

CONFERÊNCIA ICS 2011

INSTITUTO DE CIÊNCIAS SOCIAIS

DA NOS CONFINES
RAZÃO

AS FRONTEIRAS DA COGNIÇÃO HUMANA

Design . João Pedro Silva

Organização . Filipe Carreira da Silva

29 NOV

PROGRAM

10.30h	Presentation of ICS Conference 2011 Jorge Vala, Director of Instituto de Ciências Sociais - UL
10.45h	Opening Remarks Filipe Carreira da Silva, Conference Convenor (ICS-UL) "Social Sciences and Social Neurosciences Today - Challenges and Opportunities"
11.00h - 12.30h	SESSION 1 . Neuro-Plasticity and Neuro-History Daniel Lord Smail (Harvard University) "Neuroscience and the Dialectics of History" Alexandre Castro Caldas (Portuguese Catholic University) "Brain plasticity"
Lunch	At ICS-UL, 5th Floor
14.00h - 16.00h	SESSION 2 . Mental Time, Language(s) and Deliberation Michael C. Corballis (University of Auckland) "The wandering mind: Mental time travel, theory of mind and language" Mark Turin (Yale University and University of Cambridge) "Endangered languages, orality and cognition: Voices of vanishing worlds" Hélène Landemore and Hugo Mercier (Yale University) "Democratic deliberation vs. "Deliberation within" and the "law of group polarization": Some implications of the argumentative theory of reasoning for deliberative democracy"
Coffee-break	
16.30h - 18.00h	SESSION 3 . The Thinking Body Scott deLahunta (Wayne McGregor Random Dance, UK) "Choreographic thinking tools: Applying insights from science to the creative process" David Kirsh (UCSD, USA) "Thinking with the body: A case study from choreography"

ABSTRACTS

SESSION 1 . Neuro-Plasticity and Neuro-History

Daniel Lord Smail

“Neuroscience and the Dialectics of History”

History and neuroscience make strange bedfellows. The past cannot easily offer neuroscientists a set of readily testable hypotheses; historians, in turn, are temperamentally disinclined to have much to do with behavioral or psychological patterns that appear to be universal. Even so, it is possible to develop an understanding of the human past that relies on the insights of neuroscience. The key, I believe, is to develop a new architecture for historical understanding based on biological principles of coevolution.

In this paper, I seek to illustrate how the nervous system and, in particular, the reward system and the stress-response system constituted a niche in which human institutions and behavioral patterns evolved. The key to making this a historical argument lies in the principle of niche construction: the idea that an organism does not lie passively within its niche but (to a greater or lesser degree) is continuously engaged in constructing that niche. In this case, although the neurobiological substrates of the reward system and the stress-response system in any given person are human universals, both systems are shaped or molded to some degree by that person's developmental and cultural circumstances. These developmental and cultural patterns, moreover, are not unique to individual phenotypes. They are typically expressed across groups ranging in size from bands to regions or nations. For this reason, it is possible to speak of aggregate brain-body states that are characteristic not just of individuals but of whole groups. Using select case studies, I hope to show how the insights of neuroscience can be used to frame a history that described a continuous, ongoing, and open-ended dialectic between human behavioral patterns on the one hand and brain-body systems on the other.

Alexandre Castro Caldas

“Brain plasticity”

We learned with Santiago Ramon y Cajal, at the beginning of the twentieth century, that neurons communicate and seek for connections by moving their axons. Since then we understood several basic mechanisms involved in this cellular interconnection at the most basic level and tried to correlate them with major goals of human behavior. It is possible today to discuss neuroplasticity in several domains: brain development, learning, cultural involvement and recovering following brain lesions. It is understood that changes in cellular arrangements may follow external stimulation. It is also understood that changes in cellular arrangements may be responsible for changes in performance. However, we do not understand entirely the rules that regulate this brain/behavior dialogue. We tended to believe that this adaptation to the world occurred in the interest of the subject but this is not always so. It is still possible to discuss the role played by these mechanisms in the emergence of conscientious thought in humans.

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SESSION 2 . Mental Time, Language(s) and Deliberation

Michael C. Corballis

“The wandering mind: Mental time travel, theory of mind and language”

It is widely assumed that the primary characteristics distinguishing the human mind from that of other species are language and symbolic thought. I argue instead that a deeper source of human distinctiveness lies in our capacity to disengage from the personal present, and consciously engage with past, future and fictional events and with the mental processes of others. Brain-imaging shows extensive neural overlap between activation of memories of past episodes and the imagining of possible future episodes, implying a general and largely unique capacity to travel mentally in time. Engaging with the minds of others through so-called “theory of mind” may also be uniquely human, at least in terms of recursive depth; great apes may be aware of what others can see or feel, but only we humans can be aware not only of what others know or believe, but also aware that others are aware of what we know or believe. Language was an outgrowth of these capacities, allowing us to share information about our mental time travels, and indeed create purely imaginary scenarios. This mental wandering out of the present and factual, and into the minds of others, may have been critical to human bonding and planning during the harsh and dangerous conditions of the Pleistocene.

Mark Turin

“Endangered languages, orality and cognition: Voices of vanishing worlds”

Nearly half of the world's 6,500 languages spoken today will cease to be used as communicative vernaculars by the end of this century. Most of these endangered languages are oral speech forms, with little if any traditional 'written' literature. If undocumented, these tongues each representing a unique insight into the human condition and its most powerful defining feature, language risk disappearing without trace.

But the death of a language is not just about words, syntax and grammar; nor does it affect only small, remote ethnic groups. Each language conveys unique forms of cultural knowledge, transmitting history as well as understandings of the natural world. Speech forms also encode oral traditions and social relations. When elders die and livelihoods are disrupted, these creative expressions can become threatened, as speakers are rarely in a position to translate or export out their culturally unique cognitive processes into regionally dominant languages.

In this presentation, I address mono-, multi- and semi-lingualism; and discuss the unique spatial and temporal worlds inhabited by communities whose languages are still principally oral. Drawing on 20 years of fieldwork in the Himalayas, I reflect on how technology is impacting global linguistic diversity, and whether new digital tools are helping to revitalise or further erode the voices of these vanishing worlds.

ABSTRACTS

Hélène Landemore and Hugo Mercier

“Democratic deliberation vs. “Deliberation within” and the “law of group polarization”:
Some implications of the argumentative theory of reasoning for deliberative democracy”

This paper considers some implications of a new psychological theory of reasoning “the argumentative theory of reasoning” for the normative ideal at the heart of deliberative democracy. The paper argues that the argumentative theory of reasoning provides theoretical support for the discursive, dialogical ideal of democratic deliberation and converges with deliberative democrats' predictions about the positive epistemic properties of talking things out with others. The paper also debunks two influential objections to democratic deliberation that can also be addressed to the predictions of the argumentative theory of reasoning. The first is the claim that “deliberation within” (a form of internal ratiocination) rather than deliberation with others carries most of the burden in terms of changing people's minds. The other is the claim that the so-called “law of group polarization” casts serious doubts on the value of democratic deliberation and, more generally, the ideal of deliberative democracy.

SESSION 3 . The Thinking Body

Scott deLahunta

“Choreographic thinking tools: Applying insights from science to the creative process”

WM|RD was founded in 1992 and became the instrument upon which McGregor evolved his drastically fast and articulate choreographic style. Collaborations with leading multi-disciplinary artists enriched the company's futurist aesthetic and dramatically enlarged the possibilities of dance. McGregor's passion for fresh perspectives and a widening range of influences has led to a sustained research into the nature of dance making and the body. Over the last decade, the company has evolved into an interdisciplinary laboratory aimed at generating new understandings of choreographic practice through an interdisciplinary collaboration with specialists in the field of cognitive science. For McGregor, this research has fueled the creation of original artwork starting with *AtaXia* (2004) and continuing with *Amu* (2005), *Entity* (2008), *Dyad 1909* (2009) and *FAR* (2010). It has also generated new tools and methods informed by science for enhancing creativity in dance. In 2009, this research work was consolidated under the heading of a new department (Random-Research) responsible for applying the results to the development of new tools and methods for choreographic creation, analysis and production. During a residency at EMPAC (Experimental Media and Performing Arts Center, Troy, NY) in early 2010, the first application of the science research to the development of Choreographic Thinking Tools took place. McGregor and R-Research have nurturing long-term relationships with a small number of specialists in cognitive, computer and neuroscience. Two of the key scientists involved in these projects over many years, Dr. Phil Barnard from the Cognition and Brain Studies Unit, MRC, Cambridge and Dr. David Kirsh, Director of the Interactive Cognition Lab at UC San Diego, are now permanent Associates with WM|RD. With this network, McGregor and R-Research is seen to be leading interdisciplinary research into creative thinking with the body in the context of choreographic practice and the development of related theories and applications. Scott deLahunta, Director of R-Research, will give a brief overview of this collaborative research and how it has been applied in the creative process with WM|RD. This will be followed by a presentation by Dr. David Kirsh.

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David Kirsh

“Thinking with the body: A case study from choreography”

To explore the question of physical thinking – using the body as an instrument of cognition – we collected extensive video and interview data on the creative process of a noted choreographer and his company as they made a new dance.

We report here on two phenomena: 'marking' and 'riffing'. Marking refers to dancing a phrase in a less than complete manner. Dancers and theorists tend to assume that dancers mark primarily to save energy. But closer study shows that because marking behaves like a physical representation it can serve as a vehicle for thought. It lets dancers reflect on their movement in more focused ways than either dancing 'full out' or reflectively thinking entirely in their heads without moving at all.

The second phenomenon, riffing, is a practice found among choreographers who physically try out movement ideas before sharing them with their dancers. The obvious reason to riff is to rehearse a movement before teaching it. Again, though, close ethnographic study suggests that riffing serves a second function. It may be performed more as a technique for generating new ideas than for practice. When riffing, it seems that the choreographer is taking an idea that first arose in one sensory modality and mapping it into another modality. Different sorts of movement ideas are generated in our different sensory systems – vision, kinesthetic, haptic, proprioceptive. Each system codes a movement in a slightly different way. By mapping between these modalities representational or experiential differences can be exploited for creative ends, provoking new ideas in the choreographer and giving him insight into the aesthetic possibilities of a movement.

Both these phenomena suggest that the body can be harnessed as a thing to think with in a manner that extends the central idea of embodied cognition. The essence of embodied cognition is that cognitive processes are grounded in modality specific brain systems; that the way we originally acquired concepts through sight, sound, and touch, for instance, continues to affect our understanding of those concepts, long after they have been abstracted from specific senses. Understanding, therefore, is akin to simulation. When we grasp the meaning of a situation – a person cutting a tomato, or the wind whipping up the sand at the beach – we reactivate sensory traces of what it would be like to cut a tomato or to feel and observe sand being blown in the wind. Our research on dance extends the idea of embodiment because it shows how working across modalities reshapes conceptualization beyond its origins. It shows how the body can figure in extending the range of thought. It also shows how the body can carry some of the weight of thinking – it can mediate certain forms of thought.

BIOS PARTICIPANTS



Alexandre Castro-Caldas
Neurology, Portuguese Catholic University

Professor Castro-Caldas is currently Director of the Institute of Health Sciences of Portuguese Catholic University and was Full Professor of Neurology, until 2004, at the University of Lisbon and Head of the Department of Clinical Neurosciences of the Hospital de Santa Maria, in Lisbon, Portugal.

He earned his M.D. and his Ph.D. from the University of Lisbon School of Medicine, where he started his career in 1974. He has been responsible for the Language Research Laboratory until 1998 and organized the Center for Neurosciences of Lisbon in 1990. He was President of the International Neuropsychological Society (2000-2001).

His current research interests include several topics in Cognitive Neurosciences and in particular the modulatory effect of environmental stimulation in the human brain.



Michael C. Corballis
Psychology, University of Auckland

Michael C. Corballis is a professor in the Department of Psychology at the University of Auckland, New Zealand. He has an M.A. from the University of Auckland and a Ph.D. from McGill University, where he taught in the Department of Psychology from 1968 to 1978. He is the author of, among other books, *From Hand to Mouth: The Origins of Language* (Princeton University Press, 2002). His interests are in cognitive neuroscience and evolution.



Scott deLahunta
R-Research, Wayne McGregor Random Dance (WM/RD), UK

Scott deLahunta has worked as writer, researcher and organiser on a range of international projects bringing performing arts with a focus on choreography into conjunction with other disciplines and practices. He is currently Senior Research Fellow Coventry University/ R-Research Director, Wayne McGregor|Random Dance and Program and Research Coordinator Motion Bank/ The Forsythe Company. He serves on the editorial boards of *Performance Research*, *Dance Theatre Journal* and the *International Journal of Performance and Digital Media*.



David Kirsh
Cognitive Science, UCSD, USA

David Kirsh is Professor and past chair of the Department of Cognitive Science at UCSD. He was educated at Oxford University (D.Phil), did post doctoral research at MIT in the Artificial Intelligence Lab, and has held research or visiting professor positions at MIT and Stanford University. He has written extensively on situated cognition and especially on how the environment can be shaped to simplify and extend cognition. He runs the Interactive Cognition Lab at UCSD where the focus is on the way humans are closely coupled to the outside world, and how human environments have been adapted to enable us to cope with the complexity of everyday life. Some recent projects focus on ways humans use their bodies as things to think with, especially in dance making and choreographic cognition.

BIOS PARTICIPANTS



H el ene Landemore
Political Science, Yale University

H el ene Landemore (Ph.D. Harvard University 2008) is Assistant Professor of Political Science. Before coming to Yale, she held successive post-doctoral positions at the Coll ege de France in Paris (Chaire de Rationalit e et Sciences Sociales), Brown University (Political Theory Project), and M.I.T.

Her research interests include democratic theory, theories of justice, the philosophy of social sciences (particularly economics) and the history of thought (particularly Enlightenment thinkers). H el ene published her first book on "Hume: Probability and Reasonable Choice" (Paris PUF 2004). She is currently working on several projects, including a collaboration with the psychologist Hugo Mercier on the evolutionary function of deliberation.



Daniel Lord Smail
History, Harvard University

Daniel Lord Smail is Professor of History at Harvard University. He is the author of *Imaginary Cartographies* (1999), which won the American Historical Association's Herbert Baxter Adams Prize and the Social Science History Association's President's Award; *The Consumption of Justice* (2003), which won the Law and Society Association's James Willard Hurst Prize; and co-editor of *Fama: The Politics of Talk and Reputation in Medieval Europe* (2003).



Mark Turin
Anthropology, Yale University and University of Cambridge

Mark Turin (PhD, Linguistics, Leiden University, 2006) is a linguist and anthropologist. Before joining the South Asian Studies Council at Yale, Mark was a Research Associate at the Museum of Archaeology and Anthropology at the University of Cambridge. Now co-located at Cambridge and Yale, Mark directs both the World Oral Literature Project, an urgent global initiative to document and make accessible endangered oral literatures before they disappear without record, and the Digital Himalaya Project which he co-founded in 2000 as a platform to make multi-media resources from the Himalayan region widely available online. He writes and lectures on ethnolinguistics, visual anthropology, digital archives and fieldwork methodology at the University of Cambridge. He is the author or coauthor of four books, the editor of five volumes and has published numerous articles and book chapters.