Minds in Common

The Second Aarhus-Paris Conference on Coordination and Common Ground

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Ecole Normale Supérieure, 45 Rue d'Ulm

Salle Dussane

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This event is organized by Mattia Gallotti (Jean Nicod Institute) & John Michael (Copenhagen University and University of Aarhus).

PROGRAM

TUESDAY, JUNE 25

8:30 **Registration**

9:00 *Welcome*

Mattia Gallotti (Jean Nicod Institute) and **John Michael** (University of Copenhagen & Mind*Lab*, Aarhus)

9:15 *Welcome Address*

Francois Recanati (Jean Nicod Institute)

9:30 *Keynote Lecture:* Three Doctrines in Social Ontology

Philip Pettit (Princeton University & Australian National University)

Chair: **Joelle Proust** (Jean Nicod Institute)

10:30 *Coffee Break*

11:00 *Talk:* The Myth of Jones Revisited: Our Dennettian Ancestors

Tad Zawidzki (George Washington University)

11:45 *Talk:* Two Modes of Cultural Transmission

Nicholas Shea (King's College London)

12:30 *Lunch*

14:00 *Poster Session* (ENS, Salle Dussane)
Chair: **Roberto Casati** (Jean Nicod Institute)

15:00 *Talk:* Neuronal Foundations of Rule Compliance in Human Decision-Making

Etienne Koechlin (Ecole Normale Supérieure)

15:45 *Talk:* Synchronized and Complementary Mechanisms in Tightly Coupled Two-Person Interactions

Ivana Konvalinka (Technical University of Denmark & Central European University)

16:30 *Coffee Break*

17:30 *Keynote Lecture:* Rational Choice in the Neolithic Transition

Kim Sterelny (Australian National University)

Chair: **Gloria Origgi** (Jean Nicod Institute)

20:00 *Dinner*

WEDNESDAY, JUNE 26

9:30 *Keynote Lecture:* The Epidemiology of Common Ground: A Cognitive and Ecological Approach

Dan Sperber (Central European University & Jean Nicod Institute)

Chair: **Jeppe Sinding Jensen** (Mind*Lab*, Aarhus)

10:30 *Coffee Break*

11:00 *Talk:* Establishing Common Ground through Embodied Language Games. Theory and Robotic Experiments

Luc Steels (Vrije Universiteit Brussel)

11:45 *Keynote Lecture:* Human Collaboration

Michael Tomasello (Max Planck Institute for Evolutionary Anthropology)

Chair: **Pierre Jacob** (Jean Nicod Institute)

12:45 *Lunch*

14:30 *Talk:* Politics in the Mind's Eye: Imagination as a Link between Social and Political Cognition

Michael Bang Petersen (Mind*Lab*, Aarhus)

15:15 *Talk:* For the Greater Good? The Antisocial, Amoral, Non-Utilitarian Basis of (so-called) 'Utilitarian' Judgment

Guy Kahane (University of Oxford)

16:00 *Coffee Break*

16:30 *Talk:* Communicative Implicatures and Forward Induction

Christina Pawlowitsch (Pantheon-Assas University)

17:15 *Talk:* An Integrated Theory of Language Production and Comprehension

Martin Pickering (University of Edinburgh)

18:00 *Talk:* Towards Natural and Efficient Human-Robot Collaboration

Estela Bicho (University of Minho)

18:45 *Final Remarks*

Andreas Roepstorff (Mind*Lab*, Aarhus)

20:00 *Dinner*

ABSTRACTS

Estela Bicho (University of Minho)

Towards Natural and Efficient Human-Robot Collaboration

As robot systems are moving as assistants into human everyday life, the question how to design robots capable of acting as sociable partners in collaborative joint activity becomes increasingly important. The capacity to anticipate and take into account action goals of a partner is considered a fundamental cognitive capacity for successful cooperative behaviour in a shared task. We will report about our approach towards creating socially intelligent robots that is heavily inspired by recent experimental and theoretical findings about the neurocognitive mechanisms underlying joint action in humans. We believe that designing cognitive control architectures on this basis will lead to more natural and efficient human-robot interaction/collaboration since the teammates will become more predictable for each other. Central to our approach is a close action-perception link. The control model implements the joint coordination of actions and goals as a dynamic process that integrates contextual cues, shared task knowledge and the predicted outcome of the partner's motor behaviour. Ultimately, the model realizes a flexible and contextually appropriate mapping between observed and executed action. We validate the approach in construction tasks in which an anthropomorphic robot and a human user jointly construct toy objects. We show that the context-dependent mapping from action observation onto appropriate complementary actions allows the robot to cope with dynamically changing joint action situations. More specifically, the results illustrate crucial cognitive capacities for efficient and successful human-robot collaboration such as goal inference, error detection and anticipatory action selection.

Guy Kahane (University of Oxford)

For The Greater Good? The Antisocial, Amoral, Non-Utilitarian Basis of (so-called) 'Utilitarian' Judgment

Recent work in the cognitive science of morality has been taken to show that moral judgment is largely based on immediate intuitions and emotions, but that utilitarian judgment is an important exception that is uniquely based on 'rational' deliberation. These results have even been claimed to lend support for a utilitarian approach to ethics. In this talk, I will argue that these claims about utilitarian judgment involve serious conceptual mistakes, and are based on a misinterpretation of the empirical evidence. Drawing on some of our own empirical research, I will show that so-called

‘utilitarian; judgments in response to trolley cases often have little to do with concern for the greater good, and may actually express antisocial and amoral tendencies.

Etienne Koechlin, Ecole Normale Supérieure

Neuronal Foundations of Rule Compliance in Human Decision-Making

Complying with rules at the expense of personal preferences is at the foundation of human behavior in social groups. According to the “utilitarian/consequentialist” view, individuals comply with rules because they ultimately prefer the consequences of following rather than departing from rules: conforming to rules thus remains a choice driven by preferences over choice outcomes. According to the “normative/deontological” view, alternatively, individuals comply with rules because rules mentally prevail over preferences: rules drive choices by overriding the influence of preferences over choices. In this talk, I will present recent behavioral and neuroimaging evidence from our lab showing that decision processes in the prefrontal cortex operates according to the normative/deontological scheme. We found that irrespective of actual choices and rules, medial prefrontal regions submit to lateral prefrontal regions subjective preferences over behavioral alternatives based on expected outcomes. Lateral prefrontal regions select behaviors according to such preferences, unless conflicts occur with learned rules implemented in lateral prefrontal regions. In that case, rules in lateral prefrontal regions select behaviors by successfully overriding the influence of subjective preferences originating from medial PFC regions. The results show that prefrontal decision processes enable individuals to comply with rules, while their own preferences concomitantly oppose rather than align with rules and drive such choices: individuals may deliberately comply with a rule, while concomitantly preferring to depart from the rule and to act differently. This prefrontal organization promotes rule-learning and rule-based behaviors, thereby favoring the emergence and stability of multiple rules regulating individual behaviors in human groups, like cooperative and coordinative rules that individuals often follow at the expense of their own immediate preferences without omniscient foresights of long-term benefits.

Ivana Konvalinka (Technical University of Denmark & Central European University)

Synchronized and Complementary Mechanisms in Tightly Coupled Two-Person Interactions

Successful social interactions rely upon the abilities of two or more people to mutually exchange information in real-time, while simultaneously adapting to one another. In this talk, I will present studies of two-person interactions, which show that people rely on both symmetrical and complementary motor adaptation when mutually coupled. When there is an asymmetry in task difficulty between partners, they negotiate coordination strategies in order to optimally reach a common goal, such that one person takes on the role of a leader, and the other of a follower. Moreover, these complementary leader-follower roles can be predicted from dual-EEG recordings of brain activity.

Christina Pawlowitsch (Pantheon-Assas University)

Communicative Implicatures and Forward Induction

In this talk I will try to connect two theories that have been developed in two different fields: the theory of *communicative implicatures* (Grice 1975) and the game-theoretic notion of *forward induction* (Kohlberg and Mertens 1986). I will argue that what the two theories describe can be analyzed as instances of the same mechanism, namely that one actor strategically exploits the counterfactual reasoning of another actor; more precisely, that one actor pushes the other into a situation where this one is forced to infer information (and thereby give meaning) to the fact that the first one did not take a particular action though he could have taken it. Game theorist have described and studied this type of reasoning - *forward induction* in their language - typically in so-called outside-option games. I will suggest such a game to model communicative implicatures. For forward-induction to work it needs to be commonly know what is the outside option. In the game I present, talking according to the maximes is to take the outside option; violating the maximes is to push the other into a ``game" (a subgame of the entire game). In this perspective, the role of conventions is to make commonly know what are the outside options.

Michael Bang Petersen (Mind*Lab*, Aarhus)

Politics in the Mind's Eye: Imagination as a Link between Social and Political Cognition

How do modern individuals form a sense of the vast societies they live in? Social cognition evolved to make sense of small, intimate social groups but in complex mass societies comparable

vivid, social cues are scarcer. In this talk, I argue and provide evidence for the importance of internal mental simulation, imagination, as a generator of cues and information when people make sense of mass politics. By putting forth a range of evidence on the effects of individual differences in imagination, I seek to demonstrate that political cognition relies on vivid, mental simulations that engage evolved social and emotional decision-making mechanisms. It is in the mind's eye that vividness and engagement is added to people's sense of mass politics.

Philip Pettit (Princeton University & Australian National University)

Three Doctrines in Social Ontology

Might any plausible laws of social science imply that our folk psychology of individual mentality is misconceived (as distinct just from being mistaken on various matters)? Are our social relationships essential in a constitutive rather than a merely causal way to how we are minded? And are the group agents we form for various purposes capable of having minds of their own? These three questions about mind and society, which are at the core of concerns in social ontology, are often confused with one another, despite being logically independent. This paper attempts to provide a map of the terrain in which they arise.

Martin Pickering (University of Edinburgh)

An Integrated Theory of Language Production and Comprehension

Currently, production and comprehension are regarded as quite distinct in accounts of language processing. In rejecting this dichotomy, we instead assert that producing and understanding are interwoven, and that this interweaving is what enables people to predict themselves and each other. We start by noting that production and comprehension are forms of action and action perception. We then consider the evidence for interweaving in action, action perception, and joint action, and explain such evidence in terms of prediction. Specifically, we assume that actors construct forward models of their actions before they execute those actions, and that perceivers of others' actions covertly imitate those actions, then construct forward models of those actions. We use these accounts of action, action perception, and joint action to develop accounts of production,

comprehension, and interactive language. Importantly, they incorporate well defined levels of linguistic representation (such as semantics, syntax, and phonology). We show (a) how speakers and comprehenders use covert imitation and forward modeling to make predictions at these levels of representation, (b) how they interweave production and comprehension processes, and (c) how they use these predictions to monitor the upcoming utterances. We show how these accounts explain a range of behavioral and neuroscientific data on language processing and discuss some of the implications of our proposal.

Nicholas Shea (King's College London)

Two Modes of Cultural Transmission

This paper contrasts two modes of cultural transmission – two ways that information is shared between people. The first is the familiar process where a skill, technological innovation or other form of behaviour is passed on with understanding, by people who appreciate what it is good for. The second involves imitation of a detailed behavioural disposition without understanding why the behaviour should be performed in exactly that way. Evidence that humans sometimes display the latter tendency, to 'overimitate' observed behaviour, often in ways that run counter to their own rational understanding of how best to achieve an outcome, suggests that the second mode of cultural transmission may have played a role in human evolution. This paper formulates a precise proposal about what it would take for overimitation to form the basis of a cultural inheritance system. The paper then moves onto speculation, painting a picture in which an inheritance system based on overimitation came first, and played an important role in bringing about the conditions that allowed the second and more familiar mode of cultural transmission to take off.

Dan Sperber (Central European University & Jean Nicod Institute)

The Epidemiology of Common Ground: A Cognitive and Ecological Approach

Much recent work (for instance by Michael Tomasello and his collaborators in developmental psychology) has shown the relevance of 'common ground' to explaining various forms of coordination, collaboration, or cooperation. Formal and informal notions of common ground (or 'mutual knowledge,' or 'common knowledge,'…) developed in philosophy and in game theory,

whatever their merits, are of limited use in empirical research, where they are mentioned rather than used in order to evoke rather than to analyse the phenomenon. Drawing on the notion of 'mutual manifestness' put forward in Sperber & Wilson's Relevance: Communication and Cognition (1986 – 2nd edition 1995) and on the epidemiological perspective on culture defended in Explaining culture (1996), I outline a cognitive and ecological approach to common ground aiming at empirical import.

Luc Steels (Vrije Universiteit Brussel)

Establishing Common Ground Through Embodied Language Games. Theory and Robotic Experiments

This talk reports on experiments to discover and validate the mechanisms that underly shared knowledge. I will argue that sharing happens by structural coupling - a constant process of alignment as part of a history of interactions between two agents. The experiments take the form of computer simulations or robotics experiments in which agents play language games about their surrounding environment. The agents start with no prior concept inventory nor language but carry out strategies to arrive at sufficient common ground to make communication successful.

Kim Sterelny (Australian National University)

Rational Choice in the Neolithic Transition

[Abstract]

Michael Tomasello (Max Planck Institute for Evolutionary Anthropology)

Human Collaboration

Although great apes collaborate for some purposes, recent studies comparing chimpanzees and human children suggest that human collaboration is unique both cognitively and motivationally. In particular humans seem adapted for collaborative foraging, as even young children display numerous relevant mechanisms, from special ways of coordinating and communicating to special

ways of sharing food to special forms of social evaluation. The Shared Intentionality Hypothesis proposes both evolutionary and ontogenetic scenarios for the origins of humans' unique skills and motivations for collaboration, as well as an account of how they came to constitute humans' unique forms of sociality and cognition.

Tad Zawidzki (George Washington University)

The Myth of Jones Revisited: Our Dennettian Ancestors

Sellars's "myth of Jones" (1997) is a highly influential thought experiment about the origins of our concept of mind, despite the fact that no one, not even Sellars, considers it a plausible hypothesis about human prehistory. In this paper, I identify some superficial features of Sellars' myth that disqualify it as a plausible hypothesis about the origins of our concept of mind. Then, I argue that when these features are replaced with empirically defensible alternatives, it is possible to reformulate Sellars' myth of Jones in a way that maintains its spirit, while transforming it into a plausible hypothesis about the origins of our concept of mind.

POSTERS

Alessio Antonini (University of Turin)
Society: A Common Ground of Our Minds

Mind representations are personal but also similar for their features and content. That consent communication and organization of human activities. Society is the order that emerges from our similar minds and shared experience, beliefs, goals and interpretations of reality. Society comes from and enhance our common ground consenting new shared experience thorough a more structures and complex orchestration of peoples' life. We introduce social objects, a model for the results of all shared processes of interpretation of reality. Considering the traces of agents' actions, it is possible to rebuild the underling knowledge and access to those shared mind representations.

Gaetano Albergo (University of Catania)
Is Pretence an Institutional Fact?

Humans engage in a very specific form of cooperative communication, namely language, which no other animal does. But though language is special, it is not a primitive. Rather it has its ontogenetic roots in pre-linguistic social and communicative activities, as pragmatist theories of language acquisition have stressed (e.g., Bruner, 1983; Tomasello, 2003). According to Hannes Rakoczy and Michael Tomasello this ontogeny starts with pretend play. I agree with them that *pretence*, if it is an institutional fact or not, involves normative aspects, but we don't have a conclusive evidence that early pretence involves the symbolic function. I suggest pretence is primitive for another reason, because it is a special case of conceptual tracking.

Giulia Andrighetto, Daniela Grieco, Luca Tummolini (CNR Rome)
Sending Oneself on a Guilt Trip: Perceived Legitimacy of Others' Expectations Explains the Communication Effect in a Trust Game

The ability to comply with social norms is a feature that is unique to human cooperation. It has been suggested that norm compliance is motivated by a desire to meet others' expectations. We present an experiment designed to test two alternative theories of such motivating power: guilt-aversion and perceived legitimacy. The two theories differ on which expectations matter. According to the former empirical expectations are sufficient; according to the latter others' expectations need to be normative in nature. We find evidence that supports the hypothesis that others' expectations on one's own behavior matter only when they are perceived as legitimate.

Maria Bagassi and Laura Macchi (University of Milano-Bicocca)
The Interpretative Function of Language and Thought

Language and thought share a unitary cognitive activity, addressed by an interpretative function, grounded on common, universal interactive abilities. This interpretative effort always implies processing the context, never abstracting from it, focused on the speaker's intended meaning, adhering to or detracting from the literal meaning as the case requires. This analysis works on a conscious explicit and unconscious implicit layer. We investigated the interrelationship between

language and thought in insight problem solving, and classical reasoning tasks.

Delia Belleri (University of Bologna)
Is Comprehension Meta-Representational?

Theorists from the Gricean tradition (Sperber 2000, Sperber and Wilson 2002) regard utterance comprehension as meta-representational. By contrast, authors such as Keysar (2007, 2008), Barr and Keysar (2005) hold that utterance interpreters are "egocentric", i.e. they don't take into account the speaker's mental states. In this paper, I defend a middle-ground position: against the proponents of meta-representation, I argue that the inferences that lead us to comprehension need not produce a meta-representational *output*. Against "egocentricity" theorists, I argue that meta-representations may represent *background elements* such as what the speaker is talking about, what she is referring to, etc.

Lucas Bietti, Kasper Kok and Alan Cienki (University of Essen)
An Ecological Perspective for the Study of Alignment in Small Groups

In this study, we investigate some ways in which collaborative remembering involves interactive coordination of non-verbal behaviors. Our data consist of video recordings of small groups of people that are retrieving holiday memories together. We compared instances of simultaneous alignment and sequential alignment to chance baselines, and found that the latter is more common that the former. Our analysis furthermore suggests that the degree to which participants coordinate their behaviors is stable across the course of the conversation (i.e., time-independent), but connected with specific activities within the larger discourse of shared remembering.

Olle Blomberg (University of Edinburgh)
Common Knowledge and Joint Intentional Action

On most accounts of joint intentional action, agents must have common knowledge (CK) of each other's intentions in order for them to act together. While widely accepted, this requirement is rarely explicitly motivated. I consider and reject two reasons for thinking that CK is necessary for joint intentional action. While CK can make coordination more robust, I argue that it is not necessary. An implication of this is that agents do not need to have the concept of belief in order to participate in joint intentional action as such.

Katharine Brown (University of Oslo)
Team Reasoning and the Possibility of Cooperation

Cooperative behavior is generally taken to be at odds with rational behaviour. This problem is paradigmatically represented as the one-shot Prisoner's Dilemma, which demonstrates the non-cooperative outcome to be the unique equilibrium of the game. One promising approach to resolving this tension between cooperation and rationality is team reasoning, which shifts the unit of agency from individuals to teams and asks, instead of "What should *I* do?", "What should *we* do?" While it might be the case that *I* should defect in the Prisoner's Dilemma, *we* should

cooperate. The success of team reasoning to reconcile cooperation with rationality then requires that individuals adopt the "we" perspective, characterized in part by the presence of a shared or common goal. Articulations of how this perspective is (or ought to be) taken up vary depending on the particular account of team reasoning one endorses. This poster will set out the dominant theories of team reasoning, along with their accompanying descriptions/prescriptions for how individuals adopt the we-perspective and make the transition from individual to group agents. It will also give an overview of the evolutionary underpinnings (both biological and cultural) of cooperative behaviour in humans with an eye to evaluating the competing theories of team reasoning. It will suggest that a gene-culture co-evolutionary explanation of cooperation is able to account for the presence of psychological mechanisms that permit the identification with a group, and subsequent adoption of a common goal, reasoning as a team, and engagement in cooperative action.

Nathan Caruana, Alexandra Woolgar and Jon Brock (Macquarie University)
A Virtual Meeting of Minds: Using MEG and Eye Tracking to Interactively Measure Joint Attention.

Joint attention is a fundamental cognitive function, enabling effective intersubjective experiences. However, due to lacking ecological measures, we currently know little about its neural representation, or how this diverges in developmental disorders such as autism. Inspired by the *second person perspective* (2PP) approach to social cognition research, we developed a novel, co-operative joint attention task, using eye tracking techniques. In this intuitive task, subjects interacted with an onscreen avatar, who responded contingently to the eye gaze of the subject. The measure captured the spontaneous 'responding' and 'initiating' behaviours that are involved in joint attention. We used Magnetoencephalography (MEG) to measure neural activation during task engagement, and attempted to apply a novel saccade-related analysis of the data. The preliminary findings and challenges associated with these analyses will be discussed.

Jonas Chatel-Goldman (University of Grenoble)
Synchrony of brains and bodies during affective touch

Two main conceptual approaches have been employed to study the mechanisms of social cognition, whether one considers isolated or interacting minds. Using neuro-imaging of subjects in isolation, the former approach has provided knowledge on the neural underpinning of a variety of social processes. However it has been argued that considering one brain alone cannot account for all mechanisms subtending online social interaction. This challenge has been tackled recently by using neuro-imaging of multiple interacting subjects in more ecological settings. Here we aim at offering a comprehensive view on various advances done in the last decade. We provide a taxonomy of existing research in neuroscience of social interaction, situating them in the frame of general organization principles of social cognition.

Gabriele Chierchia (University of Trento)

Common Knowledge and Common Feelings: Dissociable Effects of Social Distance on Coordination. An fMRI Study

It has long been known that humans spontaneously tune their social behavior to the perceived *social distance* of others (Smith, 1759). Indeed, social psychologists have isolated 2 "universal" axes of a social space: i) warmth and ii) competence (Fiske, 2006). Correspondingly, perceived closeness can increase i) *altruism*, by which agents become interested in one another's welfare, or ii) inferred competence, by which humans tend to *project* their own beliefs to closer others. By having friends or strangers attempt to coordinate their choices while undergoing fMRI, with a novel paradigm, we demonstrate dissociable behavioral and neural effects of projection and altruism.

Guillaume Dezecache (Jean Nicod Institute)
Is Communication the Biological Function of Spontaneous Emotional Facial Reactions?

We previously showed that, when watching emotional signals produced by an actor (A), one (B) would spontaneously produce facial expressions that can affect the emotional experience of a third individual (C), even though B is not aware of being watched by C. Here, we tested the hypothesis that the biological function of B's behavior is to share adaptive-value information to possible conspecifics. This predicts that facial behaviour of participant (B') should vary as a function of the level of information that they think others has access to, and that low information accessibility would encourage more intense facial behaviour in B'.

Raney Folland (San Francisco)
Doxastic Attitudes Governed by a Principle of Coherence

[Abstract]

Giuliana Gerace (University of Pavia)
Coordinate Action and Individual Intentions

We assume that social norms are spontaneous nash-equilibria (Bicchieri 2006), involving shared intentions subject to rational consistency (Bratman 1987). Individuals' consistent systems of intentions (Pacherie 2005) may be explained by assuming that founding conditional preferences, e.g. "X", encode intrinsically rational sets of truth-functional relations: e.g. $\{R_1(X), R_2(X), \ldots, R_n(X), \ldots\}$, as paradigmatic intentional-perspectives responsible for their engaging in both heuristic and constitutive routes to shared normativity. A social norm "N" is always placeholder of the validities inscribed in our systems of intentions and emerges if its status matches the paradigmatic validities "v" of least two individuals: $N \leftrightarrow \exists x \exists y\ [vN(x \text{ and } y)]$.

Alexandra Georgescu (University of Köln)
The Neural Correlates of Perceiving Dyadic Social Interactions

The aim of the present study was to determine the differential contributions of the action observation network (AON) and the social neural network (SNN) to the experience of naturalness in observed dyadic social interactions. To this end, we used short animation sequences displaying dyadic social interactions between two virtual characters and systematically manipulated kinematic features of their social dynamic. A group of 21 male participants rated the "naturalness" of the observed scenes on a four-point scale while undergoing fMRI. Using the ratings of each participant as a parametric modulation of their general neural response to the stimuli, we found that an increase in naturalness experience was associated with higher activations in the AON. The SNN was preferentially recruited with a decrease in naturalness experience. This indicates that understanding familiar interactions involves an automatic kinematic processing of intentionality, while interactions perceived as artificial require more inferential processing.

Sebastian Grüneisen (MPI for Evolutionary Anthropology)
Children solve coordination problems by using salience

We presented dyads of 5- and 8-year-olds with a coordination problem: Two balls had to be inserted into the same of four boxes to obtain rewards. A salient picture was attached to one of the boxes. Children either received one ball each and so had to choose the same box (experimental condition), or both balls whereby they could choose independently (control condition). Communication between children was ruled out. At both ages children chose the salient option more in the experimental than in the control condition suggesting that from age five children can accomplish joint goals by coordinating on salient solutions.

Justine Jacot (University of Lund)
Coordinated Reasoning

Logical reasoning tasks have focused on testing how lay people use some logical skills -- be it an innate ability or an acquired competence -- often without questioning the nature of the reasoning itself, taking for granted that the `logic' used is classical logic. However, if one agrees with Stenning and van Lambalgen (2008) that people must reason *to* an interpretation before reasoning *from* an interpretation when performing a reasoning task, it appears that coordination on the meaning of instructions between experimenters and subjects is a precondition to drawing conclusions about reasoning (logical or otherwise).

Angelica Kaufmann (University of Antwerp)
Intention Naturalized

The Shared Intentionality Hypothesis, SIH, advocates that humans have an over-sophisticated capacity to coordinate actions and plans over time. For humans possess a foundational skill which consists in the appreciation of the intentions of conspecifcs, and then on the ability to share intentions on the basis of this appreciation. Such capacity can be observed to emerge in prelinguistic children and, perhaps, in non-linguistic animals as well. Since linguistic and conceptual capacities are interdependent, I argue that we ought to understand the content of

intentions in terms of nonconceptual mental content in order to reach a naturalization of the theory of intention as framed by the SIH.

Patrizio Lo Presti (University of Lund)
Common Ground: Stable, Manifest, and Solid?

Common ground can be understood as shared understanding simplifying multi-agent coordination. Understanding what others expect you to do, what others have in mind (in common) about your actions, simplifies coordination with them. While it may be uncontroversial that shared understanding is a constitutive element of common ground, it is contentious that mentalizing is. I contest the latter claim and propose an enactivist approach. Common ground is enacted in the sense that histories of agent-agent and agent-world interaction-processes establish social normative and (social) ontological constraints on future interaction-processes. The enacted establishment facilitates shared understanding of how to coordinate without mentalizing.

John McGraw (Mind*Lab*, Aarhus)
Beyond Synchrony

Two of the central accounts of cooperation—the division of labor paradigm originally stipulated by Adam Smith and a more recent set of studies on joint action—offer different characterizations of successful coordination. The former emphasizes diversification of actions for increased productivity, while the latter emphasizes the benefits of synchrony in collective action processes. In this study, we used a complex joint action task to investigate how changing the flexibility of agents' roles leads to a lower degree of synchrony. Moreover, this flexibility results in an increase in perceived cooperation as well as an improvement in performance.

Sara Parmigiani (University of Milan)
The Basis of Coordinated actions

Coordinating actions is crucial to social life contributing to the establishment of procedural common grounds. But what does action coordination take? The aim of the poster is to answer to this question by investigating what kinds of action representation are required to solve social coordination problems. Since coordinated actions occur in lower and higher degrees of complexity, I shall discuss how action representations interlock with desires and expectations, thus facilitating the achievement of coordination.

Francesca Pongiglione (Università Vita-Salute San Raffaele)
The motivational Power of Being "We" Instead of "I" in the Fight of Climate Change

The possibility of attainment and the perception of self-efficacy are fundamental elements that motivate people in the pursuit of an objective. Environmental behaviour seems to follow this trend – among the major reasons for not engaging in pro-environmental actions (PEA), people tend to indicate their perceived inefficacy due to lack of political action.

Yet, the many local and grassroots initiatives for tackling climate change seem to tell another story. The hypotheses that will be discussed is that motivation for the adoption of PEA is connected to social interaction, which at times seems to shape individual behavior to a greater degree than other factors.

Susanna Salmijärvi (Gothenburg)
Institutional Entities and Constitution

In the poster different views on the relation between institutional entities such as laws, organizations and money and the material world will be outlined. Are institutional entities *identical* with some material objects, or are they *constituted* by material objects without being identical to them? More specifically, it will be asked whether constitution views on institutional entities imply a view of the world as layered in some sense; do we need to postulate ontological levels of reality? It will be suggested that the answer depends on the kind of constitution theory and also on what one takes the notion "level ontology" to mean.

Olivier Surel (Université Paris Ouest – Nanterre-La-Défense)
The Ecological Niche, Ground for a Naturalist Social Ontology?

We will evaluate here how the concept of "ecological niche" could be a good candidate for determining a "common ground" in a naturalist social ontology, by: (a) articulating a minimalistic definition of socio-cultural phenomena as intra-species differences in behavioural repertoire, and assessing the pertinence of identifying the evolutionary dynamic of replication-selection with the entire site of selection; (b) demonstrating that grounding a social ontology in such a framework permits a richer deployment of the cognitive scales implied in human cognition, leading to a "socialized" version of the "extended mind hypothesis"; (c) addressing the question of the reintegration of the cultural phenomena taken in account by standard social sciences in such an explanatory framework.

Alex Tillas (University of Düsseldorf)
Cultural Conditioning & Common Grounds

Common grounds across individuals are nourished by at least 3 closely related factors: (A) Thinking underlies (intentional) actions. (B) The building blocks of thoughts (concepts) are structured entities built in the light of experiences with our socio-physical environment and allow agents to internalize social norms and principles. (C) Thinking operates according to associationistic rules, given the associationistic causal patterns of concepts. Differences in frequencies of occurrences of concepts are dependent on sociolinguistic factors and influence the weights of inter-conceptual connections, which in turn impose constraints on which concepts will get activated and what new ideas the mind can explore next.

Petr Urban (Czech Academy of Sciences)

Sharing of the World through Interacting with Others (Animals)

A young French phenomenologist Étienne Bimbenet develops the idea that human sharing of the world requires a peculiar intersection of the relationship to the physical and social environment which comes about especially due to joint attention; animals, however perfect they might be in performing each of the relationships, can never reach the intertwining of the both. This approach finds a strong empirical support in the work by Micheal Tomasello, who claims that shared intentionality is virtually non-existent in nonhuman animals. I argue that both Bimbenet and Tomasello adopt a questionable mentalist framework. I try to show that an interactionist phenomenological approach to social cognition can grant us more appropriate and complex understanding of joint attention, and I finally refer to the work by some current psychologists and ethologists supporting interactionist views and contradicting the alleged human uniqueness of sharing of the world in the triadic structure of experience.

Stijn Van Tongerloo (University of Leuven)
Primitive Assignments of Deontic Powers, Evolution of Language and Social Cognition: The Scope for a Social Ontology of Primitive Institutional Realities as Viewed from Evolutionary Timescales

[Abstract]

Cordula Vesper and Michael J. Richardson (CEU Budapest, Nijmegen and Cinncinati)
How Perceptual Information Facilitates Asymmetric Joint Action

What role does perceptual information play for coordination of asymmetric joint actions? Pairs of participants intentionally synchronized sequences of whole-arm tapping movements towards different targets. Task knowledge was distributed asymmetrically: the 'informed' person knew the subsequent target location, whereas the 'naïve' person had to infer this information. As predicted, mean asynchrony between co-actors' taps was smaller with 'bidirectional vision' (both saw each other's movements) than with 'unidirectional vision' (the naïve partner only saw the other's movement endpoints). A detailed analysis of participants' movements suggests that perceptual common ground is created through strategic action adaptation and exploitation of coordination dynamics.

Ming Wong (Allston)
The Chinese Philosophy and the Theory of Consciousness

According Schrodinger's what is life, basic on theory of yin and yang, the theory of Major Confucian, in the perspective of advance thermodynamics, with the concept of branch's coupling and negative entropy, we establish the advance non-equilibrium system as life system,the intellectual advance non-equilibrium system as the system of civilized human, the advance part of the intellectual advance non-equilibrium system as human intellectual system; further, we develop

out the framework of Newtonian and the framework of advance thermodynamics, resolve the so-called hard problem in the theory of cognition.

Gordon Wright (Birkbeck)
"2 Heads are Better than 1" When it Comes to Lie Detection

[Abstract]

MAP

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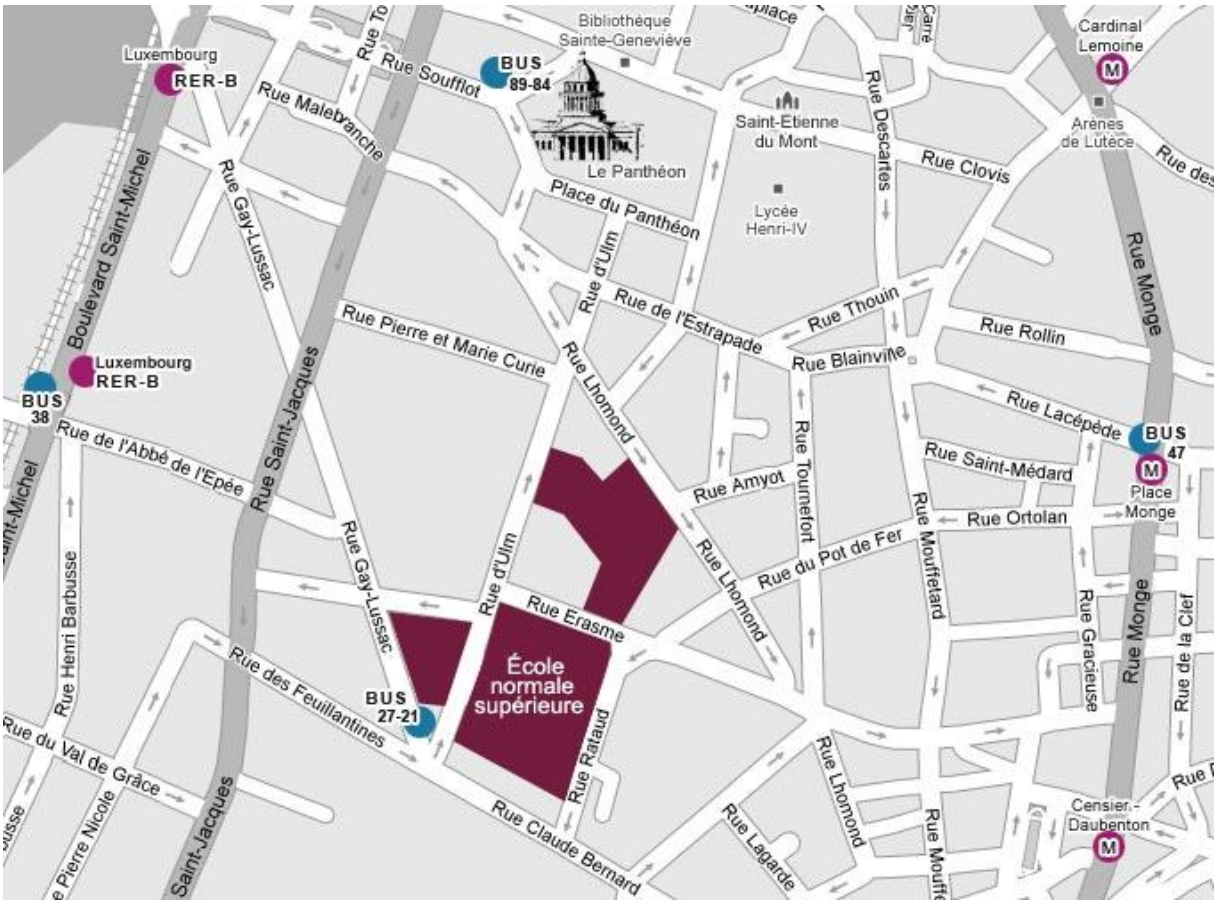

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<u>Métro</u>:

M° Place Monge / Censier Daubenton - [ligne 7]

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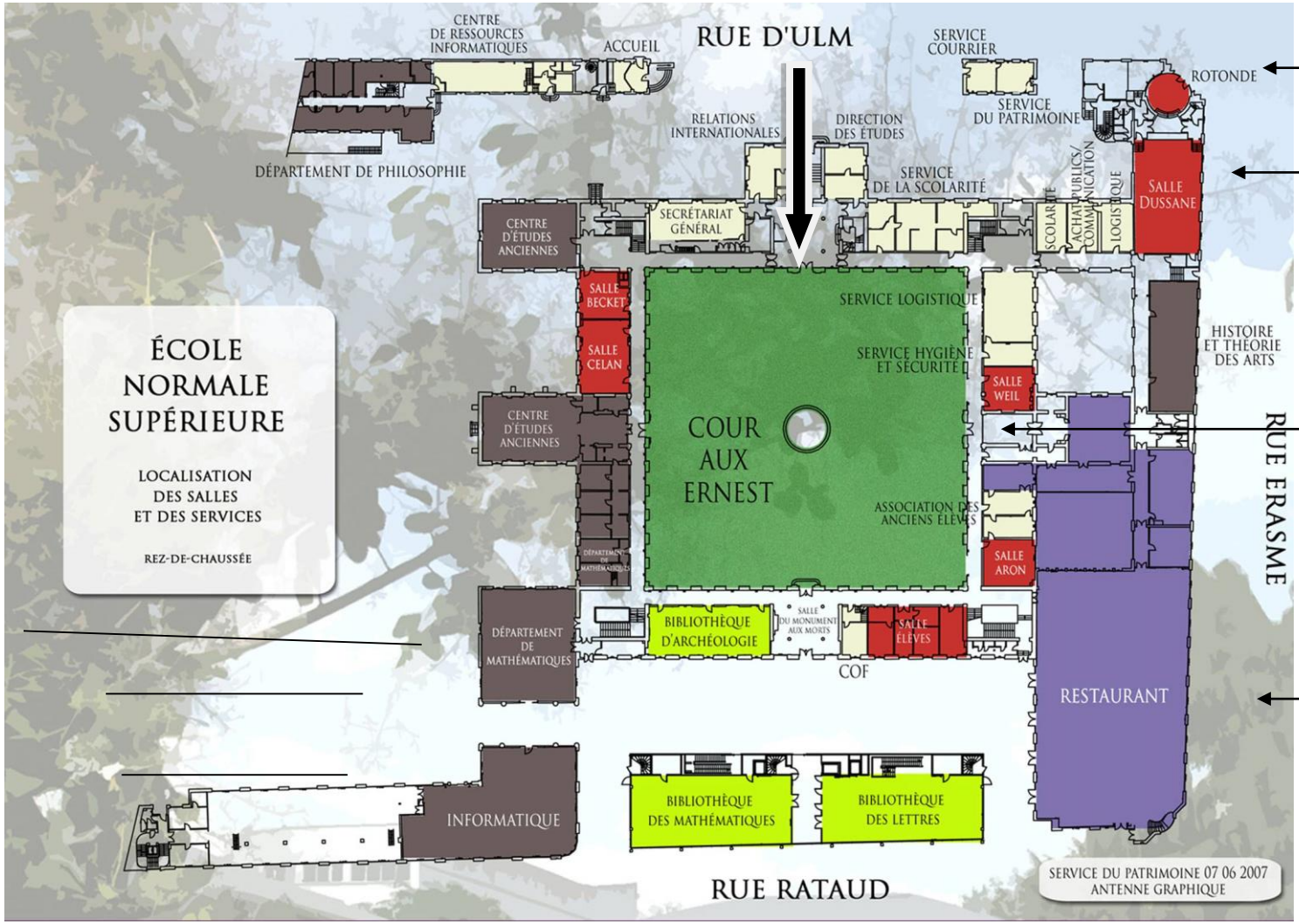

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