystopian progressive control over the secrets of the human mind.

Broadly understood, the brain sciences are an exciting new voice in the scientific field. Their findings are touching upon some of the conceptual and behavioral assumptions of the work carried out by the social sciences, and the challenge the latter face is how to engage productively with those findings, when relevant to their fields of inquiry, without falling into neurobiological reductionism or unduly naturalizing our understanding of humanity, human action, and human interaction. The articles in this special section bring together a select group of leading figures at the forefront of this engagement.

It is therefore not surprising that the majority of the articles concentrate on human evolution and what it is in our brain and our environment—both natural and social—that has made us the creatures we are: capable of language, thinking and thinking with others, feeling, and creativity. Daniel Lord Smail has pioneered the concept of “neurohistory”, a history exploring how cultural structures shape patterns of the brain-body system and alter forms of endocrine regulation. His article, “Neuroscience and the dialectics of history”, draws on environmental history, “environment” consisting here not merely of nature, but including our nervous system as an ecological niche in which the patterns of human culture emerged and evolved, to offer a reinterpretation of the medieval and early modern history of violence from the perspective of the neurobiology of stress. Smail’s emphasis on the principle of coevolution, or the ongoing dialogue between an organism and its environment (taken in an extended sense), finds echo in Michael Corballis’ paper, “The wandering mind”. Corballis is a world-renowned experimental psychologist, with a keen interest in the evolution of language, and in particular in the theory that language evolved gradually from manual gestures. In his paper, he looks into the neurological underpinnings of mind wandering, but also into the environmental factors that might have required enhanced social cognition and social planning, for which the capacity to wander mentally away from the present, to wander into the minds of others, and to transmit our wonderings to them would have been key. Also Mark Turin, a linguist and anthropologist, who is also a self-confessed

“language collector”, proposes to explore in his article, “Endangered languages, orality and cognition”, the intimate connection between language and environment, in particular between ecological and linguistic diversity (and perhaps, even, grammatical complexity), and the ways in which by endangering one we may be fatally wounding the other. The last paper in this special section, “Democratic deliberation vs. deliberation within”, is the result of collaborative work between a cognitive social scientist, Hugo Mercier, and a political theorist, H el ene Landemore, who take as their starting point an argumentative theory of reasoning, with major consequences for our understanding of the origins of verbal communication. If reason has a function, the theory claims, it is not to help us arrive at better (i. e., true and accurate) beliefs, but to help us make better decisions, by helping us win an argument, and to be careful when others try to convince us of theirs. In their article, Mercier and Landemore, apply this theory to politics, to argue that deliberative democracy is vindicated by the fact that deliberation with others produces results that are epistemically superior to those produced by solitary reasoning or by discursive exchanges restricted to those who think similarly to us.

In all their diversity and through a variety of disciplinary lenses, these articles explore aspects of the brain sciences, broadly conceived, to raise new hypotheses, to challenge dominant paradigms, to reinvigorate established theoretical frameworks, and to propose novel explanations, in their respective fields. They show how new interdisciplinary fields might be forming, while they also offer examples of how the brain sciences and the social sciences might productively interrogate one another and speak to one another’s concerns, without cancelling out each other’s distinctive voice.

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