23rd Annual Meeting of the European Society for Philosophy and Psychology

Tues 14 – Fri 17 July 2015 Department of Philosophy, University of Tartu

BOOK OF ABSTRACTS

Program chairs:
Ian Phillips
Hannes Rakoczy
Gillian C. Ramchand

Local organization:
Daniel Cohnitz
Triin Paaver
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<td>8.15-9.00</td>
<td>REGISTRATION (Jakobi 2, lobby)</td>
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<tr>
<td>9.00-9.15</td>
<td>OPENING REMARKS (room 226)</td>
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<td>Prof. Margit Sutrop, Dean of the Faculty of Philosophy, University of Tartu</td>
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<td>Prof. Daniel Cohnitz, Head of the Department of Philosophy and ESPP lead local organizer, University of Tartu</td>
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<tr>
<td>9.15-10.30</td>
<td>Keynote Talk</td>
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<td>Marilyn Vihman: ‘Advances in language development: Learning words and learning sounds’</td>
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<td>10.30-11.00</td>
<td>COFFEE</td>
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<td>11.00-13.00</td>
<td>Invited Symposium: ‘Language and schizophrenia’ (Organizer, Wolfram Hinzen; room 226)</td>
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<td>Speakers: Rosemary Varley, Valentina Bambini, Wolfram Hinzen and Gina Kuperberg</td>
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<tr>
<td>13.00-14.30</td>
<td>LUNCH</td>
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<td>Parallel Session 1 (room 114) Language &amp; Schizophrenia (cont.)</td>
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<td>[chair: Wolfram Hinzen]</td>
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<td>Parallel Session 2 (room 428) Comparative &amp; Developmental Psychology</td>
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<td>[chair: Amanda Seed]</td>
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<td>14.30-15.00</td>
<td>Discussion Session: 1 hour (following on from invited symposium)</td>
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<tr>
<td>15.00-15.30</td>
<td>■ Christoph Volter and Josep Call: ‘Great apes and children infer causal relations from patterns of variation and covariation’</td>
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<td>■ Nicholas Shea: ‘Metacognition of concepts and its role in cognitive control’</td>
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<td>■ Kadri Vihvelin: ‘Dispositional compatibilism’</td>
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<td>15.30-16.00</td>
<td>■ Manuel Bohn, Josep Call and Michael Tomasello: ‘Communication about absent entities in great apes – specificity and social embedding’</td>
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<td>■ Tillmann Vierkant: ‘Most cognitive control cannot be cognitive’</td>
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<td>■ Lieke Asma: ‘Free will in the lab: the case of indirect control’</td>
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<td>16.00-16.30</td>
<td>■ Felicity Deamer and Sam Wilkinson: ‘Metaphorical thinking and delusions’</td>
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<td>■ Pamela Barone and Laura Danón: ‘Intention attribution in marmosets: a response to the “logical problem”’</td>
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<td>■ Brian Ball: ‘Carey on numerical cognition’</td>
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<td>■ Leandro De Brasi: ‘Socially-distributed knowledge-relevant responsibility’</td>
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<td>■ Joana Rossello: ‘Schizophrenia and the linguistic organization of mind: the case of propositional delusions’</td>
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<td>■ Cathal O’Madagain, Gregor Stober and Brent Strickland: ‘Is pointing ritualized touch!’</td>
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<td>■ Nir Fresco: ‘How theories of cognition define information’</td>
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<td>■ Frank Esken: ‘How to take a normative stance!’</td>
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<td>Session 1 (room 114)</td>
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<td>16.30-17.00</td>
<td>SYMPOSIUM: Temporal Experience</td>
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<td>17.00-17.30</td>
<td>SYMPOSIUM</td>
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<td>17.30-18.00</td>
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<td>18.30-19.00</td>
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<tr>
<td>19.30</td>
<td>Reception at the University of Tartu Museum (Lossi 25)</td>
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PROGRAMME

WEDNESDAY 15th July

9.00-10.15
Keynote Talk (room 226)
Cecilia Heyes: ‘On the origins of mindreading’

10.15-10.45
COFFEE

10.45-12.45
Speakers: Stephen Butterfill, Dana Schneider and Pierre Jacob

12.45-14.15
LUNCH

Parallel Session 1 (room 114)
SYMPOSIUM: Understanding Psychopathology

14.15-14.45
SYMPOSIUM
Title: Understanding Psychopathology: Perspectives from Philosophy, Phenomenology, and Psychophysiology
Speakers: Anja Berninger & Mog Stapleton, Amanda Taylor, Simon Heffding, Michael Gaeblner

14.45-15.15
Parallel Session 2 (room 428)
Concepts & Cognitive Processes
[chair: Amanda Seed]

15.15-15.45
Parallel Session 3 (room 336)
Mental Causation
[chair: Gillian Ramchand]

15.45-16.15
Parallel Session 4 (room 438)
Developmental Psychology
[chair: Louise Riska-Hardy]

16.15-16.45
PÓSTER SESSION (AND COFFEE)

Parallel Session 1 (room 114)
Sensory Experience & the Senses
[chair: Gillian Ramchand]

16.45-17.15
Jonathan Farrell: ‘When is a red experience not a red experience?’

17.15-17.45
Ioannis Votsis: ‘Can theory-laden effects be removed? A proposal for an experiment’

17.45-18.15
Maria Forsberg: ‘Contagious magic and the value of originals’

Parallel Session 2 (room 336)
Moral Psychology & experimntal philosophy
[chair: Anika Fiebich]

17.15-17.45
Tomasz Wysoczki: ‘Normality: a two-faced concept’

17.45-18.15
Paraske Willemsen and Kevin Reuter: ‘Are omissions on par with actions? An experimental investigation into people’s reasoning about actions and omissions’

Parallel Session 3 (room 428)
Indexicals & Mental Files
[chair: Olivier Mascaro]

17.45-18.15
Daniel Morgan: ‘Indexical attitudes and action: filling in an orthodoxy’

18.15-19.15
Cathal O’Madagain: ‘This: a token contextual account of demonstratives and indexicals’

Parallel Session 4 (room 438)
Self-Monitoring & Self-Knowledge
[chair: Till Vierkant]

17.45-18.15
Anika Fiebich: ‘What is “false” in “implicit false belief understanding”?’

18.15-19.15
Olivier Mascaro and Kovacs Agnes: ‘Human infants use the psychological principle of non-contradiction to set the boundaries of minds’

19.00-20.00
POSTER SESSION (AND COFFEE)

20.00-21.00
KEYNOTE TALK (ROOM 226)
Cecilia Heyes: ‘On the origins of mindreading’
<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td>18.15</td>
<td>Mihailis Diamantis</td>
<td>‘Illusions of affection: a hyper-illusory account of normative valence’ [NB! Presentation by Skype]</td>
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<tr>
<td>18.15</td>
<td>Eugen Fischer and Paul Engelhardt</td>
<td>‘Through stereotypes to intuitions: psycholinguistics for experimental philosophy’</td>
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<td>18.15</td>
<td>Michael Murez, Joulia Smortchkova and Brent Strickland</td>
<td>‘Empirical challenges to the mental file theory of singular thought’</td>
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<tr>
<td>18.15</td>
<td>Sophie Keeling</td>
<td>‘The problem of being (epistemically) obligated: epistemic requirements as a cause of self-ignorance’</td>
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### THURSDAY 16th July

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<th>Time</th>
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| 9.00-10.15 | **Keynote Talk** *(room 226)*  
Lucy O’Brien: ‘Shameful Self-Consciousness’ |

**COFFEE**

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<thead>
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<th>Time</th>
<th>Session</th>
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| 10.15-10.45| **Invited Symposium:** ‘Understanding counterfactual emotions’ *(Organizer, Sarah Beck, room 226)*  
Speakers: Sarah Beck, Christoph Hoerl, Eva Rafetseder and Marianne Habib |

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<tr>
<th>Time</th>
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| 10.45-12.45| **LUNCH**  
Dinner at restaurant **Atlantis** *(Narva mnt 2)* |

**Parallel Session 1** *(room 336)*  
**SYMPOSIUM:** Conditionals

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<th>Time</th>
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<tr>
<td>14.15-14.45</td>
<td><em>Javier Gomez-Lavin and Jesse Prinz:</em> ‘The nature of value judgements’</td>
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<td><em>Luco, George E. Newman and Joshua Krzyzanowska:</em> ‘Rationality and the conditionals’</td>
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**Parallel Session 2** *(room 336)*  
**Emotions** *(chair: Sarah Beck)*

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<tr>
<td>14.45-15.15</td>
<td><em>Solveig Aasen:</em> ‘Bayesian perception and the objects of joint attention’</td>
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**Parallel Session 3** *(room 428)*  
**Bodily Awareness, Attention & Methodology** *(chair: Frank Esken)*

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<tr>
<td>15.15-15.45</td>
<td><em>Kranti Saran:</em> ‘Meditative attention to bodily sensations: conscious attention without selection’</td>
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<td><em>Carlota Serrahina:</em> ‘Body ownership and non-conceptual self-consciousness’</td>
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**Parallel Session 4** *(room 438)*  
**Memory, Action & Imagination** *(chair: Bjorn Lundquist)*

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<tr>
<td>15.45-16.15</td>
<td><em>Maria Erica Cosentino:</em> ‘Memorable actions: The role of motor information in the retrieval of memories for action phrases’</td>
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<td><em>Javier Gomez-Lavin:</em> ‘Working memory is not a natural kind’</td>
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**COFFEE**

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| 16.15-16.45| **Parallel Session 1** *(room 336)*  
**Moral Psychology** *(chair: Malinda Carpenter)* |

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<tr>
<td>16.45-17.15</td>
<td><em>Marina Josephs,</em> Alexander Dieball and Hannes Rakocy: ‘On the cognitive foundation of the side-effect effect’</td>
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<td><em>Francesco Marchi and Albert Newen:</em> ‘Cognitive penetrability and emotion recognition in human facial expressions’</td>
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**Parallel Session 2** *(room 336)*  
**Emotions & Cognitive Penetration** *(chair: Anika Fiebich)*

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<tr>
<td>17.15-17.45</td>
<td><em>Louise Roska-Hardy:</em> ‘Do we directly perceive emotions? A suggestion on focusing the debate’</td>
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<td><em>Solveig Aasen:</em> ‘Visibility and the objects of depiction’</td>
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**Parallel Session 3** *(room 428)*  
**Perception & Belief** *(chair: Christoph Hoerl)*

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<tr>
<td>17.45-18.15</td>
<td><em>David Bitter:</em> ‘Hypnotic hallucination: A best case for cognitive penetration?’</td>
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<td><em>Alfonso Anaya:</em> ‘Radical externalism and the non-propositional structure of reasons’</td>
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**Parallel Session 4** *(room 438)*  
**Language & Language Processing** *(chair: Gillian Ramchand)*

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<tr>
<td>18.15-18.45</td>
<td><em>Tobias Starzak:</em> ‘Do animals have beliefs? An evolutionary perspective’</td>
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<td><em>Josko Zanic:</em> ‘Names and conceptual domains’</td>
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**Conference Dinner at restaurant Atlantis** *(Narva mnt 2)*
FRIDAY 17th July

Keynote Talk (room 226)

Joshua Knobe: ‘The essence of psychological essentialism’

COFFEE

Invited Symposium: ‘Social relations in social cognition’ (Organizers, Vivian Bohl and Joulia Smortchkova, room 226)

Speakers: Vivian Bohl, Joulia Smortchkova and Olivier Mascaro

LUNCH

<table>
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<tr>
<th>Parallel Session 1 (room 114)</th>
<th>Parallel Session 2 (room 336)</th>
<th>Parallel Session 4 (room 428)</th>
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<tr>
<td>SYMPOSIUM</td>
<td>Julius Schoenherr: ‘What’s so special about interaction in social cognition?’</td>
<td>Brent Strickland: ‘Event representations constrain the structure of language: Sign language as a window into universally accessible linguistic biases’</td>
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<tr>
<td>Title: Philosophical and psychological perspectives on commitment</td>
<td>Erika Nurmsoo, Angelique Eydam, Afiya Carby and Laetitia Rater: ‘Children’s social learning of tool use’</td>
<td>Alison Hall: ‘On the psychological reality of explication’</td>
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<tr>
<td>14.15-15.15</td>
<td>Olivier Mascaro and Gergely Csibra: ‘Humans use efficiency computations to recognize and interpret joint actions by 14 months of age’</td>
<td>Anouch Bourmayan and Brent Strickland: ‘The significance of connotation within lexical meaning’</td>
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POSTER SESSION: Wednesday 15th 16.15-16.45

- Tugba Uzer and Norman R. Brown: ‘The prevalence of directly remembered event dates’
- Eszter Berán, Pál Czobor and Zsolt Unoka: ‘Agency and patience in psychotherapeutic discourse: a longitudinal study of in-session interaction’
- Heidi Haanila: ‘Remarks about the links between self-consciousness and consciousness: minimal self-consciousness as a structural feature of experience’
- Judith Martens: ‘Expanding the minimal architecture model of joint action’
- Vivian Bohl and Bruno Mölder: ‘How (not) to analyze shared emotions’
- Wojciech Rostworowski: ‘Attributive descriptions, misdescription, and reference – experimental study’
- Eimear O’Connor, Aidan Feeney, Teresa McCormack and Sarah Beck: ‘Experienced versus anticipated regret in children’s decision making’
- Pamela Barone and Antoni Gomila: ‘The case for non-human primates as persons’
- Caroline Putt, Glyn Humphreys, Aidan Feeney, Teresa McCormack and Sarah Beck: ‘Neurologically damaged patients thinking about counterfactual conditionals without an emotional component’
- Erika Nurmsoo, Susannah Davis and Siti Nadzirah Haji-Abdullah: ‘Tool innovation: Are groups better than individuals?’
**INVITED KEYNOTE SPEAKERS**

### HEYES

**On the Origins of Mindreading**

Cecilia Heyes  
University of Oxford (UK)  
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**Keywords:** social cognition, phylogeny, language

Many philosophers and psychologists believe that the capacity to ‘read minds’ or ‘mentalise’ depends on dedicated cognitive processes—processes that operate in a different way from those involved in other tasks—and that, in the course of human evolution, natural selection has produced a highly specific, genetically inherited predisposition to develop these dedicated mindreading processes. This has been described as the nativist or modular view of mindreading and contrasted with more developmental or constructivist accounts, which emphasise the importance of the individual’s experience, and especially their social experience, in the development of mindreading. Nativist views tend to be representationalist and built on laboratory-based experimental methods, whereas constructive views tend to resist representationalism and to draw on more naturalistic empirical methods. My recent work has crossed these traditions by assuming that mindreading is representational; proposing that these representations are products of cultural evolution; and challenging what are normally regarded as the more rigorous empirical methods on their own ground. This lecture will compare mindreading with print (or script) reading, a capacity that emerged too recently in human history to be dependent on genetically evolved cognitive processes. This comparison helps to clear the ground for close examination of recent experiments that have fortified nativist views by seeming to show that nonhuman primates, infants, and adults are capable of automatic or implicit mindreading. It also introduces the ‘softer’ but compelling evidence that the development of mindreading is crucially dependent on linguistic communication between adults and children.

### KNOBE

**The Essence of Psychological Essentialism**

Joshua Knobe  
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joshua.knobe@yale.edu

**Keywords:** concepts, moral psychology

People appear to understand the social world in terms of essences. This notion plays a key role in the way that people ordinarily think about social categories (gender categories, religious categories, etc.) and also in the way that people think about individuals (the person you truly are deep down inside). But how exactly do people ascribe these essences? I present a series of new studies suggesting that people’s judgments of essence can be affected in surprising ways with value judgments. These results provide support for the hypothesis that people’s ordinary notion of essence is not a purely value-free scientific notion but a notion that is infused through and through with values.

### O’BRIEN

**Shameful Self-Consciousness**

Lucy O’Brien  
University College London (UK)  
l.o'brien@ucl.ac.uk

**Keywords:** social cognition, self, moral psychology

The standing literature on shame suggests we need to choose between taking shame to involve a construal of oneself as having failed to meet the demands of one’s own personal ethics and ideals, or as occasioned by no more than consciousness of oneself as exposed to another. In this talk I argue that this is not our choice. I go on to propose a view of shame on which it is a form of consciousness of oneself as being expelled or degraded by the social group of which one is a part.
What is the relevance of phonological development to an understanding of language development more generally? Word learning must include knowledge of form in relation to situational meaning (if not, at first, to categorical referents); furthermore, word production or use itself provides a more stable, more reliable, better established representation than word recognition or comprehension alone (Vihman et al., 2014) and has been shown to be an important predictor of lexical advance (e.g., Fernald et al., 2001; Torkildsen et al., 2009).

Some see increasing knowledge or representation of individual phonological categories (contrasting segments or phonemes) as providing the critical underpinning for knowledge of word forms (e.g., Kuhl, 2004), and indeed the perceptual narrowing or fading of discriminatory attention to infrequent or non-occurring category contrasts (Werker & Tees, 1984) – known to occur for many conceptual as well as phonological categories toward the end of the first year (Lewkowicz, 2011) – has been shown experimentally to be accompanied by a sharpening of frequently experienced category boundaries (Maye et al., 2002; Kuhl et al., 2008).

Nevertheless, evidence from a large number of children and languages suggests that word forms are learned as whole patterns (‘item learning’), which may be ‘overdetailed’ (rich, segmentally unanalysed exemplars), at least in part, yet also sketchily represented in part. Specifically, the salience of input patterns is boosted by both perceptually familiar prosodic and phonotactic sequences (e.g., Segal et al., in press) and perceived matches to self-produced vocalizations (DePaolis et al., 2011, 2013; Majorano et al., 2013). This means that some aspects of infant memory for word forms may be fuzzy or absent (e.g., unaccented syllables, onsets of words with geminates), particularly in the absence of priming from an immediate model. Beyond that, ‘creative leaps’ in child word forms exemplify the nonlinear nature of linguistic advance, as, for a time, the child assimilates a variety of challenging word forms to one or more routinized templates (Vihman, 2014, in press). This suggests that, rather than being the basis of word learning, phonological knowledge of individual segments may emerge only from larger production units (words and short formulaic phrases) through subsequent implicit analysis (e.g., Priestly, 1977; Macken, 1979; Vihman & Vihman, 2011).

So how does the initial attunement to the native language that is emphasized in developmental studies of speech perception – the implicit learning of segments and segmental sequences, based on exposure to speech and shaped by native-language frequencies of occurrence – relate to the attention-based item learning that we observe in the period of single-word production? This must crucially depend on the integration, in the process of active word learning and use, of the complementary memory systems of implicit and explicit learning (Ellis, 2005; Lindsay & Gaskell, 2010).

References


Lindsay, S. & Gaskell, M. G. (2010). A complementary systems account of word learning in L1 and L2. Language Learning, 60: Suppl. 2, 45-63.


INVITED SYMPOSIA

UNDERSTANDING COUNTERFACTUAL EMOTIONS

Organizer: Sarah R. Beck
University of Birmingham (UK)
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keywords: emotion, reasoning

Counterfactual emotions are responses not only to how the world is but also how it was or might be. This symposium addresses gaps in our current understanding of these emotions, most notably how they arise, whether they motivate future behaviour and whether they are influenced by social and temporal perspectives. Counterfactual emotions are typically treated as belonging to rather broad categories, such as regret and relief. However, recent advances from both psychology and philosophy suggest that a greater understanding is to be gained from exploring these categories more closely.

In our first talk, Hoerl examines different types of relief and possible relations with counterfactual thinking and time. Second, Habib presents empirical work crossing a very broad age range that examines the role of social context and comparison on experiences of regret and relief. Finally, Rafetseder challenges us to reconsider the methods we use for empirical studies of counterfactual emotions, raising the possibility that the emotions traditionally identified as regret and relief need clearer definition.

Overall, the symposium asks us to think more carefully about how we define, measure, and interpret apparently counterfactual emotions, with the goal of furthering our understanding of why these emotional experiences arise and what they are for.

HABIB, BORST, HOUDÉ & CASSOTTI

The influence of social context on the feelings of regret and relief from childhood to adolescence

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Grégoire Borst
Paris Descartes University (France)

Olivier Houdé
Paris Descartes University (France)

Mathieu Cassotti
Paris Descartes University (France)

Regret is an unpleasant feeling that plays a key role in underpinning decision making: people will try to anticipate and avoid its experience. To date, developmental studies have mainly focused on the development of relief and regret in young children and few studies have examined the experience of these emotions in adolescence. Indeed, encouraging adolescents to anticipate the regret they could experience after a risky behaviour can significantly decrease the intentions to engage in this behaviour. The aims of the studies that will be presented were 1) to uncover the development of regret and relief in late childhood, adolescence and adulthood and 2) to examine the development of regret and relief in a social context that attempts to be closer to real-life situations.

The experiments were conducted on children (10-11 years), adolescents (13-15 years), and 17 adults (20-25 years). The participants performed a computerized child friendly gambling task. For each trial, they chose between two gambles depicted as “wheels of fortune” before discovering (1) the outcome obtained on the selected wheel (leading to a feeling of disappointment or elation) and (2) the alternative outcome (leading to regret or relief). After each feedback, participants rated their feelings on an ‘emotional’ scale (from 1 to 7). The participants either
performed the task alone (private context) or in a social context of competition.

In the private context, regret and relief are stronger in adults than in children and adolescents. Furthermore, regret affects participants’ willingness to modify their initial choice, but this desire is stronger for adults than for children. On the other hand, we observed a specificity in adolescence in the social context: the feeling of relief was reinforced after an initial negative outcome. Besides, adolescents did not experience regret in this context, whereas children and young adults did, suggesting that in a context of social comparison, adolescents are less able to experience social regret and fail to question the appropriateness of their initial decision.

Taken together, these results indicate that 1) the ability to experience counterfactually mediated emotions and the ability to take them into consideration continue to develop during late childhood and adolescence and that 2) a socio-emotional context impacts the feeling of regret in adolescents specifically. Thus, these results could provide an explanation for adolescents’ enhanced propensity to engage in risky behaviors in everyday life.

**HOERL**

**The puzzle of relief**

_Cristoph Hoerl_

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It has recently been suggested that the emotion of relief comes in two different varieties. In one variant, what we are relieved about is simply that things turned out to be less bad than they could have been. We typically feel this type of relief only in connection with past events, but this is arguably only because we typically only know about events once they have taken place. In the other variant of relief, by contrast, the pastness of the relevant event factors into the nature of the relief itself: what we are relieved about is the very fact that some unpleasant experience now lies behind us. I explore the extent to which the difference between these two variants of relief can be captured in terms of the kinds of counterfactual thought they can be seen to involve. I doing so, I also aim to bring out some rather puzzling features of the second type of relief. Whilst it may seem natural to feel relieved at the cessation of an unpleasant experience, it is, on reflection, quite difficult to explain in what sense this reaction is appropriate. I outline an account of the psychological structure of this type of relief, and in particular of its motivational profile, that may be able to address this explanatory challenge.

**RAFETSEDER**

**Choice or no choice: A useful paradigm to investigate the development of counterfactual emotions?**

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A typical paradigm to investigate the developmental trajectory of counterfactual emotions is to give children the choice between two boxes. Once a choice is made, the chosen box is opened and children receive the content of that box (e.g., a sticker). Then they are shown the content of the box they did not choose. This box either contains the same amount of stickers (baseline condition) or more stickers (worse off condition). Subsequently, children are asked to rate how happy they feel with the prize they got. Children who rate themselves less happy in the worse off condition than in the baseline condition are considered to have experienced regret. However, this paradigm is liable to alternative explanations, including that children’s pattern of answers might be due to contrast effects. That is, a prize appears better or worse depending on what it is compared to. One sticker is evaluated as less positive in view of four stickers (worse off condition) than in view of one sticker (baseline condition). Hence, regret is not necessarily the reason why children feel less happy in the worse off condition.
MINDREADING: TWO PUZZLES IN THE THEORY OF MIND

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keywords: social cognition

Research on Mindreading, the ability to identify a particular mental state as the mental state of a particular individual, oneself or another, has raised two puzzles which are currently the source of much controversy among psychologists and philosophers. The first puzzle arises from findings that typically developing two- and three-year-old children who are shown a scene in which a protagonist manifestly acquires a false belief appear to have inconsistent expectations about how the protagonist will act. On the one hand, their anticipatory looking, performance on violation-of-expectations tasks, communicative gestures, word-learning and dispositions to help all indicate that they expect the protagonist to act in ways that are appropriate given her false belief (e.g. Clements and Perner 1994; Onishi and Baillargeon 2005; Southgate, Senju and Csibra 2007; Buttelmann, Carpenter and Tomasello 2009; Knudsen and Liszkowski 2012). On the other hand, typically developing two- and three-year-olds’ responses to communicative prompts robustly indicate that they expect the protagonist to act in ways that an adult would typically expect the protagonist to act only if she did not have the false belief (e.g. Wimmer and Perner 1983; Wellman, Cross and Watson 2001; Low and Watts 2013). Since the protagonist can’t perform both actions, these children appear to have contradictory expectations. This puzzle is to understand what these findings imply about the nature and development of mindreading (compare Jacob, forthcoming).

Responses to this puzzle include arguments that two- and three-year-olds are mindreaders (e.g. Helming, Strickland and Jacob 2015) and arguments that they are not (e.g. Heyes 2014), as well as attempts to have it both ways (e.g. Apperly and Butterfill 2009; Schneider, Slaughter and Dux 2014). One aim of the symposium is to investigate competing attempts to solve the puzzle.

A second puzzle arises primarily from research on adults. Do adults implicitly or automatically track false beliefs? (Here implicit false belief tracking is tracking which occurs without awareness, and automatic false belief tracking is tracking which is to a significant degree independent of the subject’s tasks and motivations.) There is evidence for both implicit (Schneider et al. 2012; Schneider, Nott and Dux 2014) and automatic (Wel, Sebanz and Knoblich 2014) false belief tracking in adults. However there is also evidence that not all belief tracking in adults is either automatic or implicit (Apperly et al. 2006; Back and Apperly 2010). Why is belief in adults sometimes but not always automatic and implicit? Is there a relation between automatic and implicit processes in adults and mindreading in infants children? What are the processing characteristics of implicit mindreading?

References


How do mindreaders model minds?

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What it is to be a mindreader? Mindreading involves identifying mental states; this requires having some model of the mental, much as identifying physical states requires having some model of the physical. And philosophical failures to characterise minds reveal that there are multiple models of the mental, much as the history of science reveals that there are multiple models of the physical. To say that someone is a mindreader therefore leaves open the question of which model of the mental she is using. Just as humans use multiple models of the physical (an expert physicist will probably leave quantum mechanics behind when putting up a garden fence in favour of a model she can more efficiently deploy), so it is likely that they use multiple models of the mental. This may matter for understanding why mindreading is sometimes but not always automatic—some models are relatively easy to acquire or apply but are limited in accuracy, others are harder to acquire and use but also more accurate. But how can we test hypotheses about which model is used in a particular task? As in the physical case, different conjectures about models of the mental can be distinguished because different models have different signature limits. In particular, one class of models, minimal models of the mental, have signature limits involving identity. Recent scientific discoveries indicate that these limits can be used to confirm conjectures about how infant and adult mindreaders model minds.

Three challenges for cultural constructivist approaches to mindreading

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Cultural constructivist approaches to mindreading deny that preverbal infants can represent the contents of beliefs as such. For instance, on Apperly and Butterfill’s (2009) two-systems model of mindreading, infants can track the contents of others’ registrations, not beliefs. Cultural constructivist approaches are therefore committed to: (i) offering an account of how mindreading can be learnt; (ii) offering low-level accounts of purported evidence that preverbal infants can track the contents of others’ beliefs; (iii) challenging the claim that
the ability to track the contents of others’ false beliefs is evidence for possessing the concept of belief. First, I will ask: could human children learn to read minds the way they learn to read words, as Heyes and Frith (2014) have recently argued? Secondly, I will ask: to what extent is tracking the contents of others’ registrations cognitively less demanding than tracking the contents of others’ beliefs? Finally, I will challenge the claim that understanding the aspectuality of beliefs is a necessary condition for having the concept of belief.

SCHNEIDER

Implicit Theory of Mind processing: In need of attention and working memory?

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Eye movements in ‘Sally-Anne’ false belief tasks appear to reflect the ability to implicitly monitor the mental states of others (‘Theory of Mind’ - ToM). It has been proposed that an early developing, efficient and automatically operating ToM system subserves this ability (Apperly & Butterfill, 2009). A surprising omission in the literature however, are empirical tests of the influence of domain-general executive processing resources on this implicit ToM system. In study 1, a dual-task method was employed to investigate the impact of working memory load on eye movements in an implicit ‘Sally-Anne’ false belief task. Under ‘no-load’ conditions, adult participants displayed eye-movement behavior consistent with implicit belief processing, whereas evidence for belief processing systematically decreased with the increase of working memory load. In study 2, we examined whether the operation of implicit ToM is controllable and how it is influenced by behavioral intentions. This was implemented by assessing how task instructions affect eye-movement patterns in an implicit ‘Sally-Anne’ false belief task. One group of subjects was given no task instructions, another overtly judged the location of a ball that a protagonist had interacted with, and a third indicated the location consistent with the actor’s belief about the ball’s location. Only during belief processing, but not before the overt response was to be given, all groups’ eye-movement patterns were consistent with belief analysis. These findings provide us with evidence that human adults implicitly track the belief states of others, however, interestingly, attention and working memory resources seem important for this process.
SOCIAL RELATIONS IN SOCIAL COGNITION

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keywords: social cognition, ontogeny

Over the past four decades, philosophers and cognitive psychologists have studied human social cognition predominantly from an individualistic standpoint, trying to unravel individual cognitive processes that enable people to understand features or mental states of other individuals. A major topic within this field has been the cognitive underpinnings of mindreading – the ability to attribute mental states to others. However, few researchers would disagree that a major purpose of social cognition is to enable people to socially relate to each other (Reis & Downey, 1999, pp. 111-112). After all, the attainment of fulfilling social relationships is a fundamental human drive and the failure to obtain them is a primary cause of distress (Baumeister & Leary, 1995). There is ample evidence that almost all social cognitive processes are influenced by relationship contexts (Reis, 2006, p. 257). But how is information about social relationships processed in human cognition? What is the phylogeny and the ontogeny of human social-relational cognition? And how is cognitive processing of properties of social relationships influenced by and influencing cognitive processing of properties of individuals? The aim of the symposium is to investigate this new and developing area of human social cognition.

The speakers represent different philosophical and psychological perspectives on social cognition and social relationships. Dr. Vivian Bohl (philosophy, University of Tartu & Ruhr-Universität Bochum) investigates the limitations of the standard mindreading paradigm and looks at the phylogeny of social-relational cognition. Dr. Olivier Mascaro (developmental psychology, Central European University) presents experimental evidence suggesting that 15-month-old infants represent social dominance hierarchies and argues that this ability is based on problem decomposition and transitive reasoning. Dr. Joulia Smortchkova (philosophy, Ruhr-Universität Bochum) analyses the experimental evidence in favor of an innate relationships core system and looks at the links between this system and theory of mind development.

References:

BOHL

The Origins of Social-Relational Cognition

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As humans we are extremely social beings: we are far more dependent on our social relationships than any other species. But what are the basic cognitive processes that enable us to successfully relate to others? In mainstream social cognition research it has long been assumed that human social cognition is based on mindreading: the ability to interpret other people’s behavior in terms of their mental states. Unfortunately, the mindreading paradigm has serious theoretical and methodological limitations: mindreading has mostly been studied outside of social-relational contexts. More importantly, thinking about social relationships is not reducible to thinking about properties or mental states of individuals. To create and regulate social relationships, individuals need to be able to (re)present the structures, processes, and states of coordination in dyads, triads, or groups, not just properties of individuals. I label the latter ability social-relational cognition. I introduce relational models theory (Fiske, 1991) which argues that humans generate the infinite complexity and diversity of social relationships by implementing combinations of four
relational models: Communal Sharing, Authority Ranking, Equality Matching, and Market Pricing. Based on a comparative analysis of the social-cognitive abilities of humans and nonhuman primates, I argue that some forms of social-relational cognition are evolutionarily more basic and widespread than mindreading. Sophisticated mindreading is likely to build upon, complement and modulate human social-relational cognition, not function independently.


MASCARO

Early Social Reasoning: Infants’ Discovery of Social Dominance Hierarchies Rests on Problem Decomposition and Transitive Reasoning

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Representing dominance hierarchies involves cognitive processes akin to abstract reasoning. First, it requires to integrate several social dominance relations in unified structures. Second, it requires to expect dominance relations to have some degree of transitivity. The development of these two kinds of operations was tested by presenting 15-month-olds with looking time studies (n = 24 per condition). We defined ‘dominance’ as the capacity to prevail when two agents have conflicting goals. Infants were familiarised with movies in which one agent consistently prevailed over another to occupy a certain place. During test agents competed in a novel situation, in which they attempted to collect objects. Dominance relations were maintained in coherent tests, and reversed in incoherent tests. Infants’ looking time to the two kinds of test outcomes were measured.

Study 1: Integration of relations in unified structures

In Study 1, we varied the difficulty of forming an integrated representation of three dominance relations. In the “continuous” condition, infants saw A dominating B (A>B), B>C and C>D. In the “discontinuous” condition, infants saw the same movies but in a different order: A>B, C>D, and B>C. In the test, we probed infants’ memory for the relation between A and B. If infants memorise three isolated relations (e.g. “A>B”, “B>C” and “C>D”), the two conditions should be of equal difficulty. Alternatively, if infants integrate dominance relations in a single unified structure (e.g. memorising “A>B>C>D”), the discontinuous condition should be harder. It requires to hold in mind two independent relations (“A>B”, and “C>D”) to integrate them with the third relation (“B>C”). In the continuous condition, infants can build the structure incrementally by adding one agent to the structure at each step (representing first “A>B”, then “A>B>C” and finally “A>B>C>D”). Results indicated that infants remembered the relation between A and B only in the continuous condition, thus suggesting that they integrated dominance relations in a single structure.

Study 2: Expectation of transitivity

Study 2 tested whether infants expect dominance structures to have some degree of transitivity. In the transitive condition, A dominated B, B dominated C, and C dominated D. In the intransitive condition, A dominated B, B dominated C, and C dominated A. During test trials, infants’ memory for the relationship between B and C was tested. Infants looked significantly longer to incoherent than to coherent test outcomes in the transitive condition, but not in the intransitive condition. These results suggest that human infants find easier to memorise dominance structures that are hierarchically organised.

Mechanisms for integrating relations in unified and transitive structures were found to develop quite early in a specific domain, the representation of social dominance. Their presence in preverbal infants suggests that these mechanisms may be evolutionarily ancient, and potentially shared with non-human primates.

SMORTCHKOVA

Social Relations and Theory of Mind in Infants

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In my talk I explore the connection between the recently introduced social relations core system (Spelke & Kinzler 2007; Powell & Spelke 2013; Thomsen et al. 2011) and theory of mind (the ability to detect and attribute mental states to others).
Four options are possible: understanding social relations requires possessing a theory of mind, possessing a theory of mind requires understanding social relations, the two co-evolve independently, their co-evolution is interdependent. I defend the last option.

At a first glance it seems that understanding social relations requires possessing (some) mindreading abilities, for example at minimum the ability to attribute the desire to be part of or to behave as a member of one’s social group. Understanding social relations would then be a later achievement than acquiring a theory of mind.

However, the priority of theory of mind in social cognition has been forcefully put into question. Some researchers argue that the drive to create and establish relations is prior, while theory of mind is (phylogenetically, ontogenetically, and conceptually) a later achievement (Zawidzki 2013; Fiske & Haslam 1996). Prima facie the research on social relations in pre-verbal infants supports this position: infants reason about social relations before passing the explicit false belief task and thus possessing a full-blown theory of mind. By seven months, they can sort entities into social groups and use this information to predict their actions. In particular, they expect entities to behave in conformance with the behaviors of the social group they belong to (Powell & Spelke 2013). By ten and thirteen months, infants can detect the dominance/submission relation using as sources the relative sizes of the entities (Thomsen et al. 2011) and they can exploit this information to predict which entity will succeed in cases of conflicting goals.

The problem with the second option arises from data on the implicit false belief task: infants as young as 15-month-old can pass the implicit false belief task by correctly looking at the false belief location (Onishi & Baillargeon 2005). This evidence is used to infer the presence of an innate or at least very early theory of mind that allows pre-verbal infants to detect, infer and attribute (some kinds of) mental states to others. This ability might even be present at seven months of age (Kovacs et al. 2010).

I suggest a conciliatory position: in order to understand social relations some mental states (or mental states precursors) have to be attributed, such as goals and motivational states, but beliefs and desires need not be attributed for understanding and interpreting social relations. This proposal is consistent with evidence on the development of goal understanding in very young infants (Woodward 2009).

In the conclusion I draw some consequences for the debate on the innateness of mental states concepts.
Since early description of schizophrenia at the end of the XIX century, language breakdowns have been considered important manifestations of the pathology. Clinical descriptions of language disruption traditionally encompass derailment or loose associations, tangentiality, incoherence or “word salad” and neologisms, attributed to disorganized thinking, as well as mutism, observed in catatonic behavior, and diminished speech output and prosodic modulation, as expression of negative symptoms. Many authors also include concretism, referring to impaired understanding of metaphors and proverbs. We believe that most part of these descriptions can be captured by the modern notion of pragmatic deficit, i.e. inability to match language and context for the purpose of successful communication exchange. I will present the results of a project aiming at providing a pragmatic profile of patients with schizophrenia. By using a newly developed protocol embracing the major pragmatic domains, from discourse production to comprehension of non literal language, we observe that more than 80% of patients fail in at least one pragmatic aspect. The prevalence of pragmatic deficit is indeed comparable to that of cognitive impairment, measured in a population of chronic stabilized patients, suggesting that apragmatism may represent a core trait feature of schizophrenia. I will also discuss the relation between pragmatic behavior and cognitive performance, in particular social cognition. Schizophrenia offers indeed an interesting ground for testing models of complex cognitive abilities, due to its core substrate of neurocognitive deficits. Findings are of major importance also in the neuropragmatic perspective, to understand the underpinnings of the uniquely human ability to modify and adapt meanings to the context of communication.
varying with grammar? If so, could the symptoms of SZ, which involve a cognitive disturbance at a propositional level (in both form and content), be different manifestations of this mechanism malfunctioning?

**KUPERBERG**

When Comprehension is Production: A generative probabilistic approach to explaining language in schizophrenia

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It has been proposed that schizophrenia is characterized by a breakdown of Bayesian prediction and belief updating. Thus far, this theory has mainly been discussed in relation to the emergence of psychotic symptoms (e.g. Fletcher & Frith, 2008). In this talk I will explore the hypothesis that a breakdown of the predictive circuits proposed to underlie typical language comprehension and production can explain multiple manifestations of language dysfunction in schizophrenia. I will argue that this theoretical framework can bridge four different lines of research into language in schizophrenia that have thus far been somewhat disjointed: the phenomenology of thought disorder, high-level language comprehension abnormalities, auditory verbal hallucinations, and low-level sensory and perceptual deficits. I will also discuss how this framework connects with neurobiological evidence that schizophrenia is a disconnection syndrome, characterized by abnormalities in both structural and functional brain connectivity across widespread brain regions.

**VARLEY**

Language Pathology as thought pathology? Evidence from aphasia and other neuropathologies

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Abnormalities of language form, content and use are apparent in both schizophrenic formal thought disorder and negative symptom states. These impairments are often viewed as a downstream expression of more general neurocognitive impairment and, as such, they play no primary role in the genesis or maintenance of abnormal thinking in schizophrenia. By contrast, some experiments with healthy adults indicate that language is necessary for some forms of thinking and reasoning, and disruptions in a number of cognitive domains, (e.g. theory of mind, categorisation, problem solving), are reported when easy access to language is disrupted by techniques such as verbal shadowing. On the basis of this evidence, one possibility is that the language impairments of schizophrenia might be significant in generating and sustaining the unusual perceptions and beliefs characteristic of the condition.

One difficulty for this proposal comes from investigations of cognitive capacity in people with chronic global aphasia. Although some studies employing standardised tests of reasoning ability report positive associations between aphasia and non-verbal cognitive impairment, there is single case and case series evidence of dissociations between severe aphasia and reasoning in a number of cognitive domains, indicating considerable autonomy between thought and language.

In this talk, I will outline evidence for intact thought in some individuals with global aphasia and then explore language profiles across aphasia and schizophrenia, as well as language disruptions in other neuropathologies such as dynamic aphasia and ‘cognitive communication disorders’. The impact of these various neuropathologies on core linguistic systems of grammar and/or lexis will be described, with the aim of illuminating issues of language-thought inter-relationships and underlying cognitive mechanisms of each condition.
IF, THEN, OTHERWISE: A SYMPOSIUM ON CONDITIONALS

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keywords: reasoning

Conditional sentences are an important part of both scientific and everyday discourse. They are involved in numerous mental activities such as reasoning, planning and decision-making. No wonder then that conditionals are of interest to various disciplines, such as philosophy, psychology, linguistics, logic, and computer science. Yet despite their prevalence, both as a phenomenon in the natural language and as a research topic, conditionals seem to belong to the most troublesome linguistic expressions. It is bewilderingly hard to come up with a non-trivial claim concerning conditionals that would not be subject to a contentious debate. Consequently, even the most fundamental questions regarding the semantics and pragmatics of conditionals are still awaiting a conclusive answer. There is no consensus among philosophers on what conditional sentences mean, what their truth conditions are, or even whether or not they have truth conditions at all. The logic of conditionals is no less perplexing. When it comes to learning conditional information, researchers have barely scratched the surface.

Recent years, however, have witnessed a significant progress in our understanding of what conditionals are and how people actually reason with them, and that is, at least partly, due to the combined efforts of researchers coming from different scientific disciplines. This is why, in our symposium, we will present three different perspectives on conditionals and their role in reasoning.

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KRZYZANOWSKA

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Before any reasoning processes involving conditionals can commence the conditional premises have to be interpreted. What is it that we convey when we assert an indicative conditional? And what is it that we learn upon receiving conditional information? Karolina Krzyżanowska will attempt to answer these questions drawing from recent developments in experimental linguistics and psychology of reasoning (e.g. Krzyżanowska et al. 2013). Her departure point is an influential idea of Frank Ramsey (1929/1990, p. 155), known as the Ramsey Test, according to which evaluating an indicative conditional, “If A, then C,” amounts to evaluating the conditional’s consequent, C, on the supposition of the antecedent, A. This idea inspired a popular view among contemporary philosophers and psychologists that the only thing we learn when someone
asserts a conditional is that the speaker believes the conditional’s consequent to be highly probable on the supposition that its antecedent holds. Though prima facie intuitively appealing and to a great extent supported by empirical data, theories of conditionals based on the Ramsey Test fail to account for the connection between a conditional’s antecedent and its consequent, forcing us to yield acceptable and assertable conditionals as bizarre as “If Shakespeare did not write Anna Karenina, then raccoons are American mammals noted for their intelligence.” Krzyżanowska will present an empirically motivated theory of conditionals that takes the connection between a conditional’s antecedent and its consequent seriously. She will argue that conditional sentences can be analysed in correspondence to deductive, inductive, or abductive arguments.

An argument takes us from a set of premises to a conclusion. In the case of a deductive argument, we say that the conclusion is true if the premises are all true, and so we should accept the conclusion if we persist in accepting the premises. Here is an example:

\[
\begin{align*}
(P1) & \quad \text{If it rains, then the street gets wet.} \\
(P2) & \quad \text{It rains.} \\
(C) & \quad \text{The street gets wet.}
\end{align*}
\]

To analyse this argument, we first specify

\[
\begin{align*}
A & \quad \text{It rains} \\
B & \quad \text{The street gets wet}
\end{align*}
\]

This allows us to represent the argument as follows:

\[
\begin{align*}
\text{A} \\
\text{If A, then B. B}
\end{align*}
\]

Represented in this way, the argument from A to B applies modus ponens, which is valid in classical logic. While it is natural to represent the designated argument in this way, there may be other and perhaps more adequate representations of the argument. An ordinary reasoner may not be fully convinced of the truth of premise A. Perhaps the person reporting this is unreliable; in which case, why should she believe his assertion that A? Also, when examining the conditional, a disabling condition may come to mind.

Perhaps the street is under shelter, preventing it from becoming wet. Or perhaps the storm stops short of dumping rain on that street. A rational reasoner will take these worries into account and eventually may arrive at a conclusion that differs from the one that obtains when one represents the argument as a pure truth-preserving, deductive argument using modus ponens.

To work this idea out, Stephan Hartmann proposes a causal Bayesian theory of argumentation according to which a reasoner proceeds as follows. First, she identifies all causally relevant variables. This may also include disablers that are not explicitly mentioned in the ‘story’ that the agent considers. Second, she identifies the types of given conditionals and, consequently, represents the causal relations between these variables in a Bayesian network and defines a prior probability distribution Pr over them (Pearl 2009). Third, the agent is confronted with a number of premises concerning the variables she considers. This information gathering process needs to be modelled (cf. Bovens and Hartmann 2003). As a result, the agent learns the premises, that is, she changes her beliefs about them. These learned premises constitute and are modelled as constraints on the new probability distribution Pr’. For example, if the agent learns that A is the case, then Pr’(A) = 1 is a constraint on the new distribution. If she also learns that A implies B, then Pr’(B|A) = 1. Fourth, the new probability distribution Pr’ is determined by minimizing the Kullback-Leibler divergence (or an alternative distance measure) between Pr’ and Pr.

A lynchpin to Bayesian rationality, and an article of faith of traditional epistemologists as well, is the idea that one should never turn down the opportunity to receive cost-free, relevant information. Variants of this maxim include Carnap’s total evidence requirement, and within a Bayesian perspective, the policy — which we shall call Good’s Principle — that a rational agent should delay making a terminal decision between alternative courses of action if the opportunity arises to learn, at no cost, the outcome of an experiment relevant to the decision. Good’s Principle is discussed by Ramsey and Lindsey, but they do so without a rigorous reason why the principle is rational. Savage gives a proof why, but not before apologizing for presenting argument for something so
obvious; and I. J. Good, gives a proof, too, but without the apology. All this is to say that Good’s Principle has been treated as an unassailable normative principle, which Gregory Wheeler argues should be reassessed. For the standard machinery of subjective utility theory masks a distinction between valid and invalid application’s of Good’s Principle (Pedersen and Wheeler 2015). Wheeler illustrates this point by considering a decision problems whereby it is either rationally permissible or rationally obligatory for you to refuse the offer of cost-free information that is relevant to your decision. The upshot of this for the study of conditionals, Wheeler maintains, is that we should not view natural language ‘conditionals’ as objects which yield a robust formal analysis (Henry E. Kyburg, Teng and Wheeler 2007), but instead view the growing collection of formal models of ‘conditionals’ as attempts to expand our tools for making explicit different sorts of conditional reasoning we engage in, and to make plain the conditions under which these forms of reasoning break down.
PHILOSOPHICAL AND PSYCHOLOGICAL PERSPECTIVES ON COMMITMENT

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keywords: social cognition, moral psychology, ontogeny

This symposium aims to discuss philosophical and psychological aspects of commitment in the context of social interactions, especially from a developmental perspective. Commitments are ubiquitous in social life and possibly a key notion to understand its dynamics. Different social phenomena such as signing a contract, exchanging goods or playing together all involve some kind of commitment. At the very basic level, the notion of commitment is defined as a normative relation involving a committed agent, an action she is committed to and a recipient of the commitment. From a developmental perspective, although previous literature showed that a full-fledged understanding of commitment emerges late in development, recent findings suggest that at least its important aspects are understood early. Contributions to this symposium include recent empirical findings on children's understanding of phenomena that can be understood in terms of commitment, i.e. promises, norms and loyalty and a philosophical proposal aimed to account for a number of issues relative to commitment, included the conflicting evidence in the developmental literature.

CARPENTER, MISCH & OVER

Stick with your group: Group loyalty as an implicit commitment

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In previous work, we have shown that after making an explicit commitment to collaborate, young children feel a variety of obligations toward their partner. Here we demonstrate that in a group context children both feel, and expect others to feel, a commitment to their group even when no explicit commitment has been made: They show an understanding of the obligation to be loyal to one’s group.

In Study 1, 4- and 5-year-olds (n=98) watched a video of two groups competing. When one group was about to win, two members of the losing group spoke: The disloyal individual said she wanted to win, so she would join the other group, and the loyal individual said she also wanted to win, but would stay with her group. In a series of subsequent questions about these two individuals’ niceness, trustworthiness, morality, and deservingness of a reward, 5-year-olds (t(48)=3.71, p=.001) clearly preferred the loyal individual (and 4-year-olds did this to a lesser extent). A follow-up study determined that 5-year-olds saw loyalty to the group as the normal, expected response; it was their disapproval of disloyalty that drove the effect.

Study 2 investigated 4- and 5-year-olds’ (n=96) own loyal behavior by testing children’s willingness to pay a cost to be loyal to their group. After being assigned to one of two minimal groups, children witnessed either their in-group or their out-group members hiding the secret book of the group. Children were then asked by another individual to reveal the group’s secret, and were bribed with up to five stickers to tell the secret. Five-year-olds (Fisher’s exact test, p=.024), but not 4-year-olds, kept the secret significantly more often in the in-group condition, despite having to pay a cost to remain loyal to their group – a minimal group they had been assigned to just minutes before.

These findings suggest that just the act of joining or belonging to a group engenders unspoken commitments and obligations that even young children recognize, and feel themselves.
Vigilance towards promissory commitment

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Promises are ubiquitous in social interactions. They facilitate social activities by making commitments explicit, increasing trust and helping to solve coordination problems. However, communicators can be insincere and therefore the recipient needs abilities for vigilance against insincerity. When and how do these abilities develop?

In contrast to previous developmental research (Astington, 1988; Maas & Abbeduto, 1998; Bernicot & Laval, 1996), recent studies showed that three-year-olds already understand the direction of fit of different speech acts (Rakoczy & Tomasello 2009) and the social implications of promises (Kanngiesser, Köymen & Tomasello, submitted for publication). Yet, we know little about children’s vigilance towards promises, particularly, in partner-choice situation where it is crucially important to choose a trustworthy partner. In a series of studies, we investigate the development of children’s ability to use past information to predict whether a promise will be kept, which is an important aspect of vigilance.

In Study 1, 24 three-year-olds were introduced to one puppet who broke promises and another puppet who kept promises. Both puppets then promised to help the child and we recorded which puppet the child chose. Results showed that children choose between puppets at chance levels, suggesting that three-year-olds have not yet fully developed the ability to use previous information to predict whether a promise will be kept. To rule out that this failure was due to lengthy procedure, we ran a simplified version (Study 2), but results from the first study were confirmed. However, some three-year-olds spontaneously referred to normative aspects of promise keeping, which we believe is an important step in the development of a fully-fledged vigilance towards promises. Data collection with four-year-olds is under way to trace the developmental trajectory of children’s vigilance.

Young children think you can opt out conventional but not moral practices

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Even young children engage in normative evaluations of others, i.e. they actively enforce different social norms such as rules of games (social-conventional; Rakoczy, Warneken, & Tomasello, 2008) and moral standards (Vaish, Missana, & Tomasello, 2011). However, one open research question is what young children understand about the commitment to engage in these normative activities. Do children regard each and every norm as binding unconditionally? Or does their commitment to norms and their tolerance towards “opting out” vary between norms of different content (conventional vs. moral). From a theoretical perspective the logical structure behind opting out differs for the two types of norms. Moral norms apply unconditionally, independent of the actor’s intention to comply with it. Hence, opting out of moral practices should not be excused. Social-conventional norms, in contrast, follow a more conditional structure, depending on the protagonist’s intention to comply with it. Thereby, opting out should be tolerated.

The present study explored preschoolers’ tolerance towards opting out of different norms by comparing their normative evaluations such as protest and critique of conventional (breaking game rules) and moral violations (destroying someone’s property). To test this, we confronted 3-year-olds with scenarios in which a (puppet) agent acted in accordance with or against an
either conventional or moral rule. The crucial manipulation was the agent’s announced commitment to the norm (preceding statement to either be part or not be part of the activity).

Results show that children made a difference between the two norms: they protested mistake actions independent of the previous announcement in the moral condition ($t(23)=1.07, p=.30$), while their evaluation of a conventional mistake was sensitive to this announcement (less protest after announcement to not be part of the activity anymore ($t(23)=2.18, p=.04$)).

Consequently, our data suggest that already 3-year-olds grasp how the commitment to stick to a certain norm can vary between different kinds of social norms.

**MICHAEL, SEBANZ & KNOBLICH**

**A Minimal Framework for Commitment**

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This talk sets out a framework that specifies the psychological mechanisms with which agents identify and assess the level of their own and others’ interpersonal commitments. I will begin by formulating three desiderata for a theoretical account of commitment: to identify the motivational factors that lead agents to honor commitments and which thereby make those commitments credible, to pick out the psychological mechanisms and situational factors that lead agents to sense that implicit commitments are in place, and to illuminate the onto- and phylogenetic origins of commitment. In order to satisfy these three desiderata, I propose to conceptualize a broad category of phenomena of which commitment in the strict sense is a special case, and introduce the term ‘minimal commitment’ to designate this broad category. The conditions are then specified under which minimal commitments obtain, and several factors are identified that modulate the degree of minimal commitment. I will then discuss an ongoing study which is designed to test the hypothesis that the degree of coordination within a joint action is a factor modulating the degree of commitment to the joint action.
It is quite common to set apart objective and subjective time. The temporal relations in the world that are independent from us constitute objective time. Subjective time is time as we experience it—as it is involved in temporal experience. Temporal experience is the experiential grasp of apparent temporal properties, e.g., simultaneity, succession, persistence, duration and temporal order. As temporal properties characterise also the experiences themselves, the question arises about the relationship between these two sets of temporal properties: those pertaining to experience and those pertaining to what one experiences. In fact, we could make a threefold distinction between the act, the content and the object of experience. All of them involve temporal properties:

a) **Act**: the experiencing or representing of events and objects. Although experiencing takes place in objective time, insofar the structure of experiences that is being discussed here is the experienced or subjective structure, this is also part of the subjective time.

b) **Content**: what is presented in experience or what is represented. This concerns the experienced/ represented subjective time.

c) **Object**: the external events and objects to which the experience is directed. These events and objects have a place in the objective time.

These elements in experience are not always distinguished in contemporary discussions. For example, direct realists about perception do not usually distinguish between objects and contents of experience, and some philosophers like Barry Dainton reject the act-content distinction, eliminating thus the gap between (a) and (b). However, this threefold distinction is useful for clarity, as it is at least theoretically possible that all three temporal structures do not line up with each other. For instance, temporal illusions can be seen as driving a wedge between (b) and (c) as they involve a discrepancy between the experienced temporal properties and the objective temporal properties of events. It is a matter of discussion how this discrepancy bears on (a), the temporal structure of experiencings themselves. As for the relationship between (a) and (b), Ian Phillips has defended the “Inheritance” claim for temporal properties only. This is the view that the “experience itself inherits the properties apparently presented in experience,” in effect the claim that the temporal structure of (b) is mirrored in the temporal structure of (a).

The ‘act’ part of experience admits a further bifurcation. Namely, we can distinguish between the experience and its neural vehicle or realization. The latter involves sub-personal processing that can also happen non-consciously. Again, the question is how is this neural processing (we could call it “neural time”) related to the content of our experiences? On this issue, there are two alternative positions: (1) The temporal isomorphism view on which the apparent temporal properties given in experience match with the temporal properties of the neural realizers of experiences. The apparent temporal properties of these events need not be represented explicitly in the content. The fact that we experience events in this order is due to the order in which the representations of a and b are processed. This can be put clearly in case the temporal property in question is the temporal order. When the event a is experienced to occur before the event b, then the processing of the neural representation of a must occur before the processing of the neural representation of b. (2) The temporal indicator view on which the temporal order is represented in the content alongside the events and the realizer processes do not have to mirror the order of events which they are representing.

These distinctions merit further discussion. On the one hand, it is important to find out if there really is mirroring between (a)-(b)-(c) or is the discrepancy actual, not just a theoretical possibility. To advance this discussion, we need to reflect upon the assumptions of the current debate concerning mirroring or inheritance. This has also wider implication on the nature of experience, including the debate between direct and indirect realism concerning perception. In addition, these debates on the nature of temporal experience have also implications to the metaphysics of time, for the relationship between (c) and (a-b) bears directly on this: does the phenomenology of temporal experience involve commitments about the metaphysics of time? On the other hand, it is important to get clearer view on the relationship...
between experiences and their neural basis. This requires careful interpretation of empirical results. Here the interdisciplinary co-operation of philosophers and psychologists is beneficial.

The proposed workshop on temporal experience is dedicated to these themes. Ian Phillips discusses ways in which our experience of time and temporal properties in general might be thought to differ from our experience of space and spatial properties. Whereas Phillips talks about any experientially given temporal property, Akiko Frischhut and Valtteri Arstila confine their discussion to specific temporal properties. Frischhut focuses on the experience of the passage of time. Her question is what should our experience be like in order to make a commitment for the existence of the objective passage of time? Her presentation relates thus the phenomenological considerations to the metaphysics of time. Arstila brings the discussion of empirical results from psychological experiments to the symposium. He focusses on the experience of duration and argues for temporal isomorphism concerning the experienced duration and the duration of the neural correlates of these experiences.

### ARSTILA

**Temporal isomorphism and duration estimation**

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The notion of subjective time is constituted by the concepts of succession and duration, which define two classes of perceptions having different characteristics. The first one applies to the perceived temporal order of events, e.g. perceiving that one event succeeds another, and the second one applies to the perceived (or estimated) interval between successive events or the persistence of an enduring event. These perceived temporal properties of events do not need to match the temporal properties of the events we perceive. For example, a lightning strike is rarely perceived simultaneously with the thunder and attended stimuli are perceived to last longer than non-attended ones. While the subjective time of events and the objective time of events can thus differ, it remains unclear whether the experienced order and duration of events (subjective time) can differ from the order and duration of neural correlates of experienced events (neural time). According to the thesis of temporal isomorphism, the apparent or subjective temporal properties of events are isomorphic to the temporal properties of neural processes that realize the experience of the event. Hence, the thesis maintains that the subjective time and the neural time necessarily match. Whereas the soundness of the thesis of temporal isomorphism has been debated vigorously in relation to the perception of succession, its soundness as regards the perception of duration in general. In particular, it will be argued that the thesis provides a parsimonious explanation for the duration estimation results in oddball tasks, in auditory versus visual tasks, and why attention decreases the performance in the temporal gap detection tasks. Moreover, it will be argued that by adopting the thesis of temporal isomorphism the idea that the specious present has different extent for different sensory modalities can be rejected.

### FRISCHHUT

**A Phenomenal Constraint on Experiencing the Passage of Time**

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Time passes. This appears to be given to us through experience. If we all experience time as passing, surely the best explanation for this is that time really passes. This ‘Argument from Experience’ is very popular among philosophers who believe in the objective passage of time. But what exactly is the content of such putative experiences? My aim is to determine what an experience would actually have to be like in order for it to be best explained by the fact that time passes.

The starting point of my talk is that such an experience needs to be a perceptual experience for it is the role of perceptual experience to tell us something about how the world is. Does temporal passage have a certain ‘look’? Are there any constraints on how it should be represented in experience?

In ‘The Visual Experience of Causation’ (2009), Susanna Siegel has argued that there are little or no constraints at all on how we should represent causal relations in experience. An analogous argument could be made in the
case of temporal passage. Whether Siegel is correct about her conclusion, I argue, depends on whether we want to employ such experiences in arguments that purport to tell us something about the way the world is, as opposed to merely telling us something about ourselves. In the former cases, I argue, the experience is subject to an important phenomenal constraint. If we want to infer from an experience as of p that p is really the case, then our experience must be such that it could not be accurate if p was not the case. Thus our experience as of time’s passage is best explained by the fact that time passes, only if the experience could not be accurate in a world where time does not pass.

The phenomenal constraint gives us a tool to re-evaluate the intuitively very compelling argument from experience. I will go through a variety of examples and show that these candidate experiences, experiences that one might think of as experiences of temporal passage, actually fail to meet the constraint. The onus is on the promoter of the Argument from Experience to provide us with an experience that is best explained by the fact that time passes.

PHILLIPS

Our Experience of Time

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Anyone familiar with either the philosophical or psychological literature on time perception will recognize a fondness for various commonplaces concerning our temporal experience. Amongst these is the claim that time perception is puzzling because we lack a sense organ for time. This remark is as obscure as it is obligatory. In particular, it is not obvious why temporal properties are interestingly different from spatial properties in being available to more than one sense modality. Moreover, it is certainly not obvious why the thought that we lack a special sense organ for time would justify the radical sceptical or constructivist claims sometimes made on that ground.

Here, I pursue the significance of this remark, as well as other curious facets of the literature on temporal experience, by looking to two putative contrasts between temporal and spatial perception. The first putative contrast is that whereas there do seem to be cases of perception which lack all spatial content (spatial deafness being the clearest example), there do not seem to be clear cases of perception lacking temporal content. The second putative contrast (noted by Evans 1985 and recently discussed by Richardson 2014) is that whereas Molyneux’s question seems at least superficially open regarding spatial properties, it does not appear even superficially open in the temporal case. I’ll end by suggesting a common explanation (and partial interpretation of the “no sense organ” claim) which appeals to the fact that our experience of time is not exclusively perceptual.
UNDERSTANDING AFFECTIVE PHENOMENA IN PSYCHOPATHOLOGY. PERSPECTIVES FROM PHILOSOPHY, PHENOMENOLOGY AND PSYCHOPHYSIOLOGY

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keywords: emotion, mental disorders

Over the last twenty years there has been a surge of interest concerning the exploration of affectivity and its disorders. The resulting literature is relevant not only to philosophy and psychology, but also to psychiatry as many psychopathologies are characterized by significant disturbances of affect. The psychological and philosophical study of affectivity is therefore not only usefully informed by the study of certain psychopathologies but is also well-placed to inform psychiatric research in return.

The study of affect is of particular relevance to investigations into psychopathologies such as depression, depersonalization-derealization disorder, and schizophrenia. Within this literature specific emotional deficits and disorders have been studied with a very high fineness of grain. Furthermore, the ongoing development of phenomenological interview techniques has made a significant contribution to improving the data basis of these psychopathologies. These developments suggest that the theory of emotion may profit from a close interaction with those explicitly studying psychopathologies and those developing the interview techniques.

The aim of this symposium is to bring these strands of research together to work towards an interdisciplinary understanding of the affective phenomena in psychopathology and to feed these results back into contemporary philosophy of emotion. We have invited early career researchers from psychophysiology, phenomenology, and philosophy of psychiatry to share their current research on this topic. We hope that this symposium will promote interdisciplinary interaction and collaboration and spur on research on affectivity in psychopathology in both Philosophy and Psychology.

BERNINGER & STAPLETON

Psychological Constructivism of Emotions and its Implications for the Study of Psychopathologies

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In recent years constructivism as e.g. advanced by Lisa Feldman Barrett and James Russell (Barrett & Russell, 2014) has become an important player in discussions on the nature of emotion. Briefly stated, this theory argues that emotions are not to be understood as natural kinds. Rather, emotions are seen as something that is constructed from more basic ingredients (such as e.g. sensory processing and category knowledge). What constructivism thus provides is a very fine-grained approach to different levels that may be involved in the construction of emotion. At the same time, it also calls for a more integrative approach in the sense that cognitive, bodily and emotional disorders can only be understood if we see them as intertwined phenomena.

In spite of its increasing popularity within psychology and philosophy, the implications of constructivism for the study of psychopathology remains to be assessed (for a first discussion of some of these implications see Ann Kring, 2010). In this paper we aim at developing an assessment of these implications. After giving a brief outline of the main tenets of constructivism we focus on two central aspects of the theory that we take to be most fruitful for the exploration of psychopathologies. These two aspects are:

The claim that emotions are constructed phenomena.

As Kring argues, the construction of emotions as described by Barrett highlights different ways, or levels, on which emotions may ‘go wrong’. Constructivism may thus not only give us the relevant fineness of grain at the phenomenal, and functional levels as is provided by other approaches to emotion in philosophy, but also at the level of the mechanisms and processes involved in the build-up
of an emotion. This in turn has important implications for the study of emotional deficits in psychopathologies. It may imply, for example, that different mechanisms account for these deficiencies and that we must take a pluralistic approach to understanding psychopathologies and the affective phenomena that are associated with them.

The claim that emotion, perception and cognition may be understood as intertwined phenomena.

What this highlights is that emotional disorders cannot be understood in isolation. Rather, we need to understand the emotional and cognitive deficits of some disorders as potentially being part and parcel of the same processes. It may thus e.g. not be possible to clearly distinguish emotional and cognitive deficits associated with psychopathologies. The same is also true for interoceptive and emotional processes. Thus the interoceptive perception of one’s own body may feature prominently in the construction of emotions.

We argue that constructivism as an approach has the potential to greatly enhance research into psychopathology and that it can be brought into fruitful dialogue with phenomenological approaches to affectivity and psychiatry.

**GAEBLER**

A Psychophysiological Investigation of Existential Feelings in Depersonalization-Derealization Disorder

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**TAYLOR AIKEN**

'Boundless Plains' and 'Infinite Horizons': Affective Flattening and the Experience of Spatiality in Schizophrenia

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Human beings are emotional beings. Their way of being in touch with the world, themselves, and each other is normally not a cold, detached, purely cognitive affair but rather constitutively affective (Slaby, 2008). A special class of emotional states are existential feelings, bodily background feelings that pre-structure our relations to the world, shaping all specific experiences, beliefs, and thoughts (Ratcliffe, 2008). These “feelings of being” are at the same time very basic and highly complex: their background character suggests that they are closely tied to one’s own body and systemic processes of the internal milieu. However, they also crucially feed into more complex feelings that define human existence by underlying human self-consciousness and -understanding (Slaby & Stephan, 2008).

Depersonalization describes a state of feeling disconnected from one’s own mental processes, emotions, and body. Depersonalization is frequently accompanied by derealization, a sense that one’s surroundings are unfamiliar or that the world appears “unreal”. Although these phenomena frequently occur as comorbid symptoms in other psychiatric disorders, they can amount to the chronic mental illness of “depersonalization-derealization disorder” (DPD: ICD-10 F48.1; DSM-IV 300.6). It is a crucial component of the diagnosis that patients with DPD are free of delusions. Therefore, the disorder can be understood as alteration or loss of existential feelings (Ratcliffe, 2008) and the empirical investigation of the former enables empirical access to the latter. A careful philosophical conceptualization of existential feelings, on the other hand, may provide further insight into the phenomenology of DPD.

In our study, 23 patients with DPD and 23 matched healthy controls participated in a series of psychological experiments probing emotional and self-related processing, while the activity of their brains and hearts was recorded using fMRI and pulse oximetry, respectively. Psychophysiological changes in patients relative to healthy controls will be presented and interpreted with respect to existential feelings.

Exploring first-person accounts of the experience of schizophrenia, it is possible to uncover a number of references to distortions undergone to both perception and experience of spatiality. Whilst there has been much already written on changes to a general sense of ‘Being-in-the-world’ and bodily phenomenology in schizophrenia (Fuchs 2005a; Parnas and Sass 2001; Ratcliffe 2008; Sass 1992, 2001, 2004; Stanghellini 2004), the topic of spatiality remains neglected. Responding to this neglect, I identify changes undergone to a sense of lived spatiality in first-person accounts of schizophrenia and advance a framework through which to understand these.
In this paper, I argue that the affective flattening – a key negative symptom of schizophrenia (DSM-IV: 300) – may be largely responsible for changes to experience of spatiality. Furthermore, I detail the parallel changes to a sense of space as lived and the sense of other people and objects as being connected to oneself and suggest that these phenomena are intrinsically linked and mutually informative. Appreciating this enables us to not only better understand commonly reported experiences of people undergoing schizophrenia, but also enables a better understanding of the link between affectivity and experience of space and, in turn, the way in which this is central for an ability to engage in what Stanghellini and Ballerini call “primordial intersubjectivity” (2007: 140).

After introducing examples of transformations to lived spatiality, I argue that we may identify: (i) a splitting of space and context in perception of space, and (ii) transformations in the manner in which distance and closeness are experienced. Turning to the work of De Sousa (1980, 2004) offers a helpful and compelling resource through which to understand how changes to affect underpin changes to the experience of space. Arguing that affects are “salience producers” (1980: 137; 2004: 64), De Sousa makes the point that affects perform a vital role in constraining a field of reference in which we operate. Affects, he argues, limit what we have to take into consideration in order to pursue our activities by making certain features of the environment salient and by underpinning a field of what we might comfortably take for granted. Whereas certain elements normally appear salient in everyday perception, in schizophrenia loss of affect entails a loss of salience. Following from this, the work that affects perform in demarcating and structuring significance are lost. This affects the reasoning process (Blankenburg 2002; Sass 1992, 1999, 2004; Stanghellini 2005): the field of reference within which we operate becomes limitless and unconstrained, two key terms which are used in autobiographical accounts of experience of schizophrenia in relation to apprehension of spatiality.

I end with consideration of how such affective transformations to the experience of space affect a sense of the possibility of interpersonal relatedness by removing a shared context for interaction.

**Hoffding**

Proposal for a Phenomenological Interview

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One of the ideas that define today’s phenomenological landscape is the usage of real-life exceptional cases from pathology and expertise to supplement the eidetic variation (Zahavi 2005). These cases can be provided by disciplines such as psychopathology, neurology, developmental psychology, and ethnology, as well as sports-studies and research on artists such as dancers and musicians. The use of such cases within phenomenological research, Gallagher (2010, 2013) has labeled the “factual variation”. This interdisciplinary turn is not a new idea in phenomenology, since classical phenomenologists, especially Merleau-Ponty, already used exceptional cases and empirical material in their phenomenological work. However, Gallagher’s understanding of the factual variation includes an interesting and controversial aspect, namely that it is not enough for phenomenology to accommodate empirical data: “it must also attempt to come to terms with appropriate scientific research methods” (2010, 86). Gallagher argues that the future of phenomenology relies on phenomenology to develop its own methodology further and outsource its tasks (2013). We endorse Gallagher’s call, but want to take his idea one step further. Instead of outsourcing research to other fields and scientists, we take ownership of the entire research process and suggest basing a factual variation on the qualitative interview method.

There are several examples on how to combine qualitative research with phenomenology (e.g. Georgi, Van Manen, Interpretative Phenomenological Analysis), but previous attempts to apply this literature within phenomenological research (e.g. on Cerebral Palsy, Martiny forthcoming; and on expert musicianship, Høffding 2014) have revealed their limitations. In this paper, rather than developing a detailed manual or a wholly new methodology, we characterize a general framework for how phenomenology and interviews can be successfully combined - which also answers to Gallagher’s critique of the promise of using qualitative research as a basis for phenomenology (2013). To do so, we take inspiration from the research of Ravn and Legrand, while drawing on classical phenomenology (Husserl, Merleau-Ponty, Gallagher, Zahavi) and qualitative methodology (Kvale, Atkinson & Hammersley, Flyvbjerg).

In the first part of the paper, we describe what it means for the interview process to be phenomenologically grounded, drawing out the phenomenological commitments that one should abide by in both the interview and its subsequent analysis. This relates primarily to how to understand the relation between the interviewer and interviewee and between experience
and its description in an interview context. In the second part, we give a general argument for why it is fruitful for phenomenologists to engage in interview themselves. We introduce the so-called ‘Schneider problem’, raised by neuroscientist J. Cole, who criticizes the use of pathological cases in phenomenology. Phenomenologists use exceptional cases as part of their arguments, even though there is no clear scientific understanding of them. The problem is to be found in the epistemic gap between those conducting the research (the neuroscientists) and those interpreting the results (the phenomenologists). In contrast, in the phenomenological interview process, the interview and the phenomenological analysis are in constant interchange as the research conducted and its subsequent interpretation is accomplished by the same person. This process leads to an epistemological continuity which overcomes Cole’s objection. In the third and final part, we supplement the general motivation to engage in interviews, with specific examples from our own research into the phenomenology of cerebral palsy and expert musicianship, respectively. The former puts pressure on the notion of agency as a coherent concept, while the latter shows that the idea of “skilled coping”, especially as used by Dreyfus (2005, 2007, 2013) hinders a real understanding of the phenomenology of expertise.
AASEN

Visibility and the Objects of Depiction

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keywords: perception, senses

In this paper, I outline an admissive view of the nature of what is experienced when seeing a picture as a depiction. I take issue with a widely accepted constraint on the objects of depiction, namely the constraint that whatever can be depicted can be seen. A justification of the constraint is harder to produce than what one might think. Moreover, the constraint implies a disputable methodology for the philosophy of perception, namely the idea that face to face seeing is a guide to what can be seen in pictures. By considering 'cross-modal depictions' – i.e. depictions of something that can only be perceived by means of senses other than vision – I arrive at the alternative and more admissive suggestion that our experience of pictures has as its object something less determinate but more general than what can be seen face to face. This view, I suggest, is illuminating not just for experiences of cross-modal depictions but also for experiences of depictions in general. In consequence, the range of depicta is more inclusive than what the widely accepted constraint permits.

ARCANGELI & DOKIC

Imaginative Perspectives in Action

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keywords: imagination, agency

Like many philosophers before us, we are convinced that a good account of imagination can tell us something remarkable about the nature of self-knowledge. In this paper, we try to illustrate this claim with respect to the case of imagining actions. There are at least two different ways of imagining an action. For instance an imagining can either imagine eating a lemon (sour taste) or imagine herself eating a lemon (pinched face). In Vendler’s terminology, while the former case belongs to subjective imagination, the latter involves objective imagination. Some questions arise: What is the ground of the distinction between subjective and objective imagination? What does it tell us about the nature of imagination? Does the distinction have anything to do with how the self (either the imagining’s or the agent’s or both) is involved in our imaginings? In this paper we will present and criticize three proposals about the nature of the...
distinction between subjective and objective imagination. Our starting point will be the intuitive claim that subjective imagination exploits some mental perspective on the imagined action that can only be that of the agent herself (hereafter IC). The first proposal conceives subjective imaginings as essentially de se imaginings – thus entailing IC. In contrast, objective imaginings can be de se, but only accidentally. When I objectively imagine myself swimming, the imagined action is represented as my action, but the very same type of imagining can be about someone else. Thus, my objective imagining turns out to be merely de re: about a person whom I think of as myself, I imagine that that person is swimming. One might object that at least some cases of objective imagination can be essentially and not merely accidentally de se. This seems to be Walton’s view, who suggests that in contrast to de re imaginings, objective imaginings that are essentially de se are not anaphorically linked to other mental states.

A second proposal has been put forward by Recanati in trying to accommodate Walton’s objection. On Recanati’s view, while subjective imagination is identification-free (in conformity with IC), objective imagination, when it is essentially de se, does involve a form of identification. The latter would be a specific type of identification by stipulation, which unlike other forms of identification (e.g., through some anaphoric link) is supposed to be immune to error through misidentification. However, being essentially de se and being identification-free seem to be two sides of the same coin.

A third proposal aligns the distinction between subjective and objective imagination with that between implicit and explicit self-involvement. On this proposal, subjective imaginings necessarily involve the self implicitly, while de se objective imaginings necessarily involve the self explicitly – i.e., as a represented constituent of the scene. However, as we shall show, implicit self-involvement does not seem to be a sufficient condition of subjective imagination; eventually this proposal fails to account for IC.

A fourth proposal, which is grounded on an independent distinction between internal and external experiences, will be put forward and defended as the best way of explaining IC and of giving answers to the aforementioned questions.

In recent decades, many psychological experiments have been conducted that show that unconscious processes often influence our actions and that we are not aware of this influence (e.g. Bargh & Ferguson, 2000). Because of this, it seems that we have less control over what we do than we might have thought. An important question is to what extent we can generalize these findings to conclusions about free will and control in general. In this paper, I will argue that generalizing these findings is problematic because at least two ways of exerting indirect control are not taken into account in these experiments.

According to Mele (2001, p. 155) and Fischer & Ravizza (1998, p. 202) the question of whether a person acts freely at a certain moment cannot be fully answered without taking the historical dimension into account. In some cases, the person perhaps has no control over what he does at a particular moment, but could have had control earlier: for example he may have had control over the formation of a bad habit or implicit attitude that he is automatically acting on now. That is, we can aim to change this automatic way of responding, for example by adopting certain implementation intentions (Gollwitzer & Sheeran, 2006), because of which we can exert indirect control. However, Levy (2014, p. 117) argues that we should be careful in claiming that we have this kind of influence: it might be difficult to influence or change our implicit attitudes. Importantly, I think that this is not the only way to exercise indirect control, because we can also influence the situation in which we act and make decisions. Often in our decision making processes we try to avoid such situational influences to play a role. Before we decide, we sleep on it, go for a walk, or ask others for advice. Because of this, we may not have to change our implicit attitudes, but have other means of circumventing their influence.

To conclude, both possibilities to indirectly control the way situational factors influence us are not assessed in the experiments, in which only a small part of how we act and decide is taken into account and the setting in which the participant has to decide is fixed. Because of this, these experiments might not capture some important ways of how we exert control over our actions and decisions.

References


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Carey on Numerical Cognition

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keywords: reasoning, concepts

In this paper I critically examine Susan Carey’s (2009) account of our numerical cognition, focusing specifically on her discussion of (what is known in the literature as) the analog magnitude system (AMS). I begin by clarifying Carey’s claim that it is a system of core cognition: I argue that she means by this that (a) it is a modular system in Jerry Fodor’s (1983) sense, and (b) its representations are conceptual. I then criticize her more specific suggestions about the contents and formats of AMS representations: Carey argues that they represent cardinal numbers, and that their format is iconic in the sense that their parts represent parts of what the whole represents. I argue, however, that this cannot be: because cardinal numbers are abstract in a certain sense that is made precise, they cannot be the contents of any representations that are not symbolic (rather than iconic) in format.

BANTEGNIE

There is No Mental Causation

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keywords: intentionality

In his 1998 book (Kim 1998), Jaegwon Kim put forward a now famous argument against anti-reductionism in the philosophy of mind, the causal exclusion argument. Kim argued against the existence of non-reducible mental states from the premise that all the causal work is in fact done by physical properties. In the end, mental properties, unless one is ready to grant the existence of causal overdetermination, should be deemed non-existent. However, a recent theory of causal explanation, developed in great details by Woodward (Woodward) has since been used to argue against this conclusion. In my presentation, I will show that, in fact, the interventionist account of causation backfires. One cannot even make sense of mental causation in an interventionist framework. In order to do so I will argue that mental states cannot be intervened on and that the solutions put forward by Campbell (Campbell 2006) and Woodward (Woodward 2008) do not work.

BARONE & DANON

Intention attribution in marmosets: a response to the ‘logical problem’?

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keywords: non-human animals, social cognition

In the debate about animal mindreading, Povinelli and colleagues have argued that nonhuman animals have no understanding of other minds (Penn, Holyoak, & Povinelli, 2008; Penn & Povinelli, 2007; Povinelli & Vonk, 2003; Vonk & Povinelli, 2006). Instead, they claim, animals predict and understand others’ behaviors based on what they track about some regular contingencies between those behaviors and observable environmental cues. These researchers argue that all current experimental protocols which aim to provide positive results in favor of mental states attribution in nonhuman animals suffer from a fundamental methodological flaw: they cannot overcome the ‘logical problem’, that is, they are not capable of effectively distinguishing genuine mindreaders from mere behavior-readers. In the specific case of intentions and goals, Lurz & Krachun (2011) have concluded that neither experimental solves Povinelli’s problem.
However, Burkart et al. (2012) have assessed whether marmosets understand the underlying intentional structure of other agents’ action, providing some intriguing results to contribute to the debate. In the test, marmosets reacted differently to three kind of possible agents: they seemed to perceive the actions of a conspecific and a robot as goal-directed while they apparently perceived a black box moving as an inanimate entity and did not attribute goals to it.

Our argumentative strategy will consist in examining whether a behavior-reading marmoset could react in the way subjects did in this study. Drawing on the extant non-mentalistic theories about human infants and nonhuman primates capacities for social cognition, we identify two alternative behavioral rules that marmosets might be using: a rule about specific movements and a rule about goal-directed actions. We will show, in turn, that none of them adequately explains the experimental results.

Finally, we will argue that marmosets have different rules whose contents vary depending on how they have categorized the agent (and not merely the agent’s movements or actions) in each case. Thus, a mentalistic approach which grants marmosets with capacities to identify intentional agents and attribute internal goals to them seems to be our best alternative to account marmosets’ differential responses.

**BEDKOWSKI, ROSTWOROWSKI & LOZINSKA**

Towards a Contextual Theory of Logical Connectives in Natural Language

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The goal of this paper is to propose a theory of meaning of logical connectives in natural language. By “logical connectives in natural language” (in short, NLC), we mean the natural-language counterparts of sentential operators in classical logic. In particular, we focus on “if-then” and following the approach taken by some modern linguists and philosophers (e.g., Björnsson 2008, 2011, Recanati 2010), we argue for a moderate contextualist view on conditionals.

In the first part of our presentation, we recapitulate the Grice-style account (G-TF) of NLC, according to which, “if-then” is a truth-functional connective (that is, a sentence of the form “If p, then q” has the truth conditions of the material implication) and various specific senses of conditionals ought to be conceived as conversational implicatures. In the second part, we develop our proposal which agrees with G-TF that conditionals encode the truth-functional sense at some elementary level of meaning, but it rejects the claim that the truth conditions of conditional utterances are contextually invariable. Particularly, we argue that a specific relation between the antecedent and the consequent (e.g., causal, evidential etc.) which is conveyed by the conditional utterance in a context is a part of what is said and not what is conversationally implicated.

We justify our contextualist view on conditionals based on a series of empirical research on the natural language which we have conducted. Our research shows that while ordinary users of language generally take the inference-patterns (i) “p or q. Hence if not-p, then q”, (ii) “If not-p, then q. Hence either p, or q” to be valid, their evaluation of a conditional in a particular context highly depends on the fact whether there holds a certain content-relation between the antecedent and the consequent. We put forward some arguments that these “contextualist” folk intuitions cannot be successfully explained by G-TF, as the specific readings of conditionals ascribed to them by ordinary users do not have the typical features of implicatures, and particular predictions of G-TF do not match the data.

**References:**


William James’ theory of emotions has made a startling comeback in recent years. While in the heydays of judgment theories his approach was generally considered a non-starter, current emotion research has seen a surge in Jamesian positions. This recent enthusiasm is mainly due to the central place that James accords to the human body (e.g. Prinz, 2004).

While this strand of research has delivered important results, there are other aspects of James’ approach, which can be put to use in gaining a better understanding of the emotions, but which have largely been ignored. In my talk, I want to focus on one of these ideas, namely James’ general approach to mental phenomena. A central idea developed in the Principles of Psychology is that we should not consider simple states such as sensations as fundamental building blocks from which other mental states can be derived. Rather, James declares continuous, introspectively available mental activity (the “stream of thought”) as the central element on which theories of mind should focus.

On first glance, these reflections seem irrelevant for emotion theory. However, as I show, this assessment is mistaken. I develop my argument in three steps: First, I outline both phenomenal and empirical evidence for the fact that emotions are linked to modifications in our mental activity (Isen, 2008; Pronin & Jacobs, 2008). In a second step, I argue there is reason to think that we should consider these changes as part of the emotion proper. In a third step, I then go on to show that we can accommodate these aspects by bringing the stream of thought back into view. More precisely, we need to understand emotions not as single mental states, but rather as specific shapes the stream of thought can take.

**Literature**


In recent decades prototype, exemplar, and theory theories have dominated the philosophical and psychological literature on concepts. While their proponents differ in their views on concepts, they share the assumption that all concepts share a common structure, and that a single model could, in principle, be developed, which would account for the formation and application of all concepts. However, despite an accumulation of a large body of data, none of these approaches has succeeded in formulating such a model. Consequently, a growing number of philosophers and psychologist argue that, while each of these theories is able to account for a range of empirical phenomena related to the formation and use of concepts, no single theory has been successful in accounting for all of these phenomena. In accord with this growing consensus, several solutions have been offered; among them are hybrid theories of concepts, as well as pluralist and eliminativist theories that maintain that the search for a unified theory should be abandoned.

I argue that the problem has been mischaracterized. The issue is not that each of the homogenous theories of concepts fully explains some, but not all, instances of concept formation and application. Rather, none of the homogenous theories is able to account for any of the relevant phenomena fully. I show that an understanding of this problem gives rise to an integrated model of concepts, which resolves it. In this model, similarity judgments and theory are, in a strong sense, interdependent. The proposed model is compatible with empirical data, and has explanatory advantages over hybrid, pluralist and eliminativist theories.
one valuable option to request, we confronted subjects with an additional option of varying value. Subjects should only request depleted absent entities when the remaining option is less valuable than the absent one. This pattern would indicate that requests are specific.

In the second part we focused on the question whether great apes take into account the social aspects of a given context when requesting absent entities. In particular, we looked at the effect that the experimenter's knowledge and/or experience have on their requests. In order to flexibly use the former location of an object to request another one, the sender has to track the receiver's status with respect to both of these factors. Only if the experimenter has seen the object in its former location and is experienced in bringing new objects, the request could potentially be successful.

Our results show that apes request, however infrequently, specific absent entities. That is, they flexibly adjust their requests to variations in the physical context. Furthermore, we found that apes also adjust their request to the social context. They take into account the experimenter's knowledge as well as her experience, with the latter being more important. However, we found no evidence that they understand how these factors depend on each other. Our results therefore demonstrate a surprising amount of flexibility in great apes' communication about absent entities while at the same time suggesting some important limitations in their socio-communicative skills.

BOURMAYAN & STRICKLAND

The Significance of Connotation within Lexical Meaning

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Lexical meaning involves two distinct aspects: first, words' denotation, which enters the truthconditional content of utterances, and second, words' connotation, which does not enter the truthconditional content. An important part of current research in semantics endorses the theoretical framework of formal semantics, where only denotation is considered, on the assumption that connotation is a side-aspect of lexical meaning. In this work, we want to show that connotation is in fact a central aspect in lexical meaning, that is even cognitively prior to denotation.

In a pretest, we asked participants to evaluate a series of verbs with respect to either their reference domain (denotation) or their valence (connotation): if asked about the domain of the verb, they had to indicate on a scale whether the meaning of the verb was rather psychological or rather physical, and if asked about the valence of the verb they had to indicated on a scale whether the meaning of the verb was rather positive or rather negative. This allowed us to create a list of 40 verbs, among which 10 where physical and positive, 10 where physical and negative, 10 where psychological and positive, and 10 where psychological and negative (they were all judged equally high with respect to domain and valence).

In a first experiment, we wanted to examine whether access to denotation and access to connotation were similar or whether one was faster than the other. To do so we asked participants to indicate as quickly as possible for each of these verbs whether the meaning they expressed was psychological or physical, and for each of them whether the meaning they expressed was positive or negative.

Verbs were presented randomly and whether participants had to evaluate first the verbs' domain or first the verbs' valence was also randomly defined. We found that participants' answers were significantly faster regarding the valence than when they pertained to the domain, showing that one has a first, more direct access to connotation than to denotation.

In a second experiment, we wanted to examine the respective significance of denotation and connotation in the determination of words' meaning. Thus, with the same 40 verbs, we created 4 lists of 20 pairs of verbs. Each list contained 6 test pairs where the two verbs had the same domain and a different valence, 6 test pairs where the two verbs had the same valence and a different domain, 4 control pairs where the two verbs had similar valences and domains, and 4 control pairs where the two verbs had difference valences and domains. Each participant was randomly presented one of these 4 lists, and was asked to evaluate for each pair the similarity of the two verbs' meaning on a scale from 1 to 7. The results were the following: the verbs were judged to be significantly more similar in meaning when they had the same valence than when they had the same domain. Thus, valence (connotation) was more important than the domain (denotation) for meaning determination.
**BRÖSSEL**

On the Rationale of Reverse Inference in Neuroscience

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**keywords:** brain

Reverse Inference is a popular inference schema in neuroscience, typically used to link evidence about brain activation with hypotheses about the elicitation of cognitive processes. However, there are many reasons to consider this inference schema fallacious. First, I argue that Machery’s (2014) attempt to defend it by analyzing it in likelihoodist terms is unsuccessful. Second, I demonstrate that the rationale behind it is the same as behind the schema ‘Inference to the Best Explanation’ and that both inference schemas can be framed in Bayesian terms. Finally, I provide a vindication for both inference schemas by showing that they are truth-conducive.

**CHOMANSKI**

Are We Conscious of Our Thoughts’ Location?

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**keywords:** consciousness, concepts

In this paper I argue for the view that conscious thoughts exhibit spatial phenomenology. In particular, I want to claim that it is more reasonable to think that our conscious thoughts possess spatial phenomenology (that is to say that among the phenomenal properties conscious thoughts have is some phenomenal property the instantiation of which makes it seem to the subject of the thought as if the thought has some apparent location) than to deny it. I will argue that the postulation of spatial phenomenology in thoughts is dialectically privileged and the onus is on the deniers of spatial cognitive phenomenology to provide reasons for believing that conscious thought lacks such phenomenology. Accordingly, in the course of this paper I examine and reject several such reasons, concluding that accepting spatial cognitive phenomenology is a more reasonable default position.

I call the view that postulating spatial cognitive phenomenology is prima facie justified the dialectical advantage thesis (DAT). I offer three reasons for accepting DAT: (1) spatial cognitive phenomenology is supported by naive introspection; (2) spatial cognitive phenomenology goes hand in hand with a broader range of approaches advocated in the cognitive phenomenology debate than its denial; (3) spatial cognitive phenomenology enables us to make clear sense of how to describe thought broadcast phenomena (one of the symptoms of schizophrenia). I conclude that DAT is true.

**COELHO MOLLO**

Structural Representation and the Causal Efficacy of Content

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**keywords:** intentionality

Structural representation theories of content have at their core the idea that mental representations have the contents they do by virtue of structurally resembling, or sharing relational structure with, what they represent (cf. Swoyer 1991, Cummins 1996, O’Brien and Opie 2004, Bartels 2006, Isaac 2012, Shea 2014). O’Brien and Opie argue that these theories have a central advantage in relation to other accounts: they can make space for the causal efficacy of content, and thus meet what they call the ‘causal constraint’ on theories of content. This would be accomplished by making content intrinsic to the representational vehicle, i.e., independent of how the representation is used by the cognitive system.

In this talk, I will argue that this putative advantage of structural representation theories is illusory. Because of its appeal to structural resemblance as the content-fixing relation, structural representation makes content wildly non-unique. Structural resemblance is a widespread relation, making so that any representation will represent many different and disparate entities. Such liberality jeopardises the role of mental representation in explaining behaviour.
Wild non-uniqueness of content puts theories of structural representation in an uncomfortable dilemma: either they have recourse to how a representation is used by the system to help curb non-uniqueness of content, in which case they violate the causal constraint; or they embrace non-uniqueness and deflate the notion of content in such a way as to make satisfaction of the constraint trivial. Both horns of the dilemma are unsatisfactory. I conclude that, contrary to what some of its proponents claim, structural representation theories do not meet the causal constraint.

**COSENTINO**

Memorable actions: The role of motor information in the retrieval of memories for action phrases

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**keywords:** memory, agency

One of the key issues in the study of how memories are stored and retrieved has been the question whether all memories are stored in one uniform or rather in distinct material-specific ‘codes’. Several experimental findings suggest a fundamental distinction between visual-spatial and linguistic information: whereas visual-spatial stimuli are preferentially stored in an analog manner (Kosslyn, 1994), verbal information is assumed to be stored in a propositional form (Kintsch and van Dijk, 1978). The latter claim though is in contrast with the embodied account of cognition, according to which the processing of verbal stimuli that refer to actions involves the mental simulation of the corresponding actions (Barsalou, 1999). In this view, motor information activated during the encoding of action words and phrases is likely to become part of the memory trace and affect memory performance. The aim of our study was to test this prediction investigating the role of motor information in the retrieval of memories for action phrases (e.g., “Pick up the fork”).

Twelve German native speakers participated in this study. We constructed a list of 144 object nouns (e.g., glass) selected from the Berlin Affective Word List (Võ et al., 2009) and matched for word length, frequency, imageability, arousal and valence. Half of them were used to create action phrases, which were then presented to the participants on a computer screen using Presentation software. After a filled interval of ten minutes, subjects were shown 72 ‘old’ nouns from the previously presented action phrases and 72 ‘new’ nouns. The number of correct answers was calculated.

In order to investigate the role of motor information in memory retrieval, three motor instructions preceded the presentation of the action phrases: (1) no movement, (2) hand movement (subjects had to make a fist with both hands and stretch their fingers one by one) and (3) foot movement (they had to beat their feet on the floor alternating them). Once the action phrase appeared on the screen subjects had to read it aloud while executing the movements indicated in the instruction. There were two categories of action phrases: hand actions (“Ring the bell”) and foot actions (“Push the pedal”).

A 2(Phrase category: Hand vs. Foot) x 3(Encoding condition: No movement, Hand Movement, Foot Movement) ANOVA with correctness as a dependent measure revealed a significant interaction between phrase category and motor task, \( F(2, 286) = 3.812, p = .02 \) (see Figure 1). Follow-up analyses revealed that, compared to the condition in which no movement was required at the encoding, hand movements had an effect on the memory for hand actions, \( t(143)= 2.476, p=.01 \), whereas foot movements influenced memory for foot actions, \( t(143)= -2.284, p=.02 \). Surprisingly though, the two effects had opposite directions: whereas the first one showed an interference of the motor system on memory performance, the second revealed an effect of the compatibility between the movements and the type of action phrase. After reviewing and rejecting other interpretations which do not appeal to the role of the motor system, possible implications for theories of memory storage and retrieval are discussed in the light of our results.

**DE BRASI**

Socially-Distributed Knowledge-Relevant Responsibility

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**keywords:** knowledge, belief

It is often thought that a satisfactory account of knowledge should combine subjective and objective standards of appropriateness for a true belief to be knowledge. Normally this is understood in terms of a
A combination of de facto reliability and epistemic responsibility. But this standard way of looking at things quickly gets us into trouble. Cases the pure reliabilist is quite fond of, such as those involving proprioception, suggest this, since it seems difficult to attribute any sort of epistemic responsibility to some subjects when exploiting such faculties, but we are nonetheless willing to attribute them knowledge. However, given reliability is necessary but not sufficient for the knowledge-relevant normative status, as some classic thought-experiments about other epistemically naïve subjects suggest, we still seem to need some sort of admixture of reliability and responsibility. The problem, with which philosophers have had a hard time, is to find a satisfactory combination of reliability and responsibility and this paper attempts to find a solution by capitalizing on the real and ubiquitous human phenomenon that is the social dispersal of labour.

We cannot, as some do, understand epistemic responsibility as demanding the knower herself to reasonably take the procedure exploited to be reliable. This view seems to over-intellectualize our practice. It is clear knowledge needn’t be a reflective success of the subject. A novel anti-individualistic approach to epistemic responsibility seems needed to capture this requirement on knowledge. The basic idea is to require some reflective endorsement of the knowledge-yielding procedures but allow it to be met at the social level.

The proposed account suggests that the reflective endorsement of the knowledge-yielding procedures needn’t be performed by every member of the epistemic community. It promotes a division of epistemic labour, where some members of the community responsibly endorse the procedures for others. It also promotes a division of cognitive labour with respect to the endorsement of any given procedure. This division of cognitive labour is amenable to the Distributed Cognition framework, which is well suited to capture the complex interdependencies between people in multi-person activities. Importantly, this approach can help us locate the relevance of this framework for mainstream epistemology.

Do people view others as fundamentally good? Recent work has found that people attribute moral goodness to the ‘true self’ (Newman, Bloom, & Knobe, 2014a). There are two ways in which this belief may come about. Either it stems from idiosyncratic characteristics of the samples in these studies — such as their general optimism about the self as a whole, or their view that the self is bounded and separate from others, rather than interconnected — or it is actually a universal way in which people intuitively understand the notion of a ‘true self’. If the second hypothesis is correct, then we should expect people to believe in a morally good true self even if they or the cultures they belong to carry very different beliefs about other relevant aspects of the self. We submitted ‘the good true self’ to this test. Study 1 compared true self attributions in samples from an independent culture (USA) and a diverse set of interdependent cultures (Russia, Singapore, and Colombia). Study 2 then tested whether individual differences in misanthropy — the tendency to view humans negatively — moderated willingness to attribute moral goodness to the true self. We found that the good true self was robust across both the cultural and individual differences, suggesting a deep, universal tendency to view the self as morally good.
DEAMER & WILKINSON

Metaphorical Thinking and Delusions

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Keywords: mental disorders, belief

This paper explores how metaphorical thinking might contribute to an etiology of florid delusions in psychosis. We aim to show that, if we understand self-knowledge about propositional attitudes as the result of a fallible interpretive process, and if we acknowledge the role that inner speech plays in this interpretive process, we can provide a good account of how delusional subjects misattribute beliefs to themselves, namely, take themselves to have beliefs that they do not in fact have on the basis of figurative inner speech.

We argue that, under the right conditions, over time and through the process of inner dialogue with oneself, non-literal inner speech might come to be understood literally, and on the basis of that literally understood inner speech, a belief might come to be attributed. What might have started as a best attempt to linguistically capture a set of emotions, feelings and experiences in a loose, less-than-literal way (e.g. “It’s as though I am being watched in my own home”), might easily come, over a period of time, to be understood as a more and more literally accurate expression of the states of affairs.

This approach helps to account for the path from experience to the delusional assertion (which, though relatively straightforward for monothematic delusions like Capgras, has always been difficult to account for in florid delusions like “I am the left foot of God”), and double book-keeping and the relative agential inertia of the belief (the man who says “I am Napoleon” doesn’t try to invade Russia).

DIAMANTIS

Illusions of Affection: A Hyper-Illusory Account of Normative Valence

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Keywords: senses

This paper challenges the orthodox position that some smells are pleasant and some tactile sensations are painful. It argues that there is reason to think these affective components of our experiences are a kind of illusion. Under this alternative picture, experiences that seem to be affective never actually are. Rather, the affective component is hyper-illusory, a second-order misrepresentation of the way things actually seem to us.

The paper begins by defining what a hyper-illusion is—a state of affairs in which the way something seems to seem is not how it seems. It concedes that hyper-illusions may sound bizarre at first. But the paper goes on to distinguish a different sort of hyper-illusion, one in which the way things seem to seem supplements, but does not actually conflict with, the way things seem. It argues the affective components of our experiences may be just such hyper-illusions. To make the case, the paper draws on psychological literature about pains and olfaction to show that the sensory core of experiences and the accompanying affect can diverge in ways the hyper-illusory account would predict.

EBEL, HANUS & CALL

The role of prior experience in problem-solving in six-year-old children

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Keywords: learning, ontogeny

In the floating peanut task a peanut is placed inside a transparent tube which can only be reached by pouring
water into the tube so that the peanut floats up. Hanus et al. (2011) used this task to compare the performance of different nonhuman great apes and four-, six- and eight-year-old human children. The children were asked to water plants before starting with the test to communicate that using the water is fine. The question remained open if this prior experience with water had an effect on performance, more specifically, if it facilitated or hindered children to come up with the solution. The latter effect would be called “functional fixedness” (Duncker, 1945): The water has the function of watering plants and this fixedness hindered children to use it in another context. We investigated if watering plants enhanced or reduced six-year-old children’s overall performance in the floating peanut task. They either watered five plants, one plant or none at all. We further investigated two types of experience: Either the children watered the plants themselves (“self-experience”) or the experimenter did so (“other-experience”). We discuss the results before the given theoretical background, and the impact of the way the problem is presented.


experimenter also has a perspective on the events constituting the false-belief story. This can have implications both for how the story is perceived by the child and for how the false-belief question in the end is interpreted. Would the mere fact that the experimenter knows the answer to the false-belief question make the child answer not from their own perspective but from that of the experimenter, as a consequence of perspective-taking inherent in conversation (Helming, Strickland & Jacob, 2014)? Or can the experimenter's overt interest in the false-belief story be made to support the child's tracking of the protagonist's perspective (cf. Rubio-Fernandez & Geurts, 2013)?

We present data from 84 children aged 33-51 months [M = 3.5 years, SD = 5.7 months] watching a filmed and narrated false-belief story about Maxi, whose toy airplane is moved to a new location while Maxi is out playing. At the end of the film, Maxi returns and the narrator says “Maxi wants to play with his airpl…” (after which the film freezes, mimicking a technical error).

Children were divided in three between-group conditions:

1) With an experimenter sitting next to the child and watching the film attentively together with the child [N = 33]

2) With an experimenter excusing herself when the film starts, sitting next to the child working with her papers [N = 26]

3) Without an experimenter, who is instead excusing herself and leaving the room [N = 25]

In the third condition the experimenter entered the room again at the point when the film froze, just hearing the narrator mentioning the airplane. In all conditions children where then confronted with the false-belief question, by the experimenter asking “Where will Maxi look for his airplane?”

If the experimenter's interest in the story facilitates the child's perspective tracking, we would expect the best performance in the first condition, in which the experimenter was present and showing interest in the film. If on the other hand children become biased by the experimenter's true knowledge about the location of the airplane, we expect the worst performance in the first condition, in which the experimenter is present and showing interest in the film. The results supported the former hypothesis – children performed significantly better in the condition in which they had watched the film together with the experimenter, sharing a perspective on all events in the film, compared to both other conditions. Thus, we could not support the suggestion that children would become confused or biased by the experimenter's true belief about the toy's location. Instead, we discuss the result in terms of perspective tracking and of scaffolding effects of sharing a perspective.

References


FARRELL

When is a red experience not a red experience?

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keywords: consciousness

A paradigmatic example of a conscious experience is a red experience. But, I will argue, the notion of a red experience is ambiguous (as are those of an experience of red(ness), of experiencing something as red, of experiencing red(ness), and so on). This means that we need to establish which way(s) of disambiguating ‘red experience’ (and similar phrases) are relevant to the investigation of conscious experience. It also means that we should be careful in using these phrases so that we don’t equivocate between different readings of them, or unwittingly talk past our interlocutors. The aim of this talk is to clarify these matters so that we can avoid (at least this type) of unclarity when we investigate consciousness.

An experience, I will argue, can be a red experience in four ways. First, an experience can be a red experience because of the distal cause of the experience: the colour of the object experienced. Second, an experience can be a red experience because of the nature of its proximal cause, such as the character of the light which enters the eye and causes the experience, as when we experience a white wall illuminated by a red neon sign. The third way an experience can be a red experience is in virtue of the phenomenal character of the experience. And the fourth way is in virtue of its representing the world as being red, i.e., in virtue of the experience’s intentional content. Depending on our philosophical views, we might think that some of these ways come down to the same thing;
nevertheless there is at least a conceptual distinction between the four ways.

By using thought experiments, I will argue that, for each of the four ways, it is possible that an experience be a red experience in only that way. This suggests that, in describing an experience as a red experience, we could mean that it qualifies in any one way, in any two ways, in any three ways, or in all four ways. Making clear what the four ways are thus makes plain the potential for equivocation and unclarity when we talk about red experiences (or experiences of red(ness), or experiencing red(ness), etc.), and gives us tools to help us avoid such problems.

I conclude by briefly arguing that, insofar as we are interested in phenomenally conscious experience—that which leads to Jackson’s knowledge argument, Levine’s explanatory gap, and which we talk about in terms of what it is like to have it—the kind of red experiences we are interested in are those which have red phenomenal character. We should be careful not to confuse these red experiences with experiences which are red experiences only in some other way if we are not to be led astray in investigating conscious experience.

**FIEBICH**

What is ‘false’ in ‘implicit false belief understanding’?

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keywords: ontogeny, social cognition

In this paper, I discuss the various methodologies and task designs that have been used to test infants’ implicit understanding of other people’s false beliefs. The so-called ‘implicit false belief task’ provides a valuable means to measure preverbal infants’ sensitivity towards other people’s beliefs. However, the implicit false belief task do not measure what its name suggests. Empirical findings and theoretical considerations show that, at least in observational task settings, no cognitive mechanisms are involved that justify the successful performance in these tasks as an indicator for an (implicit) understanding of other people’s false beliefs. I argue for an alternative interpretation of the task-results that refers to associations and a core set of teleological reasoning principles. It remains an open question whether interactive task settings are suited to measure implicit false belief understanding.

**FISCHER & ENGELHARDT**

Through Stereotypes to Intuitions: Psycholinguistics for Experimental Philosophy

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keywords: language, perception

This talk presents work that pioneers the use of psycholinguistic methods in experimental philosophy’s sources project. Many philosophically relevant intuitions are elicited through verbal descriptions of possible cases. This makes it worthwhile to investigate whether such intuitions are generated or influenced by automatic inference processes that routinely occur in text-comprehension and -production. One of these fundamental processes is stereotype-driven amplification: Both nouns (e.g., Hare et al. 2009) and verbs (Harmon-Vukic et al. 2009, Ferretti et al. 2001, McRae et al. 1997) are associated with stereotypes, which guide spontaneous inferences from those expressions. Within a neo-Gricean framework, such inferences are captured by the I-heuristic: ‘what is expressed simply is stereotypically exemplified’ (Levinson 2000; cp. Garrett & Harnish 2007). As a production-rule, it has speakers skip mention of stereotypical features, where present, and make explicit deviations from relevant stereotypes, otherwise (Brown & Dell 1987). As a comprehension-rule, it has hearers infer – in the absence of explicit indications to the contrary – that people, things, or events conform to stereotypes associated with the nouns and verbs used. This talk explores philosophically interesting consequences of unwitting violations of the production-rule in the use of stereotype-laden words: This can lead speakers themselves to leap to contextually inappropriate but intuitive conclusions, which may engender philosophical paradoxes. We can resolve these through debunking explanations of the underlying intuitions – an enterprise at the heart of experimental philosophy’s ambitious
sources project’ (Pust 2012, cp. Knobe & Nichols 2008), aka ‘cognitive epistemology’ (Fischer 2014).

We have proposed such an explanation for intuitions about verbally described cases of non-veridical perception, which are at the root of classical paradoxes about perception, viz. ‘arguments from illusion’ (Fischer et al. 2015): (1) The appearance- and perception-verbs used in the relevant case-descriptions are stereotypically associated with doxastic patient- and epistemic subject-properties, respectively. (2) Philosophers of perception use these verbs in ‘phenomenal’ senses devoid of these associations, without realising the deviation from relevant stereotypes. They thus come to unwittingly violate the production-rule, in descriptions of stereotype-deviant cases. (3) Due to this lack of awareness, contextually inappropriate default inferences (Giora 2003, Jaszczolt 2011) then are integrated rather than suppressed (Faust and Gernsbacher 1996), in contextual integration, yielding paradoxical intuitions.

The talk outlines this explanation and first experimental evidence for (1) (Fischer & Engelhardt, in press). Its bulk then presents two recent (March 2015) follow-up studies and explains the psycholinguistic methodologies employed: A forced-choice plausibility-ranking task provided evidence of stereotype-driven inferences from appearance-verbs to doxastic conclusions in visual contexts (ibid.). Our first fresh study used the same paradigm to examine to what extent these inferences can be counteracted by pragmatic inferences to doubt-and-denial conditions (Grice 1989). Results rule out that this happens in the relevant visual contexts, but suggest it occurs in non-perceptual contexts. Our second new study employed eye-tracking and replicated previous results with a less artificial reading task, thus providing further evidence for (1). Time permitting the talk will conclude with preliminary evidence for (2) from distributional semantics analysis of non-philosophical and philosophical corpora, and a thumbnail sketch of our planned research to test the remaining component (3) of the proposed explanation.

FITZGIBBON, PUTT & BECK

Fast processing of counterfactual emotions

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Counterfactually mediated emotions, such as regret and relief, require cognitive processing of missed opportunities. Currently, little is known about the nature and timing of these processes: Do they require deliberation over alternative outcomes to be formulated or are they fast, snap judgements? Developmental evidence (e.g. Burns, et al., 2012) suggests that regret is late emerging, reliant on executive control processes, favouring the former. However, others argue that counterfactual thoughts are generated automatically (Goldinger et al., 2003), i.e. that the processes are fast.

Regret and relief can be elicited by manipulating the feedback that is received during a decision-making task (Camille et al., 2004). Participants choose between two ‘wheels of fortune’, each with two possible outcomes. In ‘partial feedback’ trials, participants see only the outcome of the chosen wheel. In ‘complete feedback’ trials, participants also see the outcome of the unchosen wheel. Observing the unchosen outcome elicits relief if the outcome is better than that on the chosen wheel, and regret if the outcome of the other wheel was better than the outcome of the chosen wheel.

In the current study, 20 young adults completed two versions of this decision-making task on a computer. In both versions, participants completed 30 partial feedback trials and 30 complete feedback trials. In the Slow version, the outcomes of the wheels were displayed for four seconds before participants rated their emotions. In the Fast version, the outcomes were displayed for one second.

Consistent with previous research (Camille et al., 2004), comparison of emotional responses in the complete and partial feedback conditions signified that participants experienced relief or regret when the outcome of the other wheel was better or worse than their own outcome respectively. However, patterns of emotional ratings did not differ between Slow and Fast versions of the task. This suggests that one second of exposure to the obtained and unobtained outcomes is sufficient to process the missed opportunity, resulting in counterfactual emotions.

Furthermore, the depth of processing of the missed opportunity was examined by testing participants’ memory for obtained and unobtained outcomes on 20% of trials. Participants were significantly better at
remembering the outcome of their own wheel than the outcome of the other wheel. Importantly, in the fast version of the task, the outcome of the other wheel was not remembered better than chance, whereas memory was better than chance in the slow condition. This suggests that accessible representation of the value of the missed opportunity is not required in order to experience counterfactually mediated emotions.

The findings of this study show that the formulation of counterfactually mediated emotions requires only a short exposure (1s) to missed opportunities. This is consistent with the findings of a neuroimaging study (Georgetta et al., 2013) that showed differentiation of neural responses (c.f. counterfactual emotions) to gained outcomes and missed opportunities as early as 200ms after the onset of feedback. We will discuss our future strategies to explore potential automaticity of adult counterfactual emotions and how this squares with the developmental story.

References

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keywords: imagination, belief

Many philosophers have noted that we generally value originals by famous artists more than copies by unknown people. Most of us would rather own these kinds of originals than copies of this sort, consider it more important that the originals are preserved, and prefer to visit the places where the originals are kept. Psychologists Newman and Bloom have conducted a number of experiments to distinguish some causes of this fact. They argue that an explanation of some of their results is that our minds operate in accordance with the law of contagion, and is apt to cause thoughts to the effect that soul-stuff may be transferred from people to objects when we take them to have been conjoined or in contact. We generally believe that paintings, drawings or sculptures by a particular artist have made contact with that artist. These beliefs and the tendency of our minds induce thoughts to the effect that originals by famous artists may contain famous artist soul-stuff. We value objects when we have thoughts to the effect that they may contain famous artist soul-stuff. We therefore value originals by famous artist. By contrast, we do not generally believe that a copy by an unknown person has made contact with a famous artist, so we do not think that it contains any such stuff. This means that we have a reason for valuing the originals that is not also a reason for valuing the copies. We have no reason for valuing the copies that is not also a reason for valuing the originals. As a result, we value the originals more than the copies. Call this the contagion hypothesis.

What the precise nature of our contagion thoughts is supposed to be is not evident. Psychologists have occasionally suggested that contagion thoughts are beliefs. This results in the contagion belief hypothesis. Tamar Gendler rejects this hypothesis. Her main argument relies on the assumption that for any thought that p that a subject has, the thought is the belief that p only if it is sensitive to evidence. A problem is that this assumption is false since there are states which are intuitively beliefs, but which are not sensitive to evidence. This means that Gendler’s argument fails. I here present an argument that seems to me to justify a rejection of the belief hypothesis. The argument is this: The evidence is likely given that the belief hypothesis is true, but it is just as likely given that the hypothesis is false and an alternative is true: the contagion imagination hypothesis. This means that the probability of each hypothesis is determined by its initial probability. The initial probability of the imagination hypothesis is higher than the initial probability of the belief hypothesis. The imagination hypothesis is therefore more likely than the belief hypothesis.
Cognitive phenomena are often explained in informational terms. Yet, a key problem is that ‘information’ means many things to many people. There are many competing theories ranging from theories of quantitative information (e.g., Hartley’s theory (1928), Shannon-Weaver’s communication theory (1949) and algorithmic information theory (Kolmogorov 1965)) through evolutionary signalling game theories of information (e.g., Lewis 1969; Skyrms 2010) to theories of qualitative, semantic information (e.g., Bar-Hillel and Carnap 1953; Bateson 1972; Dretske 1981; Floridi 2011). Thus, it is not always clear which of the many theories of information is the one relevant to understanding the nature of human cognition.

By surveying four well-known theories of human cognition–Atkinson & Shiffrin’s model of human memory (1971), Gibson’s theory of information pickup (1979), Marr’s computational theory of vision (1982) and Tononi’s integrated information theory of Consciousness (2012)–we identify some key features of information that should be addressed by candidate theories of information. On the basis of these features, extant theories of information can be evaluated for their adequacy as a foundation for a cognitive theory. Surveying a handful of theories of cognition provides, of course, no guarantee that these key features of information are exhaustive and any attempt to survey all theories of cognition that critically depend on information is futile. This survey is only indicative and, at least in principle, a minimal set of features is more likely to apply to theories of cognition more generally.

References


GOMEZ-LAVIN

Working Memory is not a Natural Kind

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keywords: memory, reasoning, consciousness

Working memory (WM) describes the cognitive capacity to store, maintain, and manipulate a limited amount of information for short durations. WM has been a central focus of research in cognitive psychology for over 40 years. Currently, many psychologists and philosophers incorporate WM as a cornerstone in their theories of consciousness, e.g. Baars’ global workspace theory and Prinz’s attended intermediate representations theory. In this paper I argue that that WM is neither a natural kind, nor a prima facie desirable construct for either neuroscientific research or philosophical study.

I argue that, instead, our contemporary understanding of WM as a robust, unified system, and its constitutive relation to consciousness, has developed largely as an
artifact of WM task demands. That is, what unifies disparate neural regions and dissociable functions such as the manipulation of motor plans, auditory rehearsal, and conscious reporting is not their membership in a kind, but their participation in largely similar tasks, namely goal-directed short-term memory tasks. Importantly, I do not claim that we are unable to store or manipulate limited amounts of information. Rather, I employ results from recent neuroimaging studies to motivate the claim that these capacities are a result of the dissociable recruitment of many far more basal systems with adaptive populations of neurons engaged in premotor planning, object and spatial attention, and so on, in conjunction with a plethora of continuous mnemonic sensory capacities (e.g., iconic, fragile, and conceptual short term memories).

Eschewing WM in favor of a more distributed approach, wherein subpersonal basal systems collectively and differentially interact to produce person-level cognitive phenomena—such as keeping a phone number in mind—will give us purchase on important philosophical questions, for example, the nature and format of these systems’ representations. Lastly, I review the consequences of this account for the two previously mentioned theories of consciousness, arguing that they risk circularity unless they can adequately dissociate consciousness or conscious report from the mnemonic and executive processes recruited in prototypical WM tasks.

GOMEZ-LAVIN & PRINZ

The Boundaries of the Moral Self

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keywords: moral psychology, self

Recent work in both philosophy and moral psychology has complicated this picture by suggesting that an agent’s set of moral values (e.g., honesty, generosity etc.) may serve as an alternative and robust basis for ascriptions of personal identity in and over time. In particular, Strohminger and Nichols (2014) evaluated this thesis of the moral self by examining whether, and to what extent, moral values reliably tracked ascriptions of personal identity. Across five experiments the authors found that moral traits were “considered more important to personal identity than any other part of the mind,” including: autobiographical memory, personality traits, desires, and lower-level cognitive and perceptual faculties (168). These results challenge dominant philosophical accounts that privilege psychological continuity as grounding personal identity in and over time.

Our present study focuses on extending this line of research. In doing so, we have tested various intuitions that are closely related to ascriptions of personal identity, including: the metaphysical robustness of personal identity ascriptions, attributions of desert and punishment, and whether endorsement of a given value tracks its importance to identity. To test these intuitions we employed a between-subjects design featuring a series of vignettes that specify a change in a fictional subject’s set of moral values or their autobiographical memories. Participants (recruited via Amazon’s Mechanical Turk system) were then asked to respond to several questions corresponding to our dependent variables.

Our major hypothesis is that a change in moral values will more robustly track ascriptions of personal identity than a change in autobiographical memory, even if such a change is not taken to be literal. Furthermore, we predict that moral changes, as opposed to changes in memory, will correlate with lower ratings of retributivism (e.g., “Does this prisoner deserve to be released, now that his values have changed?”). Finally, we predict that only changes in moral dimensions of quotidian life (e.g., politics, religion), as opposed to other values (e.g., vocations, nationality), will affect attributions of self-identity—indeed, whether non-moral values were more highly endorsed by subjects.

Our preliminary research has replicated the general moral self effect where changes in moral values robustly tracked ascribed changes in identity (M = 1.6) than changes in memory (M = 3.24; t(60) = 3.762, p < .000). Contrary to our first hypothesis, we found that a change in moral values was taken to be a literal change of identity (M = 1.32), whereas changes in identity due to changes in memories were taken to only metaphorical changes (M = 1.59; p =0.034). We also confirmed that, in an abstract prison reform case, changes in moral values decreased attributions of retributivism ( M = 2.89) in contrast to changes in memory ( M = 3.79; t(49) = 1.649, p = .053). Lastly, our results support our final hypothesis that moral value (e.g., religion; M = 2.7), regardless of their purported endorsement, will more robustly track ascriptions of identity than non-moral values (e.g., vocation; M = 3.7; t(39) = -3.122, p =.003).
In summary, this research complements and extends recent psychological literature on the implications of moral values and traits for ascriptions of personal identity. Additionally, the findings of this research will ramify through contemporary philosophical discussions regarding the nature of personal identity, especially by encouraging a more thorough analysis of the relationship between morality and our concepts of the self.

GRAFMILLER

On the role of agency and causation in the semantics of emotion verbs: An empirical investigation

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keywords: language, agency, emotion

This paper presents an investigation of the semantics of English Object-Experiencer verbs (OEVs), e.g. amaze, frighten, depress, focusing on the importance of agency in shaping the causal role of these verbs’ subjects. Events denoted by OEVs are typically analyzed as complex causal events in which a central change-of-state event is distinguished from an antecedent, i.e. causing, event. OEVs are often further subdivided into two classes—‘agentive’ OEVs (e.g. amuse, frighten, surprise) and ‘non-agentive’ OEVs (e.g. amaze, fascinate, horrify)—based on the nature of their antecedent events (1).

(1) a. The clown deliberately amused/frightened/amazed/fascinated the children.
   b. Mary persuaded Alex to amuse/frighten/amaze/fascinate the children.

Agentive OEVs involve physical antecedent events, which can be volitionally controlled, while non-agentive OEVs select only conceptual antecedent events, which prohibit external control. However, such analyses face two challenges: 1) they are contradicted by evidence from natural usage, i.e. corpus data; and 2) they say little about the variability in acceptability across individual verbs and contexts.

I confront these challenges through a combination of experimental and corpus-based methods. Two acceptability judgment surveys involving simple transitive OEV sentences show that acceptability of OEVs in volitional constructions improves with additional contextual support. In a second set of experiments asking participants directly about temporal aspects of the emotion as well as the intentionality of the verb's subject, ‘agentive’ OEVs were rated significantly more sudden, short-lived and likely to be intentionally caused than ‘non-agentive’ OEVs. Results from an open-answer antecedent-naming task further show that causes of emotions denoted by ‘non-agentive’ OEVs more commonly involve entities/events beyond deliberate control (e.g. natural phenomena), while causes of ‘agentive’ OEVs more frequently involve human activities. These experimental findings dovetail with corpus studies showing that certain verbs (e.g. anger, annoy, amuse, scare, startle) are strongly associated with human causers/subjects, while other verbs (e.g. concern, amaze, fascinate, depress) tend to be associated more with various abstract causers/subjects.

All told, the findings presented here suggest that OEV usage exhibits an under-appreciated degree of grammatical flexibility, which is sensitive to the speaker’s knowledge of the emotion concept denoted by the individual verb. Apparent acceptability differences among OEVs are due to the nature of the emotions the verbs denote, and the way in which knowledge about those emotions combines with contextual information to facilitate inferences regarding the agency of OEV subjects. This accords with treatments of agentivity as a composite concept arising from the integration of linguistic and extra-linguistic information, and more speculatively, with recent psychological research which argues that emotion concepts are actively constructed from experience as loose sets of contextualized exemplars.

GREEN

Objects, Object Files, and Object Principles

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keywords: perception, concepts

Many authors have recently posited the existence of an “object file” system, which is recruited when attentively selecting and tracking individual objects. Moreover, several authors have proposed that the object file system internalizes principles that specify what counts as an object, and that it relies on these principles in order to
track an object over time. In virtue of internalizing these principles, the object file system is “keyed” or “tuned” to a particular kind of entity. In this paper I consider a recent view of this kind, found in Tyler Burge (2010) and Susan Carey (2009), according to which the visual system selects and tracks objects in accordance with the principles of three-dimensionality and cohesion. Call these principles the “Spelke-object” principles. I contrast the approach found in Burge and Carey with a different view, found in the work of a number of vision scientists, on which the object file system selects and tracks objects in accordance with familiar Gestalt criteria of perceptual organization. I show that the criteria of perceptual organization are, in general, far more permissive than the Spelke-object principles—more objects satisfy the former principles than the latter. Thus, I call this alternative position the Permissive View. I then argue that the available evidence (including the evidence often cited in support of the Spelke-object approach) is consistent with, and may even support, the Permissive View. Finally, I argue that work on the visual selection and tracking of so-called “nonmaterial” entities, such as holes and negative parts (i.e., “bites” or “indentations” out of a figure), provides further support for the Permissive View over its more restrictive competitor.

**HALL**

*On the psychological reality of explicature*

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Keywords: language

Contextualists argue that pragmatics contributes to the explicit content of an utterance ("explicature") beyond the reference assignment and disambiguation that Grice (1989) acknowledged as necessary: there is ubiquitous modulation of encoded lexical meanings (as when 'drink' is interpreted as 'regularly drink larger-than-advisable quantities of alcohol', or 'bachelor' is interpreted narrowly to exclude, for example, the Pope. As evidence for modulation, contextualists rely on truth-value judgments, a strategy justified by the wide consensus that the explicature is the utterance’s intuitive truth-conditional content.

This method of individuating explicature has been questioned by those who favour a minimalist approach to the proposition expressed. Among the arguments I consider here is one from Borg (2012), who claims that apparent modulations reflect not the original content that the utterance was used to communicate, but decisions about how to sharpen/loosen that content in order to judge the utterance true or false. This is shown by examples where the putative modulations do not settle further questions that may arise as to the conditions under which the utterance is true or false. There is, then, no reason to assume that the proposition expressed is anything other than the decoded, disambiguated, saturated linguistic meaning. Thus, this objection to truth-value judgments, if valid, supports Borg’s minimalist view on the proposition expressed.

In response, I argue that when one considers the context in which the utterance was made (and intended to be interpreted), it is much clearer what questions affect truth-value judgments than Borg suggests. There is no reason to expect the explicature to settle further questions that arise subsequent to interpretation of the utterance for the contextually-relevant purposes. Modulation, being a pragmatic process, is context-dependent: that the explicature recovered in one context should be more coarse-grained than the truth-conditions of another utterance of the same sentence is exactly what the theory predicts. Borg’s arguments do not, then, provide a reason to abandon the idea that pragmatic processes beyond saturation and disambiguation contribute to explicature, and that truth-value judgments about utterances in context are a reliable tool for individuating explicature.

**HEINZELMANN**

*The Neuronal Basis of Value Judgments*

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Keywords: brain, moral psychology

The MRI study presented in this paper aspires to make contributions to two disconnected debates in philosophy and the sciences, respectively. Both debates are concerned with the nature of value judgements. In philosophy, the debate can be roughly sketched as follows. Kant argued that a truly aesthetic judgement arises from a disinterested pleasure about the object of evaluation. Such an aesthetic judgement is thus, according to Kant, essentially different from a mere "judgement of the agreeable" about, say, the prettiness or ugliness of another human being’s appearance. Kant explicitly
distanced himself from Hume who believed that an aesthetic judgement is an expression of a sentiment of approval or disapproval. This is not the only way in which Kant differentiated himself from Hume. Hume also thought that moral judgements were, similarly to aesthetic ones, expressions of approval or disapproval. In contrast, Kant argued that truly moral judgements were made out of reverence for the moral law and thus, again, essentially different from aesthetic judgements. Who is right, Kant or Hume? When persons make moral and aesthetic judgements, are their judgements essentially different from one another? Or are they rather similar or even identical in nature?

In the sciences, there has been an ongoing debate about the nature of values or reward signals that guide human behaviour and decision making. A predominant view holds that the human brain processes all kinds of values as one integrated signal. It is still unclear precisely how it does that. However, for the case of aesthetic judgements in particular, some researchers (notably Semir Zeki) have argued that specific brain regions such as the OFC are selectively engaged in aesthetic judgement making. In a similar vein, dual-process theorists of moral judgement (as favoured, for instance, by Joshua Greene) have suggested that there are different kinds of moral judgements which are processed by two distinct systems in the brain.

To make contributions to both debates, my colleagues and I conducted a functional magnetic resonance imaging (fMRI) study. We showed participants pictures of art which depicted more or less morally salient actions. Whilst undergoing brain scanning, participants rated the beauty or ugliness of the pictures and, separately, the moral goodness or badness of the action depicted. We found that similar regions (especially in the anterior cingulate) are active when people make aesthetic and moral judgements, respectively. This seems to indicate that Hume, rather than Kant, was right. It also lends support to the view that the brain uses one single system to process different kinds of values. I shall present the study and its results before critically examining its possible implications for the two debates.

### JAGNOW

The Cognitive Phenomenology Debate and the Distinction between Sensory and Cognitive Phenomenal Character

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keywords: consciousness, concepts

In our daily lives we often come across the interesting psychological phenomenon called "emotional contagion." In spite of the importance that this phenomenon seems to have in human life, it still lacks a clear account of how it works; and, in particular, the relationship it has with motor mimicry needs further clarification. In this paper, after reviewing the main results concerning its workings, we aim to discuss the possible theoretical models that can account for them, and propose a way to integrate them into an encompassing, dynamical model. For this purpose, we define and characterize the phenomenon of emotional contagion, we expose the two main explanations about it (mimicry-based and induction-based explanations), and we attempt to draw an account in the light of a dynamical and non-linear model of emotion understanding. A new approach to the matter is also proposed, in order to avoid linear causality and unidirectionality.

### ISERN-MAS & GOMILA

Making Sense of Emotional Contagion

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keywords: emotion, social cognition

In our daily lives we often come across the interesting psychological phenomenon called "emotional contagion." In spite of the importance that this phenomenon seems to have in human life, it still lacks a clear account of how it works; and, in particular, the relationship it has with motor mimicry needs further clarification. In this paper, after reviewing the main results concerning its workings, we aim to discuss the possible theoretical models that can account for them, and propose a way to integrate them into an encompassing, dynamical model. For this purpose, we define and characterize the phenomenon of emotional contagion, we expose the two main explanations about it (mimicry-based and induction-based explanations), and we attempt to draw an account in the light of a dynamical and non-linear model of emotion understanding. A new approach to the matter is also proposed, in order to avoid linear causality and unidirectionality.
and, with it, the common practice of framing the debate in terms of this distinction.

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Keywords: consciousness, brain

In my paper, I illustrate that the sensorimotor theory (O’Regan, Noë 2001, Noë 2004, O’Regan 2007, O’Regan 2011) evades the hard problem of consciousness defined by Chalmers (1995/2010), since the theory rejects the assumptions underlying this problem. The rejection of the assumption that mental states are generated solely by brain states leads to reformulation of problems that are to be solved by a theory of consciousness. I show how the sensorimotor theory explains everyday experience without introducing the traditional notion of qualia. In particular, I analyze two arguments usually claimed to prove the existence of qualia (Nagel’s knowledge argument and the inverted spectrum argument). Following Pettit’s distinction of two concepts of qualia (Pettit 2003), I present how these arguments can be rejected on the grounds of the sensorimotor theory. Following Pettit’s distinction of two concepts of qualia (Pettit 2003), I present how these arguments can be rejected on the grounds of the sensorimotor theory. Following Pettit’s distinction of two concepts of qualia (Pettit 2003), I present how these arguments can be rejected on the grounds of the sensorimotor theory. Following Pettit’s distinction of two concepts of qualia (Pettit 2003), I present how these arguments can be rejected on the grounds of the sensorimotor theory. Following Pettit’s distinction of two concepts of qualia (Pettit 2003), I present how these arguments can be rejected on the grounds of the sensorimotor theory. Following Pettit’s distinction of two concepts of qualia (Pettit 2003), I present how these arguments can be rejected on the grounds of the sensorimotor theory. Following Pettit’s distinction of two concepts of qualia (Pettit 2003), I present how these arguments can be rejected on the grounds of the sensorimotor theory. Following Pettit’s distinction of two concepts of qualia (Pettit 2003), I present how these arguments can be rejected on the grounds of the sensorimotor theory.
conventional, conformity or statistical). The difference of the five studies was manifested in the dependent variable: intentionality of the side-effect (Study 1), prescriptivity of the relevant norm (Study 2), unexpectedness of the side-effect (Study 3), blameworthiness of the agent (Study 4), and attitude towards norm-conforming/norm-violating behavior (Study 5).

Results and Discussion

Results of the 5 studies revealed the following. In Study 1 we found the typical SEE for moral, social-conventional and conformity (t(78)>2.1, p<.05) but not for statistical norms (t(78)=.62, p=.54). Results from Studies 2 to 4 indicate that the candidates tested in these studies could not account for the results from Study 1 as none of the patterns matched the one for the intentionality judgments. However, asking for the attitude towards norm-conforming/norm-violating behavior in Study 5 revealed a similar pattern as in Study 1, with slightly positive attitudes towards norm-conforming and slightly negative attitudes towards norm-violating behavior for moral, conventional and conformity norms (t(58)>2.1, p<.05) but not for statistical norms (t(58)=1.20, p=.28). Consequently, a shift in default attitudes represents a suitable candidate for the cognitive foundation of the SEE.

KEATON

Interventionist Compatibilism and Multiple Realizability: Zhong on Exclusion

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keywords: agency, reasoning

In “Sophisticated Exclusion and Sophisticated Causation” Lei Zhong argues that compatibilists who adopt an interventionist account of causation cannot successfully overcome a sophisticated version of the problem of causal exclusion, and that such philosophers would be well advised to adopt Zhong’s alternative to compatibilism. In this paper I will argue that Zhong’s argument hangs from a questionable assumption about the nature of multiple realizability. If the assumption is not adopted, Zhong’s argument fails. Zhong’s work thus does the valuable service of forcing us to address the questionable assumption head on. I show that the assumption ought to be rejected.

KEELING

The Importance of Being (Epistemically) Obligated: The obligation for self-knowledge as the source of mistaken beliefs about why we have our attitudes

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keywords: self, knowledge, belief

In this paper, I draw on aspects of Richard Moran’s account of self-knowledge in order to propose a theory of our mistaken beliefs about why we possess the attitudes we do. While I am not endorsing Moran’s view, there does appear to be something right about his suggestion that we possess what I will call the providing-reasons obligation. That is, we ought to be able to provide our reasons for our attitudes if asked. Specifically, these reasons ought to be those we take to be normative – reasons that favour, in this instance, adopting the attitude – as opposed to ones that simply explain causally why we possess it. This then gives rise to the knowing-reasons obligation, that of being able to know the reasons why we possess an attitude, where these are again ones we take to be normative.

Next, I introduce the phenomena that I believe these obligations can help to explain: the confabulation exemplified by Nisbett and Wilson’s panty hose experiment. I will highlight two explananda which my proposal can account for. Firstly, in such a case, we mistakenly believe that we possess the attitude in question due to specifically what we take to be normative reasons. Secondly, at least on occasion, our mistakes of this kind are more prevalent regarding our own attitudes than those concerning the attitudes of others, owing to the bias blind spot.

I then go on to propose an explanation of this phenomenon: we can be mistaken about the reasons for our attitudes because our desire to think that we fulfil the knowing-reasons and the providing-reasons obligations leads us to engage in self-deception. And the claim that we have such a desire can, in part, be motivated on the grounds of an inference to the best explanation. So, say that someone asks us why we have a given attitude but we cannot find out by introspection.
My claim is that because we nevertheless want to think that we can meet the knowing-reasons obligation, we form a self-deceptive belief that we possess the attitude on the basis of what we take to be normative reasons. Further, this is the belief we then express when answering the questioner, meaning that we can also fulfill our desire to think of ourselves as meeting the providing-reasons obligation. While being relatively open regarding the mechanism of self-deception, I end by briefly considering how my proposal would look under Alfred Mele’s account, since it looks to be particularly parsimonious in this context.

Imagine that you are looking at an opaque cube in front of you. What are you aware of? You maybe see the front and parts of its sides. But you do not see its back. Some philosophers think that although you are not seeing the back of the cube, you are aware of it as having one. Seeing something that is actually out of view is a case of amodal perception. In general, perceiving something amodally is being aware of it in a perceptual mode while at the same time lacking sensory information regarding certain parts or features of it. But, how do we perceive something in spite of lacking sensory information, and what do we perceive in that case? Do we perceive at all? I will discuss two answers to the problem: Alva Noë’s dispositional, action focused view and Bence Nanay’s mental imagery account of amodal perception. Both are proponents of the so-called perception-claim of amodal perception. The perception-claim states that the perceived object including its non-visual parts is indeed represented in a perception and not in a resulting belief. However, as I will argue, both accounts have their difficulties. I will therefore propose a solution that can be seen as a conjunction of both views. But in contrast to Nanay and Noë I will maintain that a convincing account of amodal perception commits us to the claim, that perceiving some X amodally is seeing it as X. Moreover, I will argue that in order to solve the problem of amodal perception we have to consider the more general issue of object constitution in perception.

Beliefs can be psychologically adaptive mental states when they protect the subject from psychological threats or biologically adaptive when they help to increase the subject’s chances of survival in the environment. In this context, delusions are commonly regarded as maladaptive misbeliefs. While it is accepted that some delusions can be psychologically adaptive, it is usually denied that they can be biologically adaptive. Adaptation would require approximating reality accurately and the beliefs that maximize a subject’s chances of survival are necessarily those that best approximate reality by capturing true states of affairs in the world, i.e. true beliefs. In this paper I argue that there are good reasons to characterize a certain type of delusions as biologically adaptive. After distinguishing between two types of delusions and their relationship with the two modes of adaptiveness of beliefs, I claim that in trying to make sense of the biological adaptive benefits of delusions, one needs to understand such phenomena in the general perceptual and affective context in which they emerge. During the period that precedes the adoption of delusional beliefs patients gradually lose their behavioural and psychological connection with the environment. This disconnection decreases the subjects’ chances of survival but, in characterizing delusions, current dominant approaches fail to integrate this context into the aetiological picture of the phenomena missing the role that the adoption of delusional beliefs might play in reorganizing the patients’ disunified and overwhelming (inner and outer) experiential world. Thus, the adoption of delusional beliefs might contribute to the preservation of behavioural and psychological interaction with the environment as an attempt —however pathological— to render the patients’ reality more predictable and approachable. Human cognitive systems would sacrifice doxastic accuracy in order to secure a minimally functional degree of interaction with the environment and therefore, certain delusions might be characterized as biologically adaptive under rarefied experiential circumstances.
Will science ever be able to tell us whether reading fiction causes empathy?

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keywords: social cognition, ontogeny

In 2006, we proposed that lifetime exposure to narrative fiction would be likely to promote empathy (Mar et al., 2006). Since that time, we've expanded upon this idea (Mar & Oatley, 2008) and supporting empirical evidence has been accumulating across a wide range of research approaches. This evidence includes: (1) correlational research demonstrating an association between lifetime exposure to fiction and empathy; (2) developmental research indicating that childhood exposure to books predicts theory-of-mind ability in preschoolers; (3) neuroscience work revealing an overlap in the neural networks associated with both narrative comprehension and social cognition; and (4) experimental research indicating that brief exposure to narrative fiction causes improvements in theory-of-mind relative to exposure to other forms of text. From one perspective, all this evidence originating in such a wide diversity of approaches would seem to argue quite strongly in favour of the idea that reading can improve empathy. From another, these studies serve to usefully illustrate the ultimate limitations of scientific investigation when it comes to investigating processes that take place gradually over time within a context of multiple interacting influences. More specifically, there are alternative explanations that exist for each individual research approach and, problematically, the other approaches cannot completely rule out these alternatives. For the correlational studies, it is possible that individual differences are responsible for the observed association, with those higher in empathy or some other trait perhaps being more likely to seek out narrative fiction. A similar possibility exists for the developmental work, with children who are more advanced in their theory-of-mind development perhaps more likely to request and receive exposure to storybooks. With respect to the neuroscience evidence, there are many possible explanations for why a single neural network may be associated with two different processes. Lastly, the experimental evidence speaks to a short-term causal association but there is no necessary reason to believe that these short-term effects are responsible for the long-term associations observed in the correlational studies. Addressing this research question with greater certainty would require a complex longitudinal intervention study, a type of research design that is unfailingly vulnerable to various sources of noise and error, making it difficult to detect effects. The issues raised here are not at all unique to the questions surrounding reading and its association with empathy. In discussing them I hope to illustrate some of the limitations of scientific approaches in their capability to uncover unequivocal evidence for complex real-world phenomena that are uniquely human in nature, especially those that result from subtle influences accumulating over time. Importantly, these limitations do not argue for a complete abandonment of scientific approaches for studying complex human phenomena. But these limitations do form an important and fundamental aspect of all psychological science that is often forgotten or dismissed; instead it would be useful to acknowledge and incorporate these limitations into our discussions and work.

Age-and context-related biases in imitation and norm-learning in children and adolescents

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Previous research has demonstrated that children will learn rules in different ways depending on who it is who is teaching them. The way children perceive the learning process has consequences on the way that they subsequently copy other people and retain information. The current studies illustrate how children not only learn differently at different ages but will learn differently depending on how the situation is portrayed. It is argued that the age of the learner, the features of the learning situation and the identity of the teacher all affect the
outcome of the process. In Study 1, 68 children from the ages of 2 to 5 or 9 to 12 observed two adult models demonstrate different ways of playing new games one after the other. After each model's turn, children were allowed to imitate. Three different response patterns emerged. 2-3 year-old children would not deviate from the first action they saw and 9-12 year old children would copy whichever model was present. 4-5 year old children copied whichever action they saw first but were biased towards learning new actions and adding them to the initial solution. In Study 2, this pattern was investigated further. 32 children between the ages of 3 and 5 saw the same procedure as in Study 1. The key difference was that one of the adult models was replaced by a hand puppet who demonstrated one of the solutions. Again, it was found that children were biased towards learning new actions and adding them to the initial solution; however, this only occurred when these actions were demonstrated by the adult model. The other initial effects were not found, suggesting that children perceived the learning situation differently when a puppet was introduced. The findings are discussed with reference to the way children perceive the learning situation, and it is argued that different factors influence learning at different ages.

MARCHI & NEWEN

Cognitive penetrability and emotion recognition in human facial expressions

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keywords: emotion, perception

In the first part, I argue that emotion recognition is a perceptual process of pattern recognition. And this process can be essentially shaped by cognitive penetration such that the face-based recognition of emotion is strongly shaped by stored images and background beliefs. This observation can be generalized. In understanding others, we essentially rely on person models. Very early in life we develop non-conceptual person schemata: A person schema is a system of sensory-motor abilities and basic mental dispositions related to one human being (or a group of humans) while the schema remains implicit. Step by step we also develop explicit person images: A person image is a system of consciously registered mental and physical dispositions as well as situational experiences (like perceptions, emotions, attitudes, etc.) related to one human being (or a group). It will be argued that in addition to face-based recognition of emotion, cognitive penetration can be shown to take place in several steps of person perception.

MASCARO & CSIBRA

Humans use efficiency computations to recognize and interpret joint actions by 14 months of age

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keywords: reasoning, ontogeny

Humans are special in the extent to which they collaborate, i.e. act together towards the completion of shared goals. Crucially, collaboration is advantageous only when it is efficient. Given the constraints of a situation, joint means must achieve a reasonable (if not optimal) ratio between the effort that they require and the effect that they produce in bringing about a goal (Gergely & Csibra, 2003). Computing the efficiency of joint actions is one route to optimize the combination of one's own action and an others' action. Yet, these computations raise a challenge because they cannot be reduced to representation of individual actions' efficiency. Imagine two people rowing together to propel a boat. If they row in strictly opposite directions, their joint action will be completely inefficient, even if when taken separately their individual actions could be an efficient way to propel the boat. Optimizing joint actions therefore involves a higher-order form of rationality, applied not to individual actions but to joint actions as a whole.

Building upon infants’ recognition of shared goals (Henderson & Woodward, 2011; Henderson et al., 2013; Fawcett & Gredeback, 2013), we tested whether 14-month-olds go beyond computing the efficiency of individual actions, and also compute the efficiency of joint actions. During familiarization, participants were
presented with movies in which schematic agents collaborated to displace objects from one location to another. As in previous studies (e.g. Csibra, 2008) we used the agents’ path length as a proxy for their efforts. Looking time to test outcomes was our dependent measure. In the test of a first experiment, infants looked significantly longer when an agent made a detour for no apparent reason (incoherent test) than when this detour served to avoid an obstacle (coherent test). Therefore, infants performed efficiency computation over individual agents’ actions when viewing our stimuli, and they expected individual agents to reduce their efforts by taking shorter path when possible. This first result validated our procedure.

In the test of a second experiment, infants looked significantly longer when agents could have taken a route that would have reduced the sum of their path length (incoherent test) than when this shorter alternative route was not available (coherent test). Crucially, this pattern of looking time would not have been observed if infants had assumed that agents aimed only at reducing their individual path length. This result suggests that infants expected agents to reduce their collective efforts when possible.

Our data indicate that infants perform computation of efficiency over joint actions by the age of 14 months. This capacity is crucial to the recognize and interpret shared goals. It is also likely to play a central role in young children’s capacity to plan joint actions.

MASCARO & KOVACS

Human Infants Use The Psychological Principle of Non-Contradiction To Set The Boundaries of Minds

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keywords: ontogeny, social cognition

Past studies of theory of mind have uncovered processes guiding the representation of isolated mental states, studying for example the attribution of a single false belief, or of a single goal. Importantly, to have a theory of mind also involves some sensitivity to the systematic relationships that organize sets of mental states within a mind. Here, we suggest that representing others’ minds appeals to what we call a “psychological principle of non-contradiction”. This principle specifies that a single mind is unlikely to maintain contradictory beliefs or goals, i.e. mental states co-referring to the same state of affair, while having mutually exclusive contents. We test the emergence of the psychological principle of non-contradiction in two studies.

Study 1 tests whether infants expect agents to act in consistent ways, i.e. expect agents not to try to achieve “p” and “not-p” simultaneously. Nine-month-olds (N = 32) are familiarized with an interaction between two hands. At test infants see that these hands belong to one or to two agents. When the action presented during familiarization is not evidence of contradictory goals, infants have a baseline tendency to look longer at two agents than at one agent (14.95 vs. 11.17, t(15) = 3.1, p = .007). This baseline tendency is significantly disrupted when the familiarization shows one hand preventing the other one from achieving its goal (F(1,28) = 4.47, p = .045). This result suggests that infants assume that agents are unlikely to prevent themselves from achieving their goals.

Study 2 tests whether infants expect agents to have consistent beliefs. Fifteen-month-old infants (N = 40) participate in a game in which they have to find a toy hidden in one of two locations, using the pointing of adult informants. At test, when a single informant points successively to two different locations, 15-month-olds tend to follow the second pointing (27 infants/40, p = .038, two-choice binomial test). In this case, infants interpret the second pointing as a correction of the first pointing. This interpretation rests on the assumption that a single informant is unlikely to disagree with herself by maintaining two contradictory beliefs (in this case believing that a single toy occupies two locations simultaneously). By contrast, infants’ tendency to follow the second pointing is significantly reduced when the first and the second pointing are produced by two different informants (p = .045, McNemar test). In this second condition, infants appear to assume that the two informants maintain contradictory assertions about the location of the hidden toy, presumably because they recognize that two people can have contradictory beliefs.

These studies suggest that infants appeal to a psychological principle of non-contradiction. This expectation of consistency serves to set the boundaries between minds. It also crucial to support representations of others’ extended practical and epistemic agency, for example supporting the integration of multiple goals over time, or the representation of others’ inferences.
Essentialism, Doubt and Trust in Social Psychology’s Search for Group-based Social Justice

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keywords: social cognition, moral psychology

There is a growing body of research findings suggesting that prejudice reduction strategies can have unintended negative consequences, particularly by helping to stabilize systems of inequality. In light of these findings, it has been suggested that the field of social psychology should be guided less by the prejudice reduction tradition, so as to focus more on collective action. What is more, it has been argued that these two literatures represent not only differences in research foci, but two opposing psychological processes. These two theoretical approaches have different relationships with the notions of essentialism and perceptualism; differences that will be explored via a brief comparative foray into historical national movements of Central/Eastern Europe. While agreeing with the recent critiques of prejudice reduction, it will be argued that in more robustly embracing a collective action approach we should be careful not to further abandon the notion of perceptualism, lest we artificially narrow the scope of social psychological research and unintentionally ignore communities that do not complement current thinking in the collective action tradition. These discussions surrounding the nature of collective identity and group-based social justice will be linked with broader debates surrounding “psychology without a soul”; in which social life is broken down into distinct, and ostensibly measurable, units of analysis. Rather than calling for the removal of such artificial divisions (in the Romantic tradition), or for unquestioned loyalty to them (in the Positivist tradition), it will be argued that their utility is derived precisely from the doubt that we have in their ultimate value, and from a non-propositional approach to social justice. It will be argued that action, trust and faith should take precedence over paralyzing self-surveillance, calculation and doubt. However, rather than rejecting the powerful tools afforded us by a “soulless” psychology, it will be argued that the doubt engendered by a fragmented picture of our social world is actually a useful, and even essential, element of both the belief in the possibility of a more just society and in initiating the steps needed to get there.

Eye Avoidance and the Theory of Mind Deficit Hypothesis of Autism

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keywords: social cognition, ontogeny, mental disorders

Infants with ASD make less eye contact with conspecifics than non-autistic children. Recent studies have detected this effect as early as 2 months (Jones et al 2013). It has been argued that this is best explained as a specific response to the social cues that eye contact offers (Tanaka et al 2013), rather than indifference or the manifestation of more general differences in perceptual processing.

This is a problem for the hypothesis that ASD manifests a mindreading deficit. It suggests that eye contact has special significance for individuals with ASD. But if someone were blind to minds, why would eye contact hold any greater significance than contact with other or aspects of their environment?

A distinct hypothesis is that both normally developing infants and those with ASD begin with similar sensitivities to social cues. In infants with ASD this triggers avoidance. In turn a lack of early social interaction elicited through eye contact curtails the normal development of an individual’s social cognitive skills.

In this paper I argue that research on eye avoidance in individuals with ASD suggests that ASD does not stem from a theory of mind deficit. I speculate that eye avoidance is the social correlate of repetitive behaviour - a behavioural way of controlling exogenous social stimuli which the individual is not able to process in neurotypical ways.

I discuss how this relates to other mainstream cognitive theories of ASD – weak central coherence and executive dysfunction. I also aim to discuss its relation to recent discoveries concerning atypical neural development and architecture correlated with ASD.
Indexical attitudes and action: filling in an orthodoxy

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keywords: agency, language, intentionality

Indexical attitudes are attitudes expressible using indexical terms like “I” or “now”. At least since the 1970’s, the claim that indexical attitudes play a particularly important role in the explanation of action has had the status of orthodoxy. Is this orthodoxy a crucial insight? Or a dogma? The orthodox claim was supported by examples like the following one. A subject knows, about themselves, that they are being pursued by a bear. However, they do not have knowledge that they would express using the term “I”. They are thinking about themselves in some other way -- e.g. “as NN”. As a result, they fail to act. Then the penny drops. They realize that they are NN and they take appropriate bear-evasive action (See Perry 1979).

On one view, such examples illustrate nothing more than the point that action explanations are sensitive not just to what things are being thought about, but also to how those things are being thought about. This point is important, but it has nothing to do with indexical attitudes in particular (See Cappelen and Dever 2013). In this talk, I propose that the examples illustrate something stronger, thereby providing the orthodox view with the argumentative support it needs. I use Cappelen and Dever’s arguments for the unimportance of indexicality in action explanation as a source of discipline on my own proposal.

Origins of a Pluralistic Folk Psychology

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keywords: social cognition, phylogeny

"Singular thoughts" are about individuals as such, as opposed to merely as satisfiers of descriptions. According to a recently popular theory in philosophy, to think a singular thought is to think with a “mental file”. Philosophers often present the notion of a “mental file”
as being solidly grounded in empirical research. Some appeal, in particular, to object-files from vision as the model for mental files. In this talk, we raise the challenge that psychologists’ object-files are significantly different from philosophers’ mental files. These differences cannot be ignored, if “mental files” are supposed to constitute a psychological natural kind which explains singular thought.

**NURMSOO, EYDAM, CARBY & RATER**

**Children’s social learning of tool use**

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keywords: ontogeny, social cognition, learning

Human beings have stable representations of objects as tools, crafting them in advance, carrying, and storing them for future use (Csibra & Gergely, 2006; Keleman, 1999). Indeed, Csibra and Gergely (2006) argue that this approach towards tools may be the evolutionary root of imitation. Children seem to privilege learning about tools in early imitation; 18-month-olds are more likely to faithfully imitate novel tool use than novel body actions (e.g., using a tool vs the forehead to turn on a light; Eydam et al, 2012). This work raises additional questions: Do children prefer to imitate or perform tool actions, and how do they understand tool use?

To address the first question, 3- and 4-year-old children and adult participants were presented with videos showing an actor using two different ways of operating a toy. To determine whether novel tool actions are preferred over novel body actions, one set of videos showed the actor using a novel tool and a novel body action to operate the toy (Tool-Body condition). After watching the videos, participants could operate the toys themselves, and their actions were recorded. Participants in both age groups overwhelmingly chose to use the tool in this condition. However, after observing videos where a tool action was paired with the prepotent action of using the hand to operate a toy (Tool-Hand condition), adults and children differed. While adults significantly preferred to use their hand, children did not show this pattern. Finally, even when presented with cases where no tool use was demonstrated (Hand-Body condition), 30% of children nevertheless opted to use a tool to operate the toy. Children are interested in, and prefer to imitate, novel tool use, although this preference might not persist into adulthood.

To explore the second question, we presented a second set of children with a demonstration of how to operate a toy either using a tool, or using the hand. The child’s caregiver then joined the game, and operated the toy using the reverse method (e.g., when a tool was demonstrated, the parent used his or her hand to operate the toy). Children were significantly more likely to subsequently imitate their caregivers’ tool actions than hand actions. In addition, they were significantly more likely to protest when the caregiver failed to use a tool, than when s/he used a tool that was not demonstrated, suggesting that children view tool use as normative (e.g., see Schmidt, Rakoczy & Tomasello, 2010).

We suggest that children have an early predisposition to learn about tools, and that they view tool use normatively. We discuss the implications of these findings for theories of early learning from others.

**NURMSOO, FRANKE & SPRUCE**

**Children’s use of testimony from inaccurate speakers**

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keywords: ontogeny, knowledge, social cognition

Previous studies on children's trust in testimony have shown that children prefer to learn and endorse information provided by previously accurate speakers
(e.g., Koenig & Harris, 20015; Nurmsoo & Robinson, 2009). However, some researchers (e.g., Vanderbilt, Heyman & Liu, 2014) have also found that in the absence of conflicting testimony, children will trust inaccurate informants. This finding suggests that children don't simply disregard the inaccurate informant, but are willing to (possibly tentatively) learn from him or her.

One possibility is that children learn from both speakers, but in some way 'flag' the inaccurate speaker's word as a speaker-specific term. Children are able to use partner-specific referential pacts, expecting a speaker to continue to use a given term (e.g., “horse”, rather than “pony”) when referring to an object, although they do not expect a new partner to also use this term (Koymen, Schmerse, Lieven & Tomasello, 2014; Matthews, Lieven & Tomasello, 2010). Do children learn inaccurate speakers’ words as speaker-specific terms?

We modified the standard trust in testimony paradigm (e.g., Koenig & Harris, 2005) to explore whether children would consider the speaker when determining the referent of a request. We presented 46 3- and 4-year-old children with videos showing two puppets (Cat and Dog) naming objects. In three history trials, one of the speakers consistently labeled familiar objects correctly (e.g., calling a book “a book”), and the other consistently labeled them incorrectly (e.g., calling it “a flower”). Children were simply asked to repeat what the different speakers said. On each of two test trials, the videos showed the two puppets using the same word (e.g., “blicket”) to label two distinctly different novel objects (e.g., Cat used it to refer to a red cylindrical object, and Dog used it to refer to a silver kitchen utensil). On Accurate trials, the puppet who was previously accurate then appeared, live (manipulated by the experimenter), and asked the child “could you give me the blicket?”.

Children could choose from an array of three objects, including both novel objects from the video and a third distractor object. On Inaccurate trials, it was the inaccurate puppet who appeared and asked for the “blicket”. If children only learn from the accurate speaker, then regardless of who asks for the “blicket”, the accurate speaker’s referent should be chosen. If children learn from both, perhaps in the sense of learning a dialect, then they might choose the inaccurate speaker’s object when he asks for the “blicket” but not otherwise. As expected, when the accurate puppet requested the object, children overwhelmingly selected the object that the accurate speaker had previously labeled. Interestingly, when the inaccurate puppet requested the object, children performed differently: They were significantly more likely to select the inaccurate puppet’s referent than when the accurate speaker made her request. We discuss the implications of these findings for children’s trust in testimony and social learning more broadly.

**O’MADAGAIN**

This: a Token Contextual Account of Demonstratives and Indexicals

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**keywords:** language

Demonstratives (words like ‘this’ and ‘that’) and indexicals (words like ‘I’, ‘here’, and ‘now’) seem intuitively to form a semantic family. Together they form the set of prototypically ‘context sensitive terms’ whose reference changes across contexts of use. Furthermore, many indexicals seem to be semantically equivalent to complex demonstratives – ‘here’ and ‘now’ being interchangeable with ‘this place’ and ‘this time’ without loss of meaning. Given these similarities, something that we might expect of a semantics for indexicals is that it would be closely related to the semantics of demonstratives. A promising recent theory of indexicals is the ‘token contextual’ account, which accounts for a wide range of uses of indexicals without encountering the problems faced by competing models (Cohen 2013, O’Madagain 2014). However, so far this theory has not been applied to demonstratives, but only to the automatic indexicals ‘I’, ‘here’ and ‘now’. In this paper I argue that the token-contextual approach can be extended to demonstratives. This both introduces a new approach to thinking about demonstratives, and also brings unity to our understanding of this natural semantic family.

**O’MADAGAIN, STOBER & STRICKLAND**

Is Pointing Ritualized Touch? Three Studies On the Origin of the first Referential Gesture

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The pointing gesture sits at the foundation of language acquisition in humans. It is both the earliest gesture that infants produce accompanied by communicative intentions, and it is also perhaps the simplest referential act – identifying its object without requiring any descriptive knowledge of the object. It is also produced in every culture in the world and appears to be acquired non-imitatively, making it perhaps the only universal linguistic gesture. Understanding how infants learn to point is therefore crucial to understand where language comes from. Here we present evidence from three studies showing that in production and comprehension, children treat pointing gestures as iconic acts of touching. We interpret these studies as providing the first substantial evidence that the pointing gesture is ritualized out of the act of touch.

To be(lieve) or not to be(lieve): is that a question?

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Information we receive through written or oral statements influences our thoughts and actions. It is, thus, important to understand how people endorse or reject this information. Two opposing views exist on whether and to what extent people are capable of disbelieving such information.

On the one hand, Gilbert et al. (1990, 1993) argued that people are incapable of comprehending statements without believing them. For them, understanding and believing a statement are the same process, while disbelieving is cognitively and temporarily secondary. These authors compared the capacity of cognitively depleted and non-depleted individuals to disbelieve statements that were explicitly presented to them as false. They found that cognitively depleted participants remembered more false statements as true, and where more influenced by them in consequent judgments. Furthermore, research on the “illusory truth effect” (individuals’ tendency to rate as more probably true statements to which they are repeatedly exposed) (Hasher et al., 1977; Begg et al., 1992) also suggests that people tend to believe statements they process. Both these lines of research, thus, suggest a tight connection between processing/representing a statement and believing it.

On the other hand, Hasson et al. (2005) and Richter et al. (2010) undermined Gilbert et al.’s position, claiming rather that epistemic vigilance is a routine human cognitive mechanism. They both showed that depletion leads to higher believing only when participants are presented false statements that are not particularly meaningful to them. Furthermore, Sperber et al. (2010) have argued that epistemic vigilance is embedded in human communication, resulting from a suit of human cognitive mechanisms.

We present 3 experiments supporting the view that people are inherently “gullible” towards statements they understand. In all of them, we presented participants with ostensible crime reports. These reports contained true and false statements, either uttered by different speakers (Study 1 & 3) or presented in different font colors (Study 2). In Studies 1 & 2 we depleted half of the participants by a simultaneous task (counting the occurrence of a specific verb in the reports, and detecting a digit on the screen, respectively). We detected a “gullibility bias” for both depleted and non-depleted participants, namely a tendency to remember more false statements as true than true statements as false, and an impact of false statements on judgments they made about the crime’s perpetrators. Importantly, these studies show that participants tended to believe even in the absence of cognitive depletion. In Study 3, based on previous research on the effects of accountability on information processing (Tetlock, 1983), we tried to increase participants’ vigilance by informing them that they will have to orally account for their judgments of the perpetrators to the experimenters. Still, accountable
participants displayed the above-mentioned “gullibility bias”, to the same extent as control individuals. Overall, our results reveal a tendency for participants to believe statements they understand, even higher than previously reported, i.e. in the absence of cognitive depletion, and in contexts where they are expected to be vigilant. Implications for the relation between statement representation and belief will be discussed.

References

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Often dual-process theories of cognition are framed with the assumption that system 2 executes rule-based and linguistic processes. These characteristics are frequently associated with abstract conceptual reasoning. On the other hand, cognitive expertise is often thought to depend on intuitive competence that builds up gradually through a vast exposure to domain specific learning situations. My aim is to show how abstract concepts and the competence of using them can, and must, be grounded on practical skills that deal with concrete situational demands. The case is rather complicated, for most of the concepts depend on different types of knowledge. I advance a pragmatist theory of semantics where concrete know-how, idiosyncratic experience, and conceptual meaning are highly intertwined even in the case of abstract concepts. I do not propose novel accounts of cognitive processes or representations but rather try to show how standard ideas on reasoning and concepts can be put together in a novel way to yield a pragmatically oriented theory of the nature of reasoning and intentional content.

The theoretical claims here are that understanding is basically a learned skill on how to apply causal knowledge successfully with respect to the agent’s goals. The skill is dependent on instance specific encoding of concrete situations. However, analogical reasoning enables the grouping of superficially dissimilar exemplars under pragmatically similar situations thus effectively allowing for schema type abstractions. In case of abstract linguistic concepts without any concrete instances, the exemplars are simply assumed to encode what ever situations wherein the agent has used the concepts in any kind of reasoning or communication. The feedback for the success of these kind of discursive acts are assumed to come primarily from the social environment but may contain various cultural artifacts. It seems likely that abstract concept learning (as per domain) initially exploits imitative strategies by tracking typical ways of using the expressions in public discourse, and the fluent skill in applying them builds up gradually by encoding concrete use situations essentially in the same way as any kind of know-how.

POELLINGER

The Problem of Mental Causation in Non-Markovian Network Models
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keywords: reasoning, intentionality

Listing The Non-Reductivist’s Troubles with Mental Causation (1993) Jaegwon Kim suggested that the only remaining alternatives are the eliminativist’s standpoint or plain denial of the mind’s causal powers if we want to uphold the closure of the physical and reject causal overdetermination at the same time. Nevertheless, explaining stock market trends by referring to investors’ fear of loss is a very familiar example of attributing reality
to both domains and acknowledging the mind’s interaction with the world: “if you pick a physical event and trace its causal ancestry or posterity, you may run into mental events” (Kim 1993).

Upon investigating structurally similar cases of conflicting causal intuitions I utilize the formal framework of Bayes net causal models in an interventionist understanding (as devised, e.g., by Judea Pearl in Causality, 2000) to make the concept of causal influence precise: I introduce the mind–brain nexus as a non-causal and non-directional basic connection, a determination relation formalized as a 1-1 function in a naturally motivated extension of the interventionist Bayes net framework, Causal Knowledge Patterns, in which our intuition that the mind makes a difference finds an expression. Such hybrid causal knowledge patterns extend a standard causal model $M = (U, V, F)$, where $U$ is a set of exogenous variables, $V$ a set of endogenous variables, and $F$ a set of functional causal mechanisms (cf. e.g. Pearl 2000, def. 7.1.1, p. 203). Such causal knowledge patterns (CKP) can be defined as quadruples $K = (U, V, F, C)$, where $M = (U, V, F)$ is a causal model and $C$ is a set of determination relations, i.e., a set of 1-1 functions $c_{i,j}$ that take the value of some variable $V_i$ and assign the value $c_{i,j}(v_i)$ to some other variable $V_j$ in the pattern. Intervening on one of those entangled variables will not break the determining relation (and will thus not determine any directionality).

Obviously, embedding such strictly dependent variables in causal models precisely renders those models non-Markovian. When Pearl claims that “[t]he Markovian assumption […] is a matter of convention, to distinguish complete from incomplete models” (Pearl 2000, p. 61) he naturally has Bayes net causal models (with distinct variables) in mind, which have to be dismissed if the mind–brain nexus is to be modeled as a determination relation. Consequently, for consistent reasoning and efficient computation to remain possible, at all, acyclicity, independence (as expressed in the graphical d-separation criterion), and the identifiability of causal effects receive new explications. In concluding I will illustrate how the mind–brain nexus as a non-causal relation can be used to form genuinely causal claims in an interventionist sense.

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The Role of Causation in Blame Ascription

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Keywords: moral psychology, social cognition

The issue of how people ascribe blame is important for both moral psychology and the law. In various theories causation is considered an important dimension of blame ascription (Shaver, 1985; Darley & Schultz, 1990; Weiner, 1995; Alicke, 2000, Cushman, 2008; Malle, Guglielmo & Monroe, 2014). For instance, according to Alicke’s Culpable Control model, causal control assessment in an important element in the process of blame ascription, next to volitional behavior and outcome control. He characterizes this assessment in terms of the causal impact of an agent’s action on its harmful consequences, which involves three dimensions—uniqueness (whether the action is a unique or sufficient cause of the outcome), proximity (the difference in spatial and temporal distance between the action and the outcome), and effective control (whether the outcome would have occurred without the agent’s action). On the other hand, according to Cushman’s Dual-process model ascriptions of blame entail either both causal responsibility assessment and mental culpability evaluation, or only one of these cognitive processes, and these two processes can result in competitive moral intuitions in some problematic cases (e.g., failed attempts with an independent causal chain bringing about the harmful outcome).

One way to test the role of causation in blame ascription is to experimentally manipulate differences in causal impact and probe the effect of this manipulation on blame ascriptions. In my research I focused on cases where the causal link between the agent’s action and the harmful outcome is somehow distorted or completely broken: cases of causal deviance, where the intended harmful outcome occurs via the agent’s actions but not in the way intended (see also Pizarro, Uhlmann & Bloom, 2003), cases where a harmful outcome occurs but via a causal chain independent of the agent’s actions, and cases of failed attempts, where the agent’s actions do not...
succeed in bringing about an intended harmful outcome. Preliminary analysis shows that the great majority of participants did not differentiate the level of blame when comparing successful and failed attempts, and when comparing cases involving no causal deviance with cases involving later causal deviance. However, this trend significantly changed for failed attempts with independent causal chain, with the majority of participants now attributing more blame to cases of successful attempts than to cases with independent causal chain, and for the case of earlier causal deviance judged as significantly different from both successful attempts and later causal deviance cases.

In my presentation I will focus on some cases from this study and will discuss implications of the reported evidence for research on the role of causation and other factors (i.e., intentionality) in blame ascription.

References


The last few decades have amassed data on the impact of emotional sensitivity on the cognitive processing of emotion words. However, little research has been devoted to questions regarding the relation between the semantic processing of words on the one hand, and pain sensitivity on the other, where pain sensitivity is generally assumed to refer to subjects’ responsiveness to noxious stimuli. The primary aim of our study was to investigate the hitherto unexplored question of whether individual differences in pain sensitivity, as measured by people’s self-report, have a substantial influence on the cognitive processing of words, as measured by people’s ratings of the pain-relatedness of words. We were also interested in the possible effect of the frequency of pain episodes and in whether pain sensitivity has a differential influence on the processing of abstract vs. concrete nouns.

After assembling a list of 600 words, e.g., thorn, hammer, shard, we asked 120 people to each evaluate a list of 100 words. After reading each word x, the person was asked to answer the question “How strongly do you associate an x with pain?” on a 5-point Likert scale (1 = not at all, 2 = slightly, 3 = medium, 4 = strongly, 5 = very strongly). Subsequently, they were asked to self-assess their pain sensitivity: Would you consider yourself to be pain sensitive? Possible responses were: (a) definitely not (Low), (b) not so much (Moderate), and (c) yes (High). Average values for participant’s ratings of the pain-relatedness of all 600 nouns are depicted in the Figure below.
Our results demonstrate that subjects with higher pain sensitivity associate words with greater amounts of pain than subjects with lower pain sensitivity: $F(2,120) = 3.813$, $p = .025$. Furthermore, the result is highly significant for concrete nouns, $F(2,120) = 5.048$, $p = .008$, but not for abstract nouns. No effect for the frequency of pain was found.

We argue that these results provide a novel illustration of the principle that different bodily characteristics lead to corresponding differences in the way in which people construct concepts and word meanings. This body specificity hypothesis (Casasanto, 2011) is a direct consequence of the embodied account of cognition, according to which meanings involve mental simulations of bodily experiences (Barsalou, 1999). We discuss also other two theoretical frameworks that could be drawn upon to account for our data, cognitive bias (Baum et al., 2011) and prototype theory (Rosch, 1999). The first theory claims that subjects with different inclinations, tendencies, etc. will show cognitive biases towards stimuli that are in accordance with their inclinations, whereas according to prototype theory differences in the semantic processing of pain-related words need to take into account the inter-individual differences in which concepts are stored. Although these theories seem prima facie also consistent with our data, a more detailed analysis of their predictions regarding abstract vs. concrete nouns and the effect of the frequency of pain revealed that they have severe limitations in their application to this study.

References


Dretske’s distinction suggests a fruitful way of framing the debate that does not prejudice a specific answer to the question whether we directly perceive emotions.

ROSSELLÓ

Schizophrenia and the linguistic organization of mind: the case of propositional delusions

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keywords: mental disorders, language, belief

Delusions along with hallucinations and disorganized speech constitute the so called positive symptoms of schizophrenia. How these positive symptoms might arise from well attested neuropsychological associated deficits regarding working, semantic and long term memory, executive control and general intelligence remains a true challenge (Mckenna 2007). Impaired memory, executive function or attention do not indeed cause anything similar to schizophrenia in animals. Schizophrenia genes in human accelerated genomic regions seem to be under a stronger selective pressure than other schizophrenia genes (Xu et al 2015). Crow (1997) suggested that schizophrenia appeared with language in the human lineage. In agreement with this position and findings, I contend that the Un-Cartesian stance (Hinzen & Sheehan 2013) is able to shed light into the triad of positive symptoms. For the sake of this talk, I will firstly present an overall argument. Next, by way of illustration, I will focus on delusions like I’m Jesus or I’m Napoleon, which will be called propositional delusions (PDs).

In contrast to the dominant view of thought (and psychosis) in which language is seen as the distal end of core amodal processes, I endorse the view that the linguistic level of organization of the human brain is at the basis of the human distinctiveness, whether at the level of thought or communication and general behavior. And the reason why it is so crucial is that the faculty of language is the most powerful integrative system of otherwise separated psychological functions. Its inalienable speech/sign sensory-motor system is probably crucial in this tight intertwining that linguistic organization constitutes in the human brain. Under this view, the three positive symptoms of schizophrenia align with language as in (1):

(1)

Consider now the propositional delusion in (2):

(2) I am Napoleon

The delusional reading of (2) consists in that the very identity of the speaker is fixed in the grammatical 3rd Person. What in mental health should be a predicative sentence has become an identificational one. Identificational sentences are those like Dr. Jekyll is Mr. Hyde and require a 3rd person DP at both sides of the copula. Under the not uncommon assumption (see Mikkelsen 2005) that identificational and specificational sentences (SSs) like the The winner is John are the same, this suggests that the analysis of SSs as non-predicational (Rosselló 2008) might shed light into PDs. This does not amount to say that delusions are grammatical SSs. Rather, the analysis in (3), which crucially doesn’t consist in predicate raising from an underlying common structure with the predicative reading (4) (Moro 1997), could account for the abnormal grammatical format of PDs in terms of a violation of the requirement (5), in turn an instance of an impairment in the grammar of person which is a general disturbance in schizophrenia (Crow 2010).

(3) [tp DP1 [T0 [predp Pred0 DP2] ] ] Specificational (The winner1 is John2)

(4) [tp DP1 [T0 [predp tdp1 [ Pred0 DP2] ] ] ] Predicative (John1 is the winner2)

(5) The post-copular DP in a SS cannot be less specified than the pre-copular DP

References
How is conscious attention tied to selection? According to Smithies (2011) they are conceptually tied because attending to something is always at the expense of something else. According to Watzl (2011) they are structurally tied because the phenomenology of attention is structured into foreground/periphery. I deny that conscious attention is either conceptually or structurally tied to selection (‘selection’ here understood as graded intramodal selection within consciousness). I argue that the phenomenology of bodily sensations in certain episodes of meditative attention is an example of attention without selection. Thus, the connection between attention and selection is much looser than it has been thought to be.

This paper revolves around the experience of body ownership – namely, the awareness one has, when having a bodily sensation, that the felt body is one’s own. Uncontroversially, such an awareness is at stake for creatures with conceptual capacities at least at the level of (introspective) judgment: this is what we express by means of the use of the first person indexical “my” in proprioceptive judgments such as “I feel pain in my finger”. One of the worries currently discussed within debates on body ownership is whether this self-
The referential or de se character of proprioceptive judgments is provided by a cognitive act of self-attribution performed on the basis of sensations (which, by themselves, would not involve genuine self-awareness), or, rather, figures already at the nonconceptual, sensory level.

Bermúdez defended a view inscribed in the latter trend in his 1998 The Paradox of Self-Consciousness. In particular, he defended that proprioceptive states are forms of genuine (nonconceptual) self-consciousness because they exhibit the features typically associated with I-thoughts: non-accidental self-reference and immediate relevance for action. In my contribution I aim at presenting a set of critical remarks to Bermúdez’s points, suggesting that the fact that the two mentioned features are instantiated in sensations, if properly understood, doesn’t settle the question as to whether proprioceptive states are genuinely self-conscious. Despite this, though, my aim is not to undermine Bermúdez’s intended conclusion. Rather, I shall finish my presentation by briefly questioning that his strategy, based on the search for the features of I-thoughts in states whose content is nonconceptual in nature, is the best to disentangle the grounds for the self-referential expression of such states.

SHARDLOW

The Role of Joint Attention in Word Learning

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It is generally accepted that episodes of joint attention aid word learning, helping to provide word-referent links for infants. Where there is no clear consensus, however, is in discussions of exactly how joint attention aids the formation of such word-referent links, and what goes into the coordination of the episodes of joint attention. This is what shall be investigated in the current paper.

Sabbagh and Baldwin (2005) challenge the hypothesis that it is simple covariation detection or low-level heuristics, such as a reflex following gaze, which aid the formation of word-referent links in episodes of joint attention. Their paper provides considerations in favour of an alternative hypothesis, a ‘communicative intentions’ account of how joint attention is reached and how it aids word learning, where infants are credited with the capacity to make inferences about a speaker’s referential intentions. The claim is, in their terms: “…infants actively pursue joint attention… and do so because they appreciate that others’ attentional focus gives information about their referential intentions.” (Sabbagh and Baldwin 2005, p.166).

In the current paper, the aim is not to show that Sabbagh and Baldwin’s positive account is flawed, but that they appear to miss a further (seemingly intuitive) option, which employs a personal-level but non-rational account of joint attention, developed from Hobson’s affective-intersubjective account (2002, 2005). Sabbagh and Baldwin ask “is [the infants’] tendency to follow gaze direction during word learning simply a reflex, or does it reflect an appreciation of the speaker’s intentional states?” (Sabbagh and Baldwin 2005, p.173). The possibility to be considered in this paper is that neither answer is correct. I wish to outline a different solution: that achieving awareness of the object of joint attention could be given a personal-level but non-rational explanation, while the association of an uttered label with the object could be accounted for by some complimentary low-level explanation.

SHEA

Metacognition of Concepts and its Role in Cognitive Control

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keywords: concepts, agency

Concepts are the constituents of thought and underpin much personal level reasoning. They also allow us to ‘project’ properties we have learnt about one object to new objects. For example, I might interact with something I have classified under my cat concept and learn that it purrs when stroked. When subsequently encountering another object that is classified under cat I can form the expectation that it will purr if stroked. Reasoning and ‘projection’ are two core uses of concepts.

Some concepts are more dependable than others for these purposes. This paper will suggest that thinkers often make use of a sense of how dependable their concepts are. Such ‘feelings of dependable’ are not explicit higher order beliefs about a concept, but a form
of what has been called ‘procedural metacognition’ (Proust 2013 The Philosophy of Metacognition). Metacognition has been studied in relation to many cognitive processes, prominently memory and decision making, but it is little-studied in relation to concepts. This paper starts by making a prima facie case that there is metacognition of concepts, in the form of a non-conceptual representation or feeling of dependability that is associated with the use of many concepts.

If there is metacognition of concepts, it is likely to play a role in cognitive control. Recent evidence suggests that in some settings two systems compete for control of behaviour: a model-based system that encodes information about the causal structure of the world and the connections between actions and outcomes, and a simpler model-free system that places values on actions and situations based on simple reinforcement learning from past rewards (Smittenaar et al. 2013 Neuron). There is also evidence that both systems make predictions about expected outcomes, and that the system that has made more accurate predictions about past outcomes is thereby more likely to gain control over current behaviour (Donoso et al. 2014 Science; Lee et al. 2014 Neuron). Concepts are likely to be involved in this process, at least in the model-based system (Shea et al. 2008 Cognitive Affective and Behavioral Neurosciences).

This paper will argue that the dependability ratings attached to concepts are likely to influence the competition between model-based and model-free control. When the concepts involved in planning a course of action are associated with low dependability, the model-based system is thereby less likely to gain control of behaviour - to determine which action is performed on an occasion.

Finally, the paper will examine a prominent argument from Peter Carruthers against the idea that metacognition is involved in cognitive control (Carruthers 2009 Behavioral and Brain Sciences). Carruthers argues that self-ascriptions of cognitive states are too unreliable to be a plausible basis for allocating attention and behavioural control between different cognitive processes. This paper will argue that the kind of metacognition of concepts developed here side-steps Carruthers’ objection. His arguments apply to explicit metacognition but are ineffective against procedural metacognition. Therefore, metacognition of concepts remains a plausible candidate to play a substantial role in how control is allocated between cognitive systems.

In Thought in a Hostile World (2003) Kim Sterelny develops an idealised natural history of folk-psychological kinds. He argues that under certain selection pressures belief-like states are a natural elaboration of simpler control systems which he calls detection systems, and which map directly from environmental cue to response. Belief-like states are distinguished by the properties of robust tracking (being occasioned by a wider range of environmental states, including distal ones), and response breadth (being able to feature in the triggering of a wider range of behaviours). A key driver, according to Sterelny, of the development of robust tracking and response-breadth, and hence belief-like states, are properties of the informational environment. A transparent environment is one where the functional relevance to an organism of states of the world is directly detectable. In a translucent or opaque environment, on the other hand, states significant to an organism map in less direct or simple ways onto states that the organism can detect. A hostile environment, finally, is one where the specific explanation of translucency or opacity is the design and behaviour of competing organisms. Where the costs of implementing belief-like states pay their way in more discriminating behaviour allocation under conditions of opacity and hostility, Sterelny argues, selection can favour the development of decoupled representations of the environment.

In the case of desires, however, Sterelny maintains that the same arguments do not generalise. One justification that he offers for this view reasons that unlike the external environment, the internal processes of an organism are under significant selection pressure for transparency. Parts of a single organism, having coinciding interests, have nothing to gain from deceiving one another, and much to gain from accurate signalling of their states and needs. Key conditions favouring the development of belief-like states are therefore absent in the case of desires. Here I argue that Sterelny’s reasons for saying that his treatment of belief doesn’t generalise to motivation (desires, or preferences) are insufficient. There are limits to the transparency that internal environments can achieve. Even if there were not,
tracking the motivational salience of external states suggests gains from pervasive attention to valuation, especially in any system in which selection has driven the production of belief-like states.

**STAPLETON**

**Interoception and the Anorexia Anxiety**

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Keywords: mental disorders, senses

Interception is the sense of the physiological condition of the body. In primates interoceptive signals get re-represented in the right anterior insula (AIC), activity in which is correlated with the sense of subjective feelings and emotions, and has been argued to be the basis of our perceptions of ourselves. Interestingly there are individual differences in how good people are at perceiving their internal states. Low interoceptive sensitivity has been associated with a number of deficits and psychopathologies, in particular with anorexia nervosa, and alexithymia. Furthermore all three are associated with low activation in the AIC. This however reveals a potential tension in the literature as anorexia is also associated with high anxiety levels, and anxiety disorders are associated with high interoceptive sensitivity and heightened anterior insula activation. The association between alexithymia, eating disorders and interoceptive sensitivity seems to imply that those with anorexia are to some degree anhedonic because high/low IS is associated with high/low AIC activation respectively, and AIC activation is associated with subjective experience of emotion. But anhedonia (lack of emotional feeling) is not implied by alexithymia (problems in identifying and describing feelings) alone. And, the high comorbidity with anxiety disorders would suggest that anorectics are not anhedonic despite having low IS and low AIC activation in emotional experience. I argue that this can be accounted for by using Garfinkel & Critchley’s (2013) distinction between Interoceptive Awareness, Sensitivity, and Sensibility, and that Interoceptive Sensibility may accurately track afferent visceral signals but one’s that are not well discriminated and thus not yet available to reflective awareness.

**STARZAK**

**Do Animals Have Beliefs? An Evolutionary Perspective**

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Keywords: non-human animals, belief

When we explain or predict the behavior of other humans we usually make use of so-called folk-psychological explanations, i.e. we ascribe motivational states (that carry information about what the subject wants to achieve with its behavior) along with some instrumental beliefs (about how the result can be brought about). Why shouldn’t we explain the behavior of non-human animals alike if this gives us good explanations and predictions of what they do? In this talk I discuss a classical argument formulated by Stephen Stich (1979): He argues that belief ascriptions to animals are only justified if they are explanatory (premise 1). But ascribing beliefs is only explanatory if we can specify the content of those beliefs (premise 2). Saying that a dog has beliefs doesn’t explain why it is barking up the tree, while saying that it believes something specific – e.g. that a squirrel is up there – does. However, the problem is that (due to the holistic character of beliefs) even if animals had beliefs, we would not be able to specify what they believe (premise 3). It follows that we can never be justified in believing that animals have beliefs. So as Wittgenstein (2009, p. 235) puts it, even “[i]f a lion could talk, we wouldn’t be able to understand it”.

The argument presented like this is valid, but is it sound? In the first part I look at how Stich defends his premises. Traditionally the most controversial one is premise (3) thus in the second part I briefly review an argument from Armstrong (1973) against this premise and say why it doesn’t work. Finally in the third part I pursue another route and argue that we should reject premise (2). For this I look at beliefs from an evolutionary perspective. Drawing from the works of Godfrey-Smith (2002), Sterelny (2003) and Papineau (2003) I argue that a special kind of environmental complexity – informational opacity – constitutes the selective pressure that drives the evolution of belief from simpler pushmi-pullyu representations as described by Millikan (1995). Roughly the idea is that the more opaque an environment is with respect to crucial information the more important it becomes for an organism to represent its environment decoupled from specific behavioral responses. The less
tied to specific behavioral responses representations of the world are, the more purely informational – i.e. the more belief-like – they are.

This evolutionary understanding provides us with another way to be justified in ascribing beliefs to animals. Since a subject’s having beliefs expresses itself through a high degree of behavioral flexibility, we can be justified in ascribing beliefs (or belief-like states) not only on the basis of specific behaviors of an organism (which can only be explained with the ascription of specific beliefs), but also on the basis of the overall flexibility an animal shows in its use of information: its behavioral gestalt.

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STRICKLAND, GERACI, CHEMLA; SCHENKLER; KELEPIR; PFAU

Event representations constrain the structure of language: Sign language as a window into universally accessible linguistic biases

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According to a theoretical tradition dating back to Aristotle, verbs can be classified into two broad categories. Telic verbs (e.g. “decide,” “sell,” “die”) encode a logical endpoint of the event(s) they refer to. On the other hand, atelic verbs (e.g. “think,” “negotiate,” “run”) do not, and the denoted event could therefore logically continue indefinitely. Here we show that sign languages encode telicity in a seemingly universal way, and moreover, that even non-signers lacking any prior experience with sign language understand these encodings. In Experiments 1-5, non-signing English speakers accurately distinguished between telic (e.g. “decide”) and atelic (e.g. “think”) signs from (the historically unrelated) Italian Sign Language, Sign Language of the Netherlands, and Turkish Sign Language. The nature of our experimental design ruled out that these results were not due to participants’ inferring that the sign merely imitated the action in question. In Experiment 6, we used pseudo-signs to show that the presence of a salient visual boundary at the end of a gesture was sufficient to elicit telic interpretations while repeated movement without salient boundaries elicited atelic interpretations. Experiments 7-10 confirmed that these visual cues were employed by all the sign languages studied here. Together, the current results suggest that signers and non-signers share universally accessible notions of telicity as well as universally accessible “mapping biases” between telicity and visual form.

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SZABO & KOVACS

Encoding representations of objects ‘not being there’ in 18-month-old infants

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While there is a rich literature concerning how infants represent various properties of objects present in the environment, we know very little about whether and how they encode the absence of objects. In fact, earlier research suggests that young infants have difficulties in forming such representations (Wynn & Chiang, 1998; Kaufman, Csibra & Johnson, 2003). Later in their development infants start to refer to the absence of objects using linguistic negation. Studies targeting the developmental trajectory of children’s production of negation suggest that expressing the absence of objects might be a special case. These studies showed that negation appears first in expressing non-existence (e.g.
negation of the presence, or existence of objects) and rejection while expressing denial comes later in development (Bloom, 1970; Pea, 1980). Only few studies investigated infants’ comprehension of negation with no or very limited productive vocabulary (Austin et al., 2014; Feiman et al., 2014). The typical test used in these studies is a choice task involving disjunctive syllogism. The logic of the task is the following: there are two locations and one target object is hidden into one of the locations out of the sight of the participant (target is in A or B). After the hiding event partial information is provided: one of the cups is empty (not A). After excluding one possibility participants should be able to infer location of the target (e.g. not A, therefore B). Recent studies found that children succeed at this task after their second birthday.

First we asked whether younger, 18-month-old infants form representations about absent entities based on negation in communication and what might be the nature of their understanding. While former studies investigated the development of denial understanding, we tested another - possibly easier-form of negation, namely nonexistence in a similar choice task described above. The second ongoing study investigates the nature of the representation of the absence of the object. We ask what may drive 18-month-olds’ choices in Study 1, whether they (1) infer the location of the object based on disjunctive syllogism or (2) avoid the empty location based on possibly more simple learning processes (e.g. associative learning).

The results show that 18-month-olds (N=36) can understand this form of negation—they avoided the cup about which the experimenter said the target was not there. However, performance is still fragile at this age, while on the first trial infants performed well, on consequent trials many participants (55%) showed perseveration to the previous location or side biases. This data suggests that 18-month-olds form representation about the absent of objects based on verbal negation. Thus, the difficulties infants usually display in such tasks may not reflect a conceptual problem in representing the object ‘not being there’, nor may be related to language production.

This paper presents a novel defense of the Perceptibility Thesis (PT). PT is the highly controversial claim that the properties of which we can conceive coincide with those that we can perceive. In particular, PT suggests that we can perceive abstract properties such as vegetarianism and scariness which lack “…characteristic looks” (Prinz, 2006: 434), just as well as we can perceive concrete entities like dogs and tables. After reviewing Prinz’s strategy for arguing for PT and suggesting some of its limitations, this paper will adopt a different approach. It is argued that, assuming a Hierarchical Bayesian Predictive Processing (HBPP) account of the mind, there is no a priori limit on the ‘abstractness’ of the content that can be “perceptually embedded…part of the content of the phenomenology of perception.” (Levy, 2014: 344). Any content that can be represented in belief can also be similarly represented in perception, as they are realisations of the same processes of prediction-error minimisation. It shall be concluded that wherever predictive content invokes abstract concepts to ‘make sense’ of some incoming sensory prediction error, these abstracta can come to be embedded in the agent’s perceptual experience. Thus, if we accept HBPP, we have good reason to think that perception is not, in principle, significantly outstripped by conception.

Deciding upon relevance: the context, the past, and the habits

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How do we know which information to use and which to ignore on a given occasion? How do we search our enormous knowledge stores and identify the bits of information that are relevant to updating our beliefs? And how do we manage that in a timely manner that makes the whole process seamless? In the extant literature similar questions appear under the ‘Frame Problem’ (FP) label. To many the FP has already been solved, while others allocate varying degrees of significance to it, which most often correlate with the ways in which different other issues are construed, e.g. cognitive architecture. Admittedly, there has recently been significant progress. However, with each of the suggested solutions falling
short in one way or another, the FP still lingers on, at least its epistemological version. In this paper, I argue that relevance is decided upon in virtue of two key characteristics of human cognition, (a) the strength of the connections between stored representations and (b) the top-down effects from stored representations in perception, as well as in offline thinking. I start by fleshing out a story about how representations are formed and stored in the light of our experiences. Continuing, I project the moral of this story to the level of inter-conceptual associations, examine how experience conditions these connections, and show how this contributes to ‘deciding’ upon relevance. Specifically, assuming a lighthearted reductionism, concepts are grounded in neuronal activation. In turn, the principles of the widely accepted Hebbian associationism could be projected to connections obtaining between concepts. In the light of our experiences, associations are formed between stored representations and/or concepts. Frequencies of reoccurring experiences affect the weightings of the connections obtaining between these representations. Without committing to a connectionist view about cognitive architecture, I assume that the human mind comprises such a representational network. In turn, the connection weightings between the different representations influence the activation pattern of the network highlighting (or priming) in this way the relevant information on a given occasion. The second characteristic concerns the top-down influences from stored representations on selective attention. Softly determined by previous experiences with similar contextual features, these influences drive attention to the aspects of the perceived stimulus that are relevant or onto relevant stored representations, in the case of offline thinking. In this sense, the suggested solution to the frame problem builds upon a view about the nature of thinking and shows how experience shapes both our representational and conceptual networks in a way such that the frame problem is, at least largely, solved at a subconscious level.

In the debate on philosophy of perception, the link between perceptual experience and perceptual judgment is seldom questioned. While there is heated debate on whether content of perceptual experience is the same kind of content as content of judgment, and how perceptual experience can justify beliefs if they are not the same, the proposal that judgments may not truly reflect experience is rarely considered seriously. Even when brought up, any hypothesis on the deviation of judgments from perceptual experience is usually dismissed as implausible. This dismissal is highlighted in the recent debate on cognitive penetrability of perception, in which the deviation of judgments from experience is used as a cardinal reason to reject an interpretation for perception being cognitively impenetrable known as the judgment interpretation (Macpherson, 2012; Stokes, 2013). In this paper, I argue that this deviation is much more plausible than it seems when aesthetic experience is considered. I argue for this with recent findings in the decision-making literature, which show how easily judgments can be disrupted. That we do make judgments which fail to reflect experience has two implications. First, the judgment interpretation should be re-evaluated. Second, there is a non-traditional form of perceptual learning – that learning takes place in order to close the gap between judgments and perceptual experience. Experts not only perceive better, but are also better judges of what they perceive.

TOOMING

The role of agency in coming to know what one wants

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keywords: motivation, knowledge, agency

According to one well-known conception of self-knowledge, our rational agency by which we form our attitudes grounds the privileged access we have to our minds. Such a view has received plenty of criticism, however, for having a narrow scope and for being psychologically unrealistic. First, the agency account doesn’t seem to be generalizable to attitudes other than beliefs. Second, given the pervasiveness of subconscious influences on our decision-making, it has been argued that our ability to form our attitudes in response to reasons plays relatively negligible role in our
psychological economy. An articulate form of such an attack can be found from Quassim Cassam's recent book Self-Knowledge for Humans.

In response to Cassam's criticism, I argue in this paper that if we remove the overly rationalist elements from the agency view, we can generalize it at least to desires. By appealing to empirical data, it will be argued that desires are sensitive to active imaginings, which means that imaginative agency plays a crucial role in desire-formation. This view also finds support from the Elaborated Intrusion theory of desire, according to which desires are modulated by imaginative elaboration. On the basis of these considerations we can then defend the further claim that by imagining a content and feeling positive affect we are entitled to self-ascribe a desire with that content, and that this entitlement is partially grounded in our agential capacities. I call this Imaginative Self-Constitution view and argue that it is a kind of agency view which escapes Cassam's criticism.

TRAKAS

The richness of the emotional perspectives of our personal memories

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keywords: memory, emotion, self

In philosophy and cognitive science, it is quite common to assume that memories of our personal past experiences have a perspective. While in some of our memories we adopt the perspective of a spectator or an observer, and we not only 'see' the past event experienced from an external point of view but also our past self that is explicitly represented in the memory, in other memories we seem to adopt the perspective of the original experience and we do not 'see' ourselves in the experience, and so the past self is not represented. These two perspectives are known as "observer perspective" and "field perspective" (Henri & Henri, 1896; Nigro & Neisser, 1983). Originally conceived as visual-spatial perspectives, this dichotomy is now applicable to other types perspectives, like the emotional and evaluative perspectives: while sometimes we identify ourselves with our past self and we have the sensation of reliving the emotion felt in the past, other times we feel that we are not the same self as before, we distance ourselves from our past self, and there is no re-experience of the past emotion. In this talk, I question that these two perspectives—the observer and the field perspective—applied to visual imagery, are appropriate to reflect the richness and variety of emotional and evaluative perspectives that our personal memories seem to have. Whether the present self is still affected or not by the past event remembered, and whether the present self identifies himself to or feels distant from the past self, personal memories can present different perspectives. First, the present self can be still affected by the past event and the present appraisal of the past can be the same as the appraisal of the situation made in the past. In this case, the present self identifies with the past self and relives the emotion felt in the past. Second, the present self can be still affected by the past event but the present appraisal of the past situation may be different from the past appraisal. In this case there is a feeling of distance from the past self and the emotion felt is a new and different emotion. The third case refers to memories that are emotionally closed, that is, when the subject is no longer affected by the past event. Here the subject is just a spectator of his past experience and thus adopts a true external and detached perspective. The fourth case corresponds to currently felt emotions related to past events even if the past event is emotionally closed for the rememberer. The typical example are experiences remembered under a fun tone. Because we consider our past self as another person, in this case the concept of external perspective acquires its deepest and fullest meaning. The last case refers to emotionally closed memories that give rise to an emotion without adopting an external and detached perspective. These are the cases of nostalgic memories, in which underlies a desire of reinstatiation of a lost past.

VESZELKA

Syllogisms: the case of logical people with illogical logic

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keywords: reasoning

How people interpret syllogisms, which comprise one of the two main branches of classical logic, differs tremendously from what the ordinary rules of logic would dictate. Experimental results show that only 55% of the responses fulfil the requirements of formal logic. The difference is traditionally explained on the basis of human heuristics and biases. These explanations,
however, lack consistency. So far, there is no simple tool to model, track or further analyse everyday syllogistic inferences. In fact, no one has yet thoroughly investigated whether or not syllogisms were defined correctly in antiquity in the first place. It appears that this was not the case, and by correcting a trivial abstraction error, people's everyday syllogistic inferences immediately become 80-100% compatible with this new, amended logic, without the need to postulate any bias or special heuristic. Furthermore, the new interpretation makes Euler circles, once resulting in a lot of ambiguity, a clear and seamlessly functional tool to correctly predict and analyse further syllogistic inferences. My results suggest that it is not people who infer illogically in syllogistic cases, but rather that the traditional rules of logic are themselves erroneous.

VIERKANT

Most Cognitive Control Cannot Be Cognitive

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keywords: agency, concepts

Cognitive control is a buzzword in the cognitive sciences (e.g. Kahnemann 2011, Baumeister, Morton, Ezekiel and Wilk 2011). It has been identified as one of the key components of, especially human, cognition and is studied intensively from the neurosciences to social psychology. Nevertheless, this paper wants to demonstrate that on a plausible reading of two very plausible premises most of cognitive control cannot be cognitive. The two premises in question are the assumption that at least most cognitive control is a system 2 process, and the assumption that all cognition requires an evaluative act (Hieronymi 2009, Moran 2001, Strawson 2003).

The paper will first explain what evaluative acts are and why all cognition is essentially evaluative. Crucially, this discussion will show that if cognition is always evaluative, then cognitive acts can never be intentional acts. In a second step, the paper will examine the two-systems literature and establish that one of the key features of system two processing is that it involves effortful, voluntary or intentional processes. This leads to the conclusion that cognitive control processes cannot be cognitive, because most cognitive control involves essentially intentional system 2 processes, and such intentional processes can never be evaluative processes.

VIHVELIN

Dispositional Compatibilism

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keywords: agency

We believe that we have free will, and this belief plays a central role in how we think about ourselves and about our lives. What we do is not the only thing we can do. The choices we make are not the only choices in our power to make. We are able to think for ourselves, whether or not we actually do so. We are able to try to do lots of things, whether or not we actually do try. We have abilities we don't exercise, perhaps some abilities we never exercise. We don't have to do what we do. We are able to do otherwise. Or so we believe.

Peter van Inwagen has argued that if determinism is true, these commonsense beliefs are false and it is never true that anyone has a choice of any kind -- big or small, important or trivial. If we choose to lie, we could not have chosen to tell the truth. If we choose the scenic mountain road, we could not have chosen the freeway. If we choose the apple, we could not have chosen the orange.

Once this very surprising conclusion is established, the paper will then examine potential reactions to it. One obvious possibility might be to worry about two-systems theory. While this has been an extremely popular and fruitful framework in contemporary cognitive science, it is not uncontroversial.

However, even giving up on the framework by itself does not help solve the puzzle, as long as one is not also prepared to claim that the cognitive element of cognitive control can never involve an intentional action. This seems a very high price to pay given the enormous role that intentional action plays in the processes that are classed as system 2.

Finally, the paper considers an alternative response by re-examining the concept of evaluative action. It argues that the concept not only creates problems for cognitive control, but also for empirically informed accounts of intention formation, willpower and embodied cognition. From this, the paper concludes that despite their initial plausibility, we should be very sceptical about whether evaluative acts as usually conceived really are what cognition is all about.
I defend our commonsense beliefs about free will by defending a view I call ‘dispositional compatibilism’. There are different ways of being a dispositional compatibilist, but the core claims are that the most fundamental free will facts are facts about our causal powers and that our causal powers differ in complexity but not in kind from dispositions like fragility, elasticity, and flammability. The claim is that all dispositions -- of natural objects, artifacts, and human beings -- are causal powers with the same kind of causal structure. How exactly that structure should be understood is the subject of much metaphysical debate. But the main point, so far as free will is concerned, is simple. We think that determinism is incompatible with free will because determinism seems to have the consequence that we have no power over anything, not even our own choices. But if our causal powers are dispositions, this is not true. For dispositions are uncontroversially compatible with determinism. And dispositions are real properties of their bearers; they don’t cease to exist simply because they are not being manifested. A rock doesn’t lose its window-breaking power just because it isn’t currently breaking windows. A person doesn’t lose her decision-making power just because she isn’t currently making a decision. Nor does she lose her power to decide to do one thing just because she makes another decision instead. Sometimes our surroundings prevent us from exercising one of our abilities in the way that styrofoam packing prevents a fragile glass from breaking. But determinism doesn’t have the consequence that our surroundings are always unfavorable in these sorts of ways. I conclude, therefore, that determinism is compatible with our common sense view of ourselves as agents with choices and alternative courses of action.

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**VIRTA**

What Guides Our Behaviour Full of Gender Performatives: Alief or Belief?

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keywords: belief

Tamar Gendler introduced a new mental state concept alief in her articles “Alief and Belief” and “Alief in Action” in 2008. Alief is meant to be used next to other folk psychology concepts. It is – one way or another – comparable to propositional attitudes like belief and desire, which are often said to form a pair that guides our intentional behaviour. Aliefs are mental states possessed by humans and other animals, and they are “innate or habitual propensities to respond to (possibly accurate) apparent stimuli in ways that are associative and automatic” (2012a, 763). Most of our aliefs are – again, one way or another – learned habits to react to certain kinds of stimuli and they have an affective component.

Gender is a feature that is important to every level of society and individuals living in it. According to Judith Butler’s theory of gender performativity, gender is something we do and not possess. By that she means gender is performative the way speech act theory states promises are performative. If that’s true, what is the mental mechanism that makes us perform those gender performatives without us even noticing it and tricks us into believing gender is something we at least express with them? Is it belief or some other propositional attitude? Do we believe or imagine that if we wear a dress we become a woman? Not usually. Most people believe gender is sex and all you need to do to know anyone’s gender is to look between their legs: Gender is considered to be something innate. Still the same people are careful not to do anything that is considered to link to any other gender than they identify with. They follow society’s gender norms in a detailed manner and spend lots of energy to make people around them do that too without noticing any contradiction.

I suggest that the mental mechanism that guides our gendered behaviour is not belief or desire but alief, and that combining Gendler’s concept alief with Butler’s theory of gender performativity we can explain, how individuals do their gender, see others as gendered beings and project gendered features to all sorts of entities including clothes, colours, hobbies and even coffee mugs.

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**VÖLTER & CALL**

Great apes and children infer causal relations from patterns of variation and covariation

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Inferring causal structures in the environment based on the correlational input has been termed the causal inverse problem. We investigated whether nonhuman great apes (N=23), 2.5-year-old (N=20), and 3-year-old children (N=40) infer causal relations based on patterns of variation and covariation by adapting the blicket detector paradigm (Gopnik et al. 2001) for comparative research. Therefore, we presented a novel reward dispenser, the blicket detector, to apes and children. The detector was controlled by the insertion of certain (yet randomly determined) objects, the so-called blickets. These objects, unlike others, activated the detector, i.e. lights flashed up, a tone was produced, and a reward became accessible. Children, chimpanzees (Pan troglodytes), bonobos (Pan paniscus), orangutans (Pongo abelii), and gorillas (Gorilla gorilla) were shown different patterns of variation and covariation between two different objects (each inserted by itself or together with the other object) and the activation of the detector. Moreover, we manipulated the degree of verbal scaffolding that the 3-year-old children received during the study. All species (except gorillas who failed the training) took these patterns of correlation into account when they chose for one of the two objects in order to activate the detector. In particular, apes and children ignored objects whose effect on the detector completely depended on the presence of another object (one-cause condition). However, when each object started the detector by itself (two-cause condition: one object activated the detector in two of three instances by itself, the other one in all three instances) apes and 2.5-year-olds chose randomly. Three-year-olds, in contrast, chose rationally also in this condition and showed a preference for the object that had always (as opposed to 67% of the time) activated the detector. This pattern of results was already apparent in the first test trial. Finally, we found no effect of verbal scaffolding, i.e. even 3-year-olds who received minimal verbal instruction chose rationally also in this condition and showed a preference for one of the two objects in order to activate the detector. In particular, apes and children ignored objects whose effect on the detector completely depended on the presence of another object (one-cause condition).

A second experiment with the same samples of children and apes further examined whether they were also able to re-evaluate evidence retrospectively. After an initial demonstration showing that two objects activated the detector together, subjects either saw that one object activated the detector by itself (backward blocking condition) or that it did not (indirect screening-off condition). Three-year-old children, unlike apes and 2.5-year-olds, were able to make retrospective inferences about causal structures in the form of indirect screening-off. If the object by itself did not activate the detector, 3-year-olds, unlike apes or 2.5-year-olds, preferred the other object.

Together, this study provides evidence that nonhuman apes, like young children, accurately learn causal structures merely based on patterns of (co)variation and that they use this information to generate their own interventions. Apes and children made these causal judgments after only a single exposure to the task-relevant contingencies. Moreover, we observed some limitations of apes’ inferential capabilities compared to 3-year-old children. In particular, we found no compelling evidence that apes or 2.5-year-olds were able to re-evaluate observational evidence retrospectively in order to make accurate causal judgments.

VOTSIS

Can Theory-Laden Effects be Removed?
A Proposal for an Experiment

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Observation plays a central role in our everyday and scientific lives. Safeguarding its objectivity is therefore of paramount importance. Let us call ‘veridicalism’ the view that observational reports are largely truthful and that there exists a great deal of inter-subjective agreement concerning their content. Perhaps the biggest threat to this view is the so-called ‘theory-ladenness’ of perception and/or observation, an idea that has long been studied by both philosophers and psychologists. Roughly speaking, this is the idea that theoretical factors, broadly construed, influence the content of perceptual beliefs and observational reports. Such factors, it has been suggested, are most obviously found to be operating in divergence when we compare the observational reports of experts to those of laypersons. This talk proposes the design of a type of experiment whose aim is to determine whether differences in the content of expert vs. layperson observational reports, where these do indeed exist, can be removed under controlled conditions. Clearly, if such differences could be removed at least sometimes, theory-ladenness of this sort would pose less of a threat to inter-subjective agreement on, and ultimately to the objectivity of, observational reports. It is conjectured that such differences are indeed within our ability to expunge. What is more, it is argued
that the content of the resulting observational reports preserves at least some of its evidential relevance. The hope is that through discussing these issues with fellow philosophers and psychologists the design of the proposed experiment will be refined prior to actually carrying it out.

WILKINSON & DEAMER

Are Auditory Verbal Hallucinations Misattributed Episodes of Inner Speech?

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keywords: language, mental disorders

The phenomenon of auditory verbal hallucinations (AVHs), sometimes called “hearing voices”, involves, roughly, hearing a voice in the absence of a speaker. The vast majority of theorists take this to involve a self-produced phenomenon that is not recognised as such, and, within this majority, the overwhelming orthodoxy is that this self-produced phenomenon is inner speech. This often gets expressed in terms of AVHs being misattributed episodes of inner speech. We want to examine this claim by examining whether, and in what sense, AVHs are misattributed episodes of inner speech. We isolate two interpretations of this claim. The first interpretation is the one most inner speech theorists seem to (at least implicitly) endorse. According to this interpretation, the “misattribution” is a misattribution on the part of the nervous system, due to low-level self-monitoring deficit, which generates an experience of AVH. We evaluate the pros and cons of this hypothesis. The second interpretation is that the “misattribution” is a personal-level phenomenon: people experience inner speech, but misattribute it. This hypothesis seems like a non-starter. However, we aim to show that, if one buys into an account of self-knowledge (often associated with Gilbert Ryle), it could work as an account of an important subset of AVHs.

WILLEMSEN & REUTER

Are omissions on par with actions? An experimental investigation into people’s reasoning about actions and omissions

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keywords: agency, moral psychology

In this talk we provide new experimental data challenging previous studies on the omission effect, both methodologically and philosophically. The omission effect, first described by Spranca et al. (1991), has been extensively studied over the last years and repeatedly confirmed (e.g. Cushman, Murray, Gordon-McKeon, Wharton, & Greene, 2012). Accordingly, most people judge it to be morally worse to actively bring about a negative effect than to passively allow a preventable negative effect. In this paper we argue that the omission effect is wrongly conceived to be driven by the action / omission distinction, and hence should not be called ‘omission effect’. Instead, we will argue that people consider actions more blameworthy than omissions only if there is an asymmetry in the perceived difference in the number and valence of behavioral possibilities. In those cases in which actions and omissions are perceived to have an equivalent status in regards to number and valence of behavioral possibilities, the omission effect disappears. We thus suggest that the omission effect is rather a causal asymmetry effect. We will report a series of original experiments that support our view.

WYSOCKI

Normality: a two-faced concept

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keywords: concepts
If the Godfather lights up a cigar, you would probably say that him striking the match, but not the presence of oxygen in the air, caused the flame. Why would you discriminate between them, though, if both the striking and the oxygen were necessary to produce the flame? According to Hitchcock and Knobe (2009), among events that took part in producing an effect, people identify the abnormal events as the causes of the effect. One assumption that this proposal makes is that people make normality evaluations using one concept of normality, whose application are sensitive to both statistical (what’s frequent and what’s rare) and normative (what’s good and what’s bad) considerations. The aim of this paper is to support this assumption empirically.

First, I present Hitchcock and Knobe’s account in more detail, and formulate two competing hypotheses: the dual-nature hypothesis, on which folk have one concept of normality, and the two-concepts hypothesis, on which folk possess two distinct concepts. Then, I present two experiments whose results support the former hypothesis over the latter. Finally, I show how the dual-nature hypothesis helps interpret other philosophical theories: Egré and Cova’s (forth.) account of the semantics of many, and different theories of disease proposed by philosophers of medicine.

ŽANIĆ

Names and Conceptual Domains

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keywords: language, concepts

A name is typically given to an entity whilst keeping in mind which class this entity belongs to, which kind it is an instance of. It is usually recognized by philosophers of language that there thus exists a connection between a name and a general categorial term which classifies its referent, but the consequences of this connection for the semantics of names have largely been left unexplored. The paper proposes that, in the mind, names are connected to conceptual domains (which can be labelled by sortals) that encode the conceptualization of the kind of entity that the name names and that govern the behavior of the name. A domain is understood in cognitive linguistics as a coherent region of human knowledge, or a coherent region of conceptual space. That this connection exists is also testified to by experimental work on names. Examples with names of people, cities and literary works show how a name can shift its reference from the named entity as a whole to certain aspects of it in accordance with the structure of the background domain. Some aspects of an entity are usually conceived of as more essential to it than others, and this is exhibited in the behavior of the name. Previous work has shown that there is a certain appropriateness to naming, in the sense that there is something wrong with naming your daughter ‘John’, or ‘Fido’. However, the paper attempts to uncover a deeper phenomenon: the use of names indicates how we conceive of entities, it reveals our background ontologies, so to speak, because the background domains govern the use of names.
POSTER PRESENTATIONS

BARONE & GOMILA

The case for non-human primates as persons

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keywords: non-human animals, moral psychology

The present contribution explores the moral status of non-human primates, in particular whether they qualify as persons or moral subjects. We will address this issue at three different levels: (i) at the theoretical level, we will discuss Dennett's requirements for personhood in the first place and recent ways to understand them; (ii) at an empirical level, we will examine new empirical evidence concerning the cognitive abilities of non-human primates related to those requirements; and (iii) at a legal level, we will argue that, if our analyses are right, there are reasons to include chimpanzees in the class of persons, so that legal codes should recognize fundamental rights to them.

In order to achieve our aim, we will first review the current legal considerations according to which chimpanzees cannot be considered persons. Secondly, we will focus on one of the central requirements for personhood, according to Dennett (1976), the ability for intentional interaction. We will discuss whether empirical evidence supports the existence of such capacity in chimpanzees, and conclude that while evidence of false belief attribution is lacking, they might be able to interact second-personally. Next, we will consider another way to cash out this notion of intentional interaction, in terms of understanding action in terms of reasons. Again, from this point of view non-human primates also might qualify. We will conclude that the evidence supports the inclusion of chimpanzees in the community of moral subjects, even if for prudential reasons, for lack of evidence to exclude them.

BERAN, CZOBOR & UNOKA

Agency and patiency in psychotherapeutic discourse: a longitudinal study of in-session interaction

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Background: Language may be viewed as a vehicle having evolved to foster social interaction by enabling the sharing of intentional states with others more effectively ( Tomasello, 1999). As a constitutional aspect of sharing and influencing intentional states, interactors share information on agency in discourse by identifying different kinds of agents such as living persons (self or other), inanimate objects, or processes (Jackendoff, 1992).

In psychotherapeutic discourse, employing various kinds of agents may have a special relevance to the psychotherapy process. The client’s and therapist’s choice of agency type at a given moment of in-session interaction is related to problems of self-autonomy and efficacy, to viewing the self as an active initiator of actions and cause-events, as well as taking responsibility for outcomes (Habermas, 2006). Expanding this view to patiency, speakers also identify “patients” in discourse, referring to whom or what is being subjected to a cause-event, or undergoing state-alteration. The use of various patient kinds in in-session interaction is inter-related with the use of agency, providing additional information on the speaker’s perspective.

Methods: In a longitudinal case study of 1.5 years we observed client-therapist interaction at the psychodynamic therapy session. We analyzed two audio-
recorded sessions, one from the beginning and one from the working phase of therapy. Transcribed sessions were segmented into intonation units. Expression of agency and patiency was coded in intonation units in both sessions based on our categorization of types of agency and patiency concerning whether the agent or patient is identical with the talker, or not, another living person or an inanimate object/process.

Results: Patterns of using agency and patiency types changed from the beginning of therapy to 1.5 years later in the working phase. Proportion of intonation units expressing agency of another person doubled by the late session. Difference was due to the client's change in patterns of agency use, since the therapist's usage did not differ between sessions. Use of patiency of other persons as well as inanimate objects increased; however, the client's self-patiency was reduced by the late session.

The client's and therapist's use of agency and patiency types differed at both sessions. The client's use of another person as agent was around 20%, whereas the therapist's use was about twice as much. The client's use of self-agency was about 30%, whereas the therapist's was one third of this. Differences of patiency patterns showed that the client identified the self as patient in greater proportion than the therapist.

Conclusion: Changes over time in use of agency/patiency types on the part of the client are relevant to the psychotherapy process concerning sense of agency and moral responsibility expressed in self-narratives. Longitudinal changes in the client's talk indicate that his sense of being subjected to other's action or cause-events outside of his control decreased, at the same time he referred to others and self as active initiators of events more often.

BOHL & MÖLDER

How (not) to analyze shared emotions

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There are occasions that we describe as having the same emotion or sharing an emotion. This happens, for example, when two people are sad about the same rueful event or feel joy from a good conversation. But what is the proper account of such occasions? Should we take the “sharing” metaphor literally? Joel Krueger takes it literally, at least in the context of positive emotions that arise in interactions between infants and their caregivers. He argues that very young infants jointly own positive emotions with the caregivers who via interaction elicit these states in them. By this he means that infants and their caregivers share the very same token of a state of emotion. We present four counterarguments against Krueger’s joint ownership thesis: 1) Krueger fails to clearly distinguish between the thesis of joint ownership and the thesis of joint subjects; 2) he lumps together phenomenological and ontological analysis and fails to notice that the phenomenological analysis actually speaks against the joint ownership thesis as an ontological claim; 3) he draws on a problematic inference from coupling to constitution; 4) he draws on a problematic inference from realization of emotions to ownership of emotions. Although the joint ownership thesis fails, positive emotions in very young infants still provide an interesting paradigm case for analysing “shared” emotions: they arise in intersubjective contexts and seem to have some irreducibly social features that call for further exploration. We argue that in order to explain these features, we need to bring in the concept of social relationship. We outline an analysis of positive emotions in young infants in terms of a communal relationship between the infant and the caregiver.

HAANILA

Remarks about the links between self-consciousness and consciousness: minimal self-consciousness as a structural feature of experience

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keywords: self, consciousness

Self-consciousness is a major feature of our mind, but the notion is notoriously ambiguous and it has been widely debated in recent neurophilosophy. In this poster I illustrate how different conceptions of self-consciousness fit together and how they relate to the notions of phenomenal and reflective consciousness. Furthermore, I analyze the notion of minimal self-consciousness and the implications it bears to consciousness studies.
The most general conceptual but also empirically significant distinction of self-consciousness is drawn between its two forms: reflective self-consciousness and pre-reflective self-consciousness i.e. for-me-ness. Reflective self-consciousness is a capacity to take oneself as the object of one's reasoning and to think of oneself as oneself: it is a variant of the generic reflective consciousness, and coincides with the use of the term 'self-consciousness' in everyday life. For-me-ness, by contrast, is self-consciousness in a more primitive form: the notion is connected to the subjectivity of experience, i.e. the self manifests itself as the subject of experience. For-me-ness is the most minimal form of self-awareness, an invariant dimension in all experiences and as such a necessary condition for phenomenal consciousness.

As a component of consciousness, the existence of for-me-ness has implications for philosophical consciousness studies. At root, it reveals something about the structure of (phenomenal) consciousness: in addition to its objects, consciousness is constituted of the subjective manner of experiencing and thus, experience cannot be reduced to just contents of consciousness. Furthermore, it has been claimed that for-me-ness undermines some consciousness theories. First, for-me-ness rules out the “anonymity theories of consciousness” (named as such by Grünbaum & Zahavi) in which the phenomenal character of conscious states is identical to or supervenes on the state's representational intentional content. It seems that the anonymity theories cannot account for-me-ness that, as a necessary feature of experience, is nevertheless needed to ground all the higher notions of self-consciousness. Second, for-me-ness can be seen as a critique against higher order theories of consciousness which claim that consciousness is an extrinsic or relational property of those mental states that have it. In contrast for-me-ness does not involve an additional mental state, but is rather to be understood as an intrinsic feature of experience.

In addition to these theoretical insights, for-me-ness also bears implications for empirical consciousness research. On neural level for-me-ness seems to involve self-specific sensory and motor processes in the parietal lobes. Nevertheless, since for-me-ness always is intertwined with the contents of experience, it is very difficult to operationalize. Because of this empirically tricky nature, for-me-ness has been studied through various altered states of consciousness (such as meditation) and some pathological cases (schizophrenia, depersonalization). In any case, it seems evident that more fine grained conceptual knowledge of self-consciousness is a considerable benefit also for empirical studies of self-related phenomena. Thus, empirical studies might help in grasping a full description of for-me-ness and, on the other hand, detailed conceptual insights of self-consciousness have a great value for multidisciplinary applications.

MARTENS

Expanding the minimal architecture model of joint action

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keywords: social cognition

The minimal architecture of joint action (Vesper, Butterfill, Knoblich & Sebanz, 2010) is an attempt to fill the gap between models that explain long term planning (based on language, attribution of intention, belief, and other propositional attitudes) and precise temporal coordination (perception-action links).

The minimal architecture is simple and contains four different building blocks, which can, but need not, work together in order to enable individuals to act jointly. The modules are representation, monitoring, prediction, and coordination smoothers.

I argue that the minimal architecture runs into two problems. First, it does not say how it connects itself to the other levels of joint agency. Secondly, the coordination smoothers cannot be thought of as one building block. But if one multiplies the smoothers, the model becomes too complicated.

From the idea that action and cognition constrain each other (Tollefsen & Dale 2013), I will argue for some ways of thinking about coordination smoothers that might connect the model better to other levels of joint agency. I will also look into the idea of affordances (Abramova & Slors in press; Chemero 2003) as a way of understanding the coordination smoothers. Can they help? Or do they run into the same problem of vagueness and generality?

NURMSOO, DAVIS & HAJI-ABDULLAH

Tool innovation: Are groups better than individuals?

Erika Nurmsoo
Tool innovation has been part of human society for millennia (Ingold, 1993). Tool innovation is the process by which one imagines the type of tool suitable for the task and constructs it from one’s imagination (Beck, Apperly, Chappell, Guthrie & Cutting, 2011). This differs from tool manufacture, which is physically manipulating materials to form a tool to solve the task. Beck and colleagues (Beck et al, 2011; Chappell, Cutting, Apperly & Beck, 2013) have measured children’s tool innovation using a task to retrieve a bucket out of a tube. To solve the task, children must make a hook out of a pipe cleaner, and using the hook, lift the bucket out of the tube. Despite our historical successful innovation of tools (Tomasello, Carpenter, Call, Behne & Moll, 2005), Beck and colleagues find that children under the age of six are generally unsuccessful at innovating a tool.

In these studies, children are presented with the task individually. Historically and evolutionarily, however, humans have innovated tools as a group (Gibson & Ingold, 1993). Groups perform better than individuals in certain tasks, for example in the development of new products (Madhavan & Grover, 1998; Tomasello et al., 2005), and in some cognitive tasks (e.g., Allport, 1920). The present study examined children’s tool innovation in groups of three, as compared to individuals. If children are unable to innovate tools because of limitations in their cognitive processing and/or the nature of the task (e.g., Chappell et al, 2013), performance should not be affected by the presence of others. If, however, children benefit from attempting the task in groups, performance should be improved in groups as compared to individuals.

In the present study, 5- through 7-year-old children were randomly allocated to a Group condition (total groups of three \( n = 14 \)) or Individual condition (\( n = 13 \)). The task was based on that used by Beck et al (2011), with a bucket containing stickers placed at the bottom of a clear plastic tube. To retrieve the bucket, participants were given a pipe cleaner and a string. They were simply told, “If you get the bucket out [as a group / on your own], you get to keep the stickers”.

Broadly in line with previous research (e.g., Beck et al, 2011), only a minority of children (31%) successfully innovated a tool in the Individual condition. However, group performance was much stronger, with 86% of groups successfully innovating a tool. This finding was particularly striking for older participants, aged 6 and 7. Of these older children, 38% of the 8 Individuals successfully innovated, but 100% of the 8 Groups did. Despite tool innovation being difficult for six-to seven-year-olds, when attempted in groups this task became relatively easy. We explore these findings in more detail, and discuss the implications for theories of tool innovation and for social cooperation.

O’CONNOR, FEENEY, MCCORMACK & BECK

Experienced versus anticipated regret in children’s decision making

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Regret influences decision-making in one of two ways: either through experiencing or anticipating regret (Zeelenberg, 1999). We experience regret when we believe that our decisions have resulted in an outcome that could have been better had we chosen differently. This experience may directly affect subsequent decision-making. Alternatively, when faced with a decision we may choose the option that we anticipate will result in the least regret. O’Connor, McCormack, and Feeney (2014) showed that the development of regret was associated with changes in decision-making. However, they (a) did not establish whether this was due to experienced or anticipated regret and (b) did not show that they were measuring regret after a poor choice rather than frustration about a poor outcome. This study addressed (a) by measuring anticipated as well as experienced regret and (b) by varying whether a negative outcome was a result of children’s choices.
Participants were 229 6-and-7-year-olds (112 females) from primary schools in Northern Ireland. Testing took place over two days. On Day 1 children were assigned to one of three conditions: Self, Dice-Self, and Dice-Other. Children received a prize from one of two boxes; in regret trials the box that children opened always contained the worst prize. Children in the Self condition chose between the boxes; in the other conditions box choice was determined by a die-throw either by the child (Dice-Self) or the experimenter (Dice-Other). This manipulation assessed the role of perceived responsibility on whether children reported feeling sadder in regret trials, with emotion measured using a five-point scale. On Day 2 all children were presented with the same trials and were asked to choose again between the boxes. We measured adaptive switching, defined as children choosing the box with the better prize in regret trials, controlling for an overall tendency to switch choices. In all conditions, children reported feeling sadder on seeing that they could have won a better prize, although more often in the Self than the Dice-Other condition ($\chi^2 = 4.14, df = 1, p < .05$). This suggests that sadness in the Self condition reflects both frustration and regret. Across all conditions, children who felt sadder were significantly more likely to switch adaptively ($\chi^2 = 14.59, df = 1, p < .001$), indicating a link between experienced emotion and decision-making. In a separate task measuring anticipated regret, children were shown three boxes and told each box contained either a big, medium, or no prize (McCormack & Feeney, 2014). One box was removed and children then chose between the remaining boxes (children always won the medium prize) before being asked how they would feel if the unchosen box contained the big prize. Children who said they would feel sadder were categorized as anticipating regret. Children did not give this answer more often than chance, indicating that they were unable to anticipate regret at this age. This implies that insofar as regret does impact on 6-to-7-year-olds’ decision-making, it is a result of experienced not anticipated regret.

PUTT, HUMPHREYS, FEENEY, MCCORMACK & BECK

Neurologically damaged patients’ thinking about counterfactual conditionals without an emotional component

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keywords: mental disorders, brain, reasoning

The counterfactual conditional questions task was designed to establish if patients with varying lesion sites could answer counterfactual questions. Counterfactuals are thoughts about what might have been. They are common in adults’ thinking and may be related to causal reasoning and decision-making. Recent work has investigated the neural underpinnings of regret, a counterfactual emotion, but we lack evidence on neuroscience of other types of counterfactuals. In this study we asked brain damaged patients to answer counterfactual conditional questions without an emotional component.

Participants were presented with either a stationary image or an animation of two marbles being dropped down two tracks. There was a block at the end of the tracks that would fall over if knocked by a marble. Future conditional question referred to the stationary stimuli, for example: “If I do not drop the blue marble this time will the marble fall down?” Past conditional questions referred to changing the stimuli set up once participants had watched the animation of the dropped marbles, for example: “If I had not dropped the red marble that time would the marble have fallen down?” Black pegs-that stopped the marble knocking over the block - were added or taken away from the tracks, creating additive and subtractive trials.

As well as temporal conditions (past/future) doubly determined and singly determined trials were also compared. Doubly determined trials were where the outcome would equally have been caused by either marble, so neither adding or subtracting a barrier or stopping a marble being dropped will alter the initial outcome of the trial. Whereas, singly determined trials were where one event causes the outcome, if the single marble that knocked the block down is stopped or
either of the two barriers are removed then the outcome of the trial will change.


17 stroke patients completed the task, 5 of which demonstrated results showing difficulty in one or more conditions. Of these 5 patients 3 had left sided lesions, I had a right sided lesion and one had a bilateral lesion. Each of these five patients failed, at least once, to answer any questions correctly in trials that were doubly determined where the barrier was either added or subtracted. 4 of these were past-double trials and 2 were future-double trials. Only one patient failed to pass a condition where the question referred to marbles.

We conclude that trials referring to changes to the world are harder for stroke patients to pass in comparison to those focused on actions. Errors were equally likely for past/future conditions and for additive/subtractive conditions. We will explore the relationship between specific lesion sites and errors.

ROSTWOROWSKI

Attributive descriptions, misdescription, and reference – experimental study

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The subject of this poster is a semantic relation between definite descriptions (DD) and the world, presented in the philosophical and psycholinguistic perspective. According to most philosophical theories of DD, the descriptive content plays a dominant role in determining the designatum of a description and is an element which the description primarily contributes to the proposition expressed by the sentence in which it occurs. In brief – description “the F” designates the unique object being F, and a sentence of the form “The F is G” is true iff an object having uniquely property F is G. I challenge this view, based on some empirical research on intuition of ordinary users of language about reference. I propose an alternative semantic theory of DD compatible with the data, which employs a causal explanation of reference.

UZER & BROWN

The prevalence of directly remembered event dates

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keywords: memory, time consciousness

Researchers proposed different theories on how temporal information becomes available in autobiographical memory. Location theories received more support than other alternative theories (e.g., distance theories and order theories) in explaining how the date of an event is retrieved. There are two types of location theories. One of the location theories, time-tagging approach, argues that together with other components (e.g., location, person, and object) time information is also stored in memory (Hasher & Zacks, 1979). Reconstructive approach argues against time-tagging approach and proposes that contextual information about the event is used to infer time information (Friedman & Wilkins, 1985). For example, remembering the location of the event (e.g., London) might help the individual infer that the event was during his/her PhD years. These theories are mainly based on research focusing on dating accuracy and factors associated with accuracy. The present study, instead, concentrated on the processes related to dating and investigated the prevalence of direct and reconstructive event dating strategies. Particularly, the present study was conducted with three aims in mind. The first was to investigate the frequency of direct retrieval in event dating; the second was to learn whether people can reliably report information about event retrieval strategies; and the third was to determine if there is any relationship between event retrieval strategy and dating strategy. To achieve these aims, two process measures were used to investigate the prevalence of directly retrieved and reconstructed event dates. Namely, we collected reaction time (i.e., time to date events-RT) and obtained self-report from participants about how they retrieved the date of the autobiographical memories. How the ease of event retrieval (directly retrieved events versus generated events) and the ease of event dating (directly retrieved date versus reconstructed date) are...
related was also measured. One-hundred twenty four undergraduates participated (79 females, median age = 18; 45 males, median age = 18). They were first asked to retrieve their personal memories in response to concrete nouns (automobile, book, pill, bag, dog, river, bread, pencil, chair, radio) and emotion terms (shy, surprised, bored, sad, afraid, frustrated, happy, amused, daring, and satisfied), and they reported how they retrieved these events. In Phase 2, they were asked to date each event. Participants were also asked to indicate whether the date was directly remembered or reconstructed. In contrast to commonly held belief that time information is usually reconstructed, our results demonstrated that direct retrieval of event dates occurred more frequently than reconstructive retrieval, although this effect was more prominent for recent events. Consistent with the time-tagging approach, the easier the event was retrieved the easier it was dated. Results suggest dual mechanisms in processing time information. As time-tagging approach proposes, the event is initially encoded with its time information. When time passes, time information decays such that time of event is reconstructed from other components of the event or from other contextual information. Further research that combines self-report strategy measures and dating protocols might be useful to understand other different processes to explain human's time estimation capabilities.
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