

# Explanatory Pluralism in Cognitive Science



**University College Dublin  
Sutherland School of Law, Room L246**

**Monday June 20<sup>th</sup>, 2016, 9.00 am – 6.00 pm**

**A workshop convened by the UCD Graduate Programme in Cognitive  
Science in conjunction with “When Experts Disagree” (WEXD)  
Research Project**

Participation is open to all, but attendees are asked to email [fred.cummins@ucd.ie](mailto:fred.cummins@ucd.ie) to confirm their attendance.

## Provisional Programme

9:00 - 9:10 Welcome

9:10 - 9:55 Fred Cummins (University College Dublin)  
"Who/What is the Subject of Cognitive Science?"

9:55 - 10:40 Aleksandra Derra (Nicolaus Copernicus University, Poland and TCD)  
"Brain, Gender and Cognition: Feminist critical approach to neuroscience"

10.40 - 11.00 Coffee Break

11:00 - 12:00 John Stewart (Technological University of Compiègne, France)  
"Missing the Wood for the Trees"

12:00 - 12:45 Markus Schlosser (University College Dublin)  
"Embodied Cognition and Temporally Extended Agency"

12.45 - 13.45 Lunch

13:45 - 14:45 Anthony Chemero ( University of Cincinnati)  
"Theories and Models in the Cognitive Sciences"

14:45 - 15:30 Mikio Akagi (Texas Christian University and WEXD)  
"A Model of Expert Conceptual Disagreement in Cognitive Science"

15.30 – 15.50 Coffee Break

15:50 - 16:35 Marek McGann (University of Limerick)  
"Making it Personal: Interacting scales of description and explanation in Cognitive Science"

16:35 - 18:00 Round Table Discussion (Moderator: Maria Baghramian, UCD and WEXD)

Supported by WEXD: "When Experts Disagree" (IRC New Horizons), UCD Seed Funding, and UCD School of Philosophy

## Abstracts

**Fred Cummins** (University College Dublin)

### ***Who/What is the Subject of Cognitive Science?***

My empirical work on the widespread behaviour of speaking in unison has led me to a painful awareness of the problematic assumptions underlying the treatment of the subject in cognitive science. This raises the question of what cognitive science thinks its subject matter is (a quandry familiar from the early days of the establishment of “scientific psychology”), and, more interestingly, how it handles the notion of a subject (or person, or mind, or soul, or cognitive system, or . . .). I will touch on some important landmarks in tracing a genealogy of the subject as it pertains to scientific inquiry, but it will be immediately clear that the issues raised necessarily demand an awareness of religious foundations, of political divisions, and of the nature of scientific inquiry itself. Cognitive science seems to demand reflective inquiry by its practitioners, which places it in a curious position indeed.

**Aleksandra Derra** (Nicolaus Copernicus University, Centre for Gender and Women’s Studies, TCD)

### ***Brain, Gender and Cognition. Feminist Critical Approach to Neuroscience***

The relationship between feminism and biological sciences has always been a difficult and painfully complex one. In particular, certain claims of the evolutionary studies and genetics concerning the biological origin of gender roles seem to stand in clear opposition to the critical attitude of feminism and its emancipatory aims. Androcentric biases are common: they have been identified in many theories and scientific practices by scholars working within feminist epistemology, feminist philosophy of science and feminism-oriented science and technology studies. Research in such fields has a tradition of more than forty years now, and we need to admit that science has changed dramatically in more ways than one over that time. For example, recent methodological literature in biology has announced that the discipline is approaching a post-genome era, heading towards the so-called ‘systems biology’, and undergoing a transition in molecular biology from the reductive methodology of the pre-double helix times to a more holistic approach of systems biology. Such tendencies make us raise the question if it could be possible to combine the feminist critical approaches with the scientific hypotheses about sex, gender, femininity and masculinity that are put forward in different scientific disciplines. I offer several preliminary answers to this question, pointing to a recent theoretical frame called ‘neurofeminism’, which is introducing a critical feminist perspective into current brain sciences. Thus, the purpose of my talk is to present its basic aims, the most important notions and the most crucial theses. Additionally I explore how it can enrich our views within the feminist studies of knowledge.

**John Stewart** (Technological University of Compiègne, France)

***Missing the Wood for the Trees***

“Enaction” is a metaphor drawn from the world of theatre: the actors “enact” a scene or a whole play, they “bring forth” an experience in real time, they make it happen, they bring it to life. What I want to emphasize is that Enaction is actually of more vital, challenging significance to every one of us: we each enact the world we live in, every moment of every day of our life; it concerns each of personally. Enaction is thus an existential register; and I propose to examine how and why it is especially risky for us as academic scientists. “Science” is supposed to aim at objectivity; and it is very widely supposed that attaining objectivity requires the elimination of subjectivity. But subjectivity, if it is assumed as such, is neither more nor less than first-person experience as lived from the inside; and it is precisely this which is at the core of Enaction. We are clearly on dangerous ground here; Enaction, if it is taken seriously in what I see as its core, poses a manifest threat to our normal functioning as scientists.

**Markus Schlosser** (University College Dublin)

***Embodied Cognition and Temporally Extended Agency***

According to radical versions of embodied cognition, human cognition and agency can be explained without the ascription of representational mental states. According to a standard reply, accounts of embodied cognition can explain only instances of cognition and agency that are not “representation-hungry”. Two main types of such representation-hungry phenomena have been discussed: cognition about “the absent” and about “the abstract”. Proponents of representationalism have maintained that a satisfactory account of such phenomena requires the stipulation of mental representations, and their opponents have denied this. I will argue that there is another important representation-hungry phenomenon that has been overlooked in this debate: temporally extended planning agency. I will argue, in particular, that it is very difficult to see how planning agency can be explained without the ascription of mental representations, even if we grant that cognition about the absent and abstract can be explained without the ascription of mental representations. We will see that this is a serious challenge for the radical and the more modest anti-representationalist versions of embodied cognition.

**Anthony Chemero** ( University of Cincinnati)

***Theories and Models in the Cognitive Sciences.***

Some philosophers have argued that models in the sciences are autonomous, which is to say that they are independent of particular scientific theories. I will illustrate the autonomy of models in cognitive science by comparing and contrasting--mostly contrasting--ecological and enactive approaches. I will then argue that the very same scientific models can be seen as supporting these very different approaches. I will end by speculating on the roles of philosophy in the cognitive sciences.

**Mikio Akagi** (University College Dublin)

***A Model of Expert Conceptual Disagreement in Cognitive Science***

Cognitive science has been beset for thirty years by foundational disputes about the nature and extension of cognition—e.g. whether cognitive processes extend outside the body, and whether plants have them. Recent work on this topic has aimed to identify a criterion to settle these disputes. However, since expert judgments about the extension of cognition vary so much, I suggest that a faithful and illuminating explication of the scientific concept of cognition should be *ecumenical*. That is, it should explain the variance in scientists' judgments, rather than taking sides or treating the variance as noise. Thus an ecumenical explication should classify humans as straightforward cases of cognitive systems and plants as controversial cases. I do this by identifying *parameters*, or terms that can be assigned variable interpretations. Finally, I describe a parameterized explication of cognition according to which cognition is the sensitive management of organismal behavior, and show that it correctly classifies various cases.

**Marek McGann** (Mary Immaculate College, University of Limerick)

***Making it Personal: Interacting scales of description and explanation in Cognitive Science***

A large number of factors have played a role in ensuring that Psychology, and Cognitive Science more generally, have been blinded to key aspects of their subject matter. Our attempts to understand the mind, behaviour, cognitive activity, or however we might describe the focus of the inter-disciplinary endeavour, are subject to moral, political, and philosophical tensions that pull against some of the kinds of scientific activity that enable key phenomena to come into view. I will briefly mention some of these tensions, but will explore in detail the challenge of understanding the relationship between a human being and their environment, and the tension that exists in describing the same phenomenon at different temporal and physical scales. Human behaviour occurs in multiple nested and interdependent systems. I will suggest that the first-person perspective that accompanies much of this behaviour has made theorising or systematically observing

many other aspects of the phenomena in question very difficult, and prevented the adequate conduct of what I will term the “butterfly collection” phase in the development of a science, where inductive reasoning predominates. Outlining the best example of such “butterfly collection” that exists in the psychological literature - the “eco-behavioural” work of Roger Barker and the others of the Midwest Field Station - I will attempt to illustrate how exploring these different scales of behavioural phenomena more systematically can enable us to ask questions central to understanding cognitive activity at both the group and individual level, including such basic considerations such as what it is for a behaviour to be personal.