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ABSTRACTS

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INVITED SPEAKERS

Grounding conceptual processing in modality-specific systems: Current evidence and issues

Lawrence Barsalou

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Slot: Thursday

Accumulating evidence implicates the brain's modality-specific systems in conceptual processing. When people represent knowledge about a category, multi-modal simulations of its members become active and affect task performance. Examples of such findings will be reviewed from cognitive psychology and cognitive neuroscience. At the time this research was performed, it was not widely accepted that modality-specific systems participate in conceptual processes. Researchers holding this hypothesis therefore attempted to assess it primarily in demonstration experiments. Now that the presence of modality-specific processing in conceptual tasks is becoming well established, however, demonstration experiments are likely to have diminishing returns. Instead, it is important to begin establishing the specific roles that modality-specific systems play in conceptual processing. Issues that are increasingly likely to be raised include: (1) Do multi-modal simulations play roles in implementing basic symbolic functions, such as argument binding, relations, productivity, recursion, and abstract concepts? Or are these functions implemented with amodal symbols, or with some other mechanism? (2) What are the relations between multi-modal simulations and language? Do linguistic symbols control simulations, and do simulations ground the compositional meanings that result from combining words? (3) How does the brain represent abstract concepts such as truth? Do modality-specific systems play a role? (4) What relations do multi-modal simulations have with learning systems in the brain, such as association areas? What sorts of computational theories that implement simulations in neural net mechanisms are possible and plausible? For modality-specific approaches to develop further, it will become increasingly important for researchers to address such issues effectively. Preliminary ideas and empirical evidence, where available, will be offered.

Visual depth

Brian O'Shaughnessy

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Slot: Friday

Visual depth-perception is inherently puzzling. The source of the puzzle lies in the fact that, even though visual perception is from a position--is directional in character and at a distance--these limitations are overcome and we visually discover depth-properties. How is this possible, and of what nature is the visual experience of depth? The monocular perception of depth is examined. It is argued that monocular depth-perception is possible even if each point in the visual field were given to sight purely directionally. However, every such visual field is, it is claimed, both content-ambiguous and depth-ambiguous. Furthermore, the causal determinants of such depth-experience are in all probability partly mental. From these two properties it is argued that, even though we monocularly visually perceive depth-properties, it cannot be through seeing depth. The claim is, that monocularly given depth has no visual appearance, is not seen, is invisible, despite the fact that in this phenomenon we are aware of depth in an experience which is irreducibly visual.

What of binocular experience? The visual experience of Julesz figures is examined, partly because depth-ambiguity and partial mental determination are absent here. This fact suggests that in this phenomenon, and in binocular experience generally, we for the first time go beyond merely the visual perception of depth and actually see that depth. It is claimed that, despite the significant and irreducible unlikeness of this mode of depth perception to the monocular variety, both in this experience and binocular experience generally, depth is not seen, is not visible, has no visual appearance.

Knowing about knowing

Elizabeth Robinson

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Slot: Saturday

I shall talk about children's developing understanding of how knowledge is gained, and their growing skill at assessing the reliability of information. I shall focus particularly on knowledge gained indirectly via the minds of others, by testimony. If children are to master language and become active members of a communicating network they must surely assume that the people from whom they learn language are reliable and trustworthy. On the other hand, having mastered language, they must be alert to the fact that knowledge about the world that is gained from testimony is subject to additional sources of error compared with knowledge gained directly, e.g. by seeing for oneself.

Interventionist theories of causation in psychological perspectives

James Woodward

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Slot: Sunday

This talk will explore a number of issues concerning the adequacy of interventionist accounts of causation of the sort developed in my recent book *Making Things Happen: A Theory of Causal Explanation* (Oxford, 2003) as empirical psychological theories of human and animal causal learning and judgment. Very roughly, according to such theories C causes E if and only if under some interventions on (ideal manipulations of) C (and perhaps other variables as well) changes in C are associated with changes in E. Interventionist accounts like mine were originally intended primarily as a normative accounts rather than as a descriptive accounts of the causal judgments that subjects actually make. Still one can certainly ask how such accounts fare as a descriptive theories and this is what I propose to do. Among the issues I will discuss are those having to do with "psychological reality" of the various notions that figure centrally in the interventionist account. Do people (adults, children) reason about causation in a way that respects the connection between causation and intervention? Do people respect the contrast between intervening and observing which is so crucial to the interventionist account? Do people reason in normatively appropriate ways in simple examples involving combinations of interventions? To what extent, if any, do people behave as if they make the default assumption that their voluntary actions have the characteristics of interventions? Do subjects connect causal claims and counterfactuals in the way that interventionst accounts say they should?

Other questions to be explored in connection with non-human animals: what is the relationship between instrumental conditioning and casual learning? How should we characterize the apparent differences in causal understanding between non-human primates and human children? In connection with this last question, I will propose a distinction between three levels of causal/instrumental understanding.

a) A purely *egocentic* viewpoint in which the agent grasps (or behaves as if he grasps) that *his* manipulations have stable effects (that there is an invariant relationship between his actions and certain outcomes) but stops at this point, not recognizing that the same invariant relationship can be present when other agents or nature intervene to produce similar effects. I take this to be characteristic of instrumental conditioning

b) An *agent causal* viewpoint in which the agent grasps that the very same invariant relationship that he exploits in intervening also can be present when other agents act.

c) A *fully causal* viewpoint in which the agent grasps that the very same invariant relationship that he exploits in intervening also can be present in nature, in the absence in any interventions at all, as in the salt chamber example. This last step involves thinking of causal relationships as relationships that are invariant not just under interventions but also under other sorts of changes as well. This is characteristic of human causal understanding. I will suggest that we may associate these with progressively stronger forms of causal learning. Humans, including small children, can learn from observing the interventions of others. By contrast, non-human animals have a great deal of difficulty with this.

SYMPOSIA

ATTENTION, CONTEXT AND CONTROL

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Slot: Thursday

Goal-intended attention works top-down, in anticipation of more or less well-defined items. The subject's needs and desires determine the search. Stimulus-driven attention is bottom-up, as when attracted by sudden, unexpected or unfamiliar changes in the immediate environment. Often both top-down and bottom-up processes are involved in maintaining and guiding the attention during a task.

For instance, when the control of attention is task-dependent and top-down, the attention nevertheless will be grounded in the current context (which in simple cases can be defined by the spatial layout of visual scene elements or by sequences of visual events). The context regulates attention by positive and negative priming or cueing.

Context can also play an instrumental role in producing attentional actions. Of particular interest are contextually based, epistemic controls that are either attentional actions directed at checking whether the outcome of an action is the expected one, or epistemic actions directed at finding task-relevant information.

The ability to direct attention to expected events as well as to the outcome of actions depends on an ability to anticipate. Anticipation is also required for motor-related attention, e.g. the control of smooth pursuit eye-movements.

The 'objects' of attention can be located anywhere along the causal link from the source of stimuli to the final output of the vision system. As causes, they attract and control attention, as products of focal attention, they constitute enduring targets of analysis and, if kept in short-term memory long enough to reach consciousness, explicit comments. Stimulus-driven indexing creates pointers that allow the subject to access and revisit locations distally without engaging attention. The scene in the real world forms a local, spatial map that contains the indexed objects and does not have to be memorized. Thus indexed objects support efficient cognition at low costs.

By building robotic models of attentional processes, it is possible to investigate the detailed mechanisms required for attentional control in different kinds of contexts.

Attention in young chimpanzees: Emotion and context

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One of the contextual variables that is known to have an impact on early development in humans is parental responsiveness. In a study in which chimpanzees experienced different types of caregiver responsiveness (Standard care, n=15; Responsive Care, n=17; and Early stress, n=5), we collected data on attention, cognition, and emotion when the chimpanzees

were 3 through 12 months of age. Caregiving contexts had a strong impact on the emotional and attentional systems, especially in latter half of the first year. The infants who experienced early stress had intense fearful reactions beginning at 6 months of age whereas the infants who experienced responsive care had increasingly positive (i.e., happy) reactions. Early stress had a negative impact on many aspects of task performance, including attention span and goal-directedness. Enrichment had positive influences on these aspects of attention, as well as socio-emotional reactions connected with successful performance, such as cooperation. These attentional and emotional reactions were strongly linked with cognitive performance in young chimpanzees. The implication of this study is that the responsiveness of the caregiving context can influence cognitive development in part through affecting developing attentional systems.

Attention, control and context

Joelle Proust
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Attention refers to at least three different capacities. A primary function is to automatically recognize and process alert signals, in order to prepare a response to a salient sensory event. Function is also the ability to effortfully orient to external or internal events. A new approach of attention emphasizes, thirdly, the capacity to control cognitive conflicts between goals or emotions. Recent neuroscientific evidence suggests that these three functions are subserved by different networks (Posner & Fan, 2002). Using the approach of control theory, we will examine how context encoding can help promote higher forms of executive attention. Examples from normal development and from executive-attentional disorders will be discussed.

CONDITIONALS

convened by Kai von Fintel

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Slot: Friday

"What to Do If You Want to Go to Harlem

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Notes on Anankastic Conditionals and Related Matters

In this talk, we will develop a compositional analysis of sentences like (1) If you want to go to Harlem, you have to take the A train. Along the way, we will meet the Mayor of a small Bavarian town, soccer star Ruud van Nistelrooy, and baseball pitcher Pedro Martinez. We will learn much about the interaction of modals and 'if'-clauses.

"Counterfactual scorekeeping"

Anthony S. Gillies

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A basic semantic fact about counterfactual conditionals is that they don't allow "thinning" of their antecedents. This seems to leave us with two options for a satisfying semantic theory. We could either treat counterfactuals as variably strict conditionals, or we could treat them as bare (strict) conditionals with varying restrictions on the quantifier. There seems nothing to choose between the two options. Or so it would seem. I will present a puzzle about counterfactuals and sketch a version of the second kind of semantic theory???one that leans heavily on accommodation mechanisms for relative modalities???that addresses it.

"Probability and causal independence in indicative and counterfactual conditionals"

Stefan Kaufmann

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I will present a unified probabilistic theory of indicative and counterfactual conditionals and discuss some of its empirical implications. Starting from the familiar thesis that the probability of an indicative conditional 'If A then C' is the conditional probability of C, given A, the central assumption is that indicative conditionals and their counterfactual counterparts are equivalent, without therefore being "equiprobable." Formally, the proposal combines the "random variable" approach of Jeffrey (1991) and Stalnaker and Jeffrey (1994) with a treatment of causal independencies along the lines of Pearl (2001). I will then show that this theory offers a straightforward account of two interrelated and rarely discussed phenomena: indicative conditionals whose

COLOURS

convened by Justin Broackes

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Slot: Saturday

The red/green colour-blind do actually see red and green: Some questions about neuronal processing.

Rainer Hertel and Thomas Wachtler

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So-called red/green-blind human dichromats - protanopes and deuteranopes - possess only two types of cones, thus lack a chromatic dimension at the receptor level. Nevertheless they use the color terms ‘‘red’’ and ‘‘green’’, together with ‘‘blue’’ and ‘‘yellow’’, to describe their color percepts. Color vision models proposed so far fail to account for these findings. By the method of hue scaling we confirmed the dichromat’s “meaningful” use of all color terms and attempted some formal modeling (Wachtler et al 2003, Vision Res 44:2843). - Now we present a more biological three-stage-model for protanope color vision: (1) An output from cones depending on the logarithm of absorbed light, and a bifurcation of the signals into parallel on- and off-pathways. (2) Center-surround cells, from M-cones with additional input from rods, where M-on and M-off center cells signal via separate pathways towards “green” and “red”, respectively. (3) Two types of “collecting” cells, summing signals from several adjacent on-centerand off-center cells, respectively. - In evolution, color vision acquired a new degree of complexity and resolution between New World monkeys and the higher primates including man, by simple duplication and differentiation of a cone opsin gene. We hypothesize that the three-stage-scheme was also operating in our ancestors.With such processing, a newly introduced third cone receptor pigment can “automatically” be used for better wavelength discrimination, i.e. for trichromacy. Presynaptically on the “collecting” cells, a Hebbian mechanism might focus the M versus L discrimination by tuning down those center-surround pathways with relatively lower activation under average illumination.

The nature of unique hues

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There exist four *Urfarben* or *unique hues* – red, green, yellow and blue – that appear phenomenologically unmixed. They are grouped in two opponent pairs, red-green and yellow-blue. In the case of other colours, most observers can identify more than one component, such as redness and yellowness in orange. Some secondary texts still suggest that unique hues can be explained by the properties of chromatically opponent cells in the visual system. However, for more than two decades, colour scientists have known this view to be mistaken: there are certainly opponent cells in the visual system, but unique hues are not colours that uniquely stimulate one class of these cells. So the status of unique hues remains strictly phenomenological, and psychophysicists do not know what weight to place on such observations.

It has been traditional to seek the nature of unique hues within the visual system and to determine them with monochromatic lights. For example, Cicerone (1990) has proposed that

individual differences in the wavelength of unique yellow depend on the relative numbers of long- and middle-wave cones in the retina. However, unique hues within the normal range are exhibited by women who are carriers of dichromacy and who are known to have strongly skewed ratios of long- and middle-wave cones (Jordan and Mollon, 1997).

Should we rather seek the unique hues in the outside world? Do they represent properties of reflection spectra that are of ecological significance for us? In favour of this position is the fact that there is less individual variation in the surface colours that appear unique than there is for the monochromatic lights judged unique.

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EMOTION

convened by Peter Goldie

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Slot: Sunday

We propose to put forward for consideration and discussion three contrasting views of what emotions are. Although all three views are from within a broadly 'cognitivist' perspective, each one seeks in a different way to explain the intentionality and the phenomenology of emotional experience. We believe that presenting our views in this way to the symposium will help to focus closely on some of the possible areas of disagreement within a broad cognitivist approach. The papers will be presented in the following order:

Emotions as metarepresentational states of mind

Rainer Reisenzein
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I describe the outlines of a computational theory of emotions that views emotions as nonconceptual metarepresentations. The central assumption of the theory is this: at least a core subset of emotions including surprise are nonconceptual products of hardwired mechanisms whose main function is to subserve the monitoring and updating of the major representational system of humans, the belief-desire system. The posited emotion-producing mechanisms work much like sensory transducers; however, instead of sensing the world, they sense the state of the person's belief-desire system and signal to the experiencer important changes in this system, in particular the confirmation and disconfirmation of beliefs and the fulfillment and frustration of desires. A major argument for this theory of emotions is functionalist: I argue that the posited metarepresentational mechanisms fulfil essential functions in the servicing of the belief-desire representation system; and that they fulfil these functions more effectively and more plausibly than propositional inference procedures, the only worked-out alternative to the present proposal. In addition, I argue that the present theory provides a plausible account of the phenomenality and intentionality of emotions, and that it solves or sheds new light on several other traditional problems of emotion theory.

Affective perception defended

Sabine Döring

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I will argue that the functional role of emotions in our mental economy is that of perception. In that sense, so I will claim, emotions *are* perceptions. They have an intentional or, more precisely, a representational content thanks to which they play a cognitive and yet non-inferential role in the rationalisation of other mental states and actions. This is not to say, however, that emotions are *sense* perceptions. Emotions also possess a certain phenomenology—their so-called feeling or affect—which is different from the phenomenology of sensual perception. As will be shown, an emotion's affect and its representational content are not two mutually independent disjointed components. In synthesis they constitute the emotion's conscious, subjective character, i. e. the what-it-is-like to

experience the emotion. I will defend this account of emotion as 'affective perception' against Peter Goldie's objection that emotional perception can conflict with affect (or feeling), and that we must therefore distinguish a 'feeling towards' from any kind of perceptual state.

Emotions, feelings and perception

Peter Goldie
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I will argue that emotions include what I call 'feelings towards'. These feelings not only possess phenomenology; they also possess intentionality, being directed towards objects in the world beyond the bounds of the body. I will not, however, argue that emotions *are* feelings towards, for there is much else involved in emotional experience as well, including bodily changes, bodily feelings, perceptions, thoughts, action-tendencies, and so on. I will contrast my view with Sabine Döring's view that emotions are a special kind of perceptual state. I will argue that feeling towards and perception share many properties, but that the two kinds of state should not be run together; and I will give an example of how they can come apart in experience. I will then discuss the modes of interaction between emotional experience (which includes feelings towards and perceptions) and emotional dispositions, which do not possess phenomenology, although they are psychologically real. I will argue that we ignore at our peril the role of emotional dispositions in making emotional experience what it is.

SUBMITTED SYMPOSIA

COGNITION, SIGNS, DIAGRAMS: PEIRCEAN PERSPECTIVES

Ahti-Veikko Pietarinen

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Session: B03

Synopsis

Cognition, Signs, Diagrams: Peircean Perspectives brings together three perspectives to cognitive science and related areas in view of the American philosopher and scientist Charles S. Peirce's pragmatistic and sign-theoretic logic and philosophy. The special focus is on relating his thinking to some of the contemporary issues concerning philosophical aspects of cognition, language and artificial intelligence. The papers deal with (i) modelling mental spaces of cognitive semantics upon Peirce's logical theory on diagrammatic signs (Ahti-Veikko Pietarinen), (ii) seeing Peirce's sign-theoretic pragmatism as a philosophical basis for distributed cognition (Sami Paavola), and (iii) the relationships between Peirce's concept of logical machines and his sign-theoretic approach to living minds (Mats Bergman). What is common to all these perspectives is to view the anatomy of thought as a sign process which need not be confined to human thought in the sense narrowly conceived in contemporary cognitive science.

Modelling mental spaces upon Peirce's logical diagrams

Ahti-Veikko Pietarinen

Cognitive semantics is replete with spatiality of our mental world and meaning: geometric, topological, embodied, image-schematic and prototypical concepts are commonplace. I suggest reconstructing mental spaces through Peirce's logical diagrams, providing precise sense of the iconic content of the mind. There four issues. (i) According to Fauconnier & Turner (2002), mental spaces and their combinations are conceptual packages of simple iconic objects and connections, associated with background information and experience. Peirce's 'mental spaces' are dynamic interpretants, "effect[s] actually produced on the mind by the Sign". (ii) F&T claim that the blends accommodate structures not present in the input spaces and result in emergent ideas by projective composition, elaboration and application. In diagrams, identities are topological connections between continuous predicates and individuals. New 'blends' arise by (a) structure-preserving transformations (composition), (b) collateral observation and the common ground in interpreting the diagrams (frame elaboration), (c) experimentation on diagrammatic representations for creative reasoning (application). (iii) Just as blends may feedback the input spaces to produce new blends, Peirce's interpretation of signs was recursive. (d) According to the neural interpretation, mental spaces are association patterns and co-activation is the inter-space projection. Peirce took diagrams to be 'pictures of thought' in action (Pietarinen, in press). Thus the neural binding problem has logical content. However, a Peircean reconstruction necessitates extending mental spaces to communal, distributed cognition.

Peirce's semeiotic pragmatism as a philosophical basis for distributed cognition

Sami Paavola

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Session:B03

In cognitive sciences the idea of an individual or an individual's mind as a centre for intelligent, human activity has been challenged in recent years. According to the ideas related to distributed cognition and distributed intelligence (see e.g. Salomon 1993) human mind is not the basic (or at least the only) starting point for intelligent activity but human mind is in basic ways culturally, socially, physically, and temporally distributed. I will analyze how Peirce's "semeiotic pragmatism" (or pragmaticism) gives conceptual means for understanding these processes. Peter Skagestad (1993, 2004) has maintained that Peirce's theory of mind has not its basis on an idea of a succession of conscious states of mind in the human "head" but rather on the idea of signs as external (or internal) artefacts, which are developed, interpreted and used in collaborative processes. Peirce triadic theory of signs and philosophy emphasizing mediation is one important basis for developing "trialogical" models for human activity and epistemology (Paavola & Hakkarainen, in press) where the basis for human cognition and development of expertise is — not so much on individuals' minds or cultural practices but rather — on conscious and systematic work for developing some socially shared objects of activity in long-term processes. This has clear affinities with Marcello Pera's dialectical model for sciences (Pera 1994), and with Donald Davidson's ideas of triangulation concerning human mind, cognition, and knowledge (Davidson 2001).

Logical machines and living minds

Mats Bergman, Semiotics, University of Helsinki

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Session:B03

Peirce was first and foremost a logician. However, according to him the principal task of logic was not to construct an effective calculus. Instead, he proposed to analyse the "anatomy" of thought as a sign process. Following this path, he was led to the question of "logical machines" or "reasoning machines", and anticipated many of the central questions of the later research into artificial intelligence. These discussions are not merely of historical interest; even today, Peirce's approach may prove suggestive and fruitful, in particular when placed into its sign-theoretical and epistemological context.

Peirce was primarily interested in the question of how much of the labour of thought could in principle be turned over to a sign-processing machine. According to Peirce, philosophers have often erred in delimiting mind to an exclusively human domain, and have correspondingly belittled the significance of the concrete aids of thought, which are not mere external tools, but should be seen as an integral part of the thought process. In fact, Peirce intermittently suggests that human rational activity does not differ fundamentally from that of a complex machine, and thus he seems to corroborate some of the more radical perspectives of 20th century AI research. Yet, Peirce also presents a number of reasons for maintaining a distinction between the reasoning activities of living minds and the logical processes of machines. Here, I will examine this apparent inconsistency, and review Peirce's principal arguments against the reduction of the mind to a logical machine, in particular those pertaining to creativity, cognitive limitation, higher-level self-control, and aesthetic evaluation.

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MEANING CONSTITUTION ANALYSIS: A PHENOMENOLOGICAL APPROACH

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Session:B01

Each and every thought, word, feeling or action of a person recele a surplus of meaning, opening on all the possible worlds accessible for him/her. A vision on those possible worlds, those open possibilities of action, should be of the highest interest for psychological research. We believe that the phenomenological thinking of Edmund Husserl, reworked to adapt to the modern conception of the sciences of psychology, can allows such an understanding of a person or a more or less large group, giving not a static picture of his mind but a dynamic view of the ongoing process of constitution of meaning. Especially in research in cross/cultural/intercultural psychology confronts the researcher to language, in conversations, narratives, writings and texts studied, to understand the relations of individuals to their cultures. Collecting freely expressed narratives and texts, the researcher accesses the whole universe of the subject in all its richness, individual specificity and cultural and social characteristics. The diversity of research domains in psychology in general has also generated a reflection on the practical aspects of an ecologically valid research project, respecting the concerned individuals right to fully participate in a project and to express themselves according to their own intentions and in their own terms, rather than in answers to questions decided and formulated a priori by the researcher. The ethical dimension of human relations is then acknowledge as of fundamental importance in the design, conduct and analysis of a project, especially in work and organizational research.

Hence the question of the meaning and interpretation of the narratives to be done by a lecture in intension to reconstruct the possible worlds of the subject by phenomenological analysis (MCA, Meaning Constitution Analysis) exploring the pluralities of the significations lying in the texts and implied by it. A phenomenological method of research and text analysis will be presented and applied to research corpuses. A software, MCA – Minerva, has been developed as an efficient tool in the work of text analysis. MCA-Minerva allows for any kind of texts to be analyzed in a rigorous and controlled way. By allowing also for different statistical treatment of the results of the process of analysis, it renders obsolete the now almost classical distinction between qualitative and quantitative methods.

MCA can analyses in depth any kind of texts. It gives detailed information on the possible worlds situations that the gathered text allows to produce, opened by the person's meaning constitution and on hid/her ways of expression, of existence. It allows for the exploration of the individual's life world, his/her concerns, what he/she talks about and how he/she expresses it in terms of entities, predicates, modalities, horizons of understanding and expectations. It allows for some statistical tests to be effectuated. We can also mention the cultural independence and lexical independence of MCA-Minerva, allowing for the unveiling of cultural preconceptions, and the unveiling of intended meaning. And finally, its independence from theoretical and/or common sense preconceptions

Jonas Lundsten

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Session:B01

A purpose of phenomenological studies, using the *Meaning Constitution Analysis* method, is to reach behind the *natural attitude*, the totality of the presumptions made about the entities constituting a situation experienced by an individual, and get an understanding of why the *Life-World*, the world in which the individual is living his daily life, is experienced in a specific way. The experiences of individuals about the world around them can be studied by the way they describe their experiences in interviews, which are mostly transcribed into texts, or in written answers to open-ended questions. The experience of an individual life-world is initiated by a revealing of a context, in which the individual is situated, is continued by a meaning constituting process in which the entities in the life-world obtain meanings in the individual attitude towards the environment. These meanings ascribed by the individual include relationships between the entities. The totality of relationships between entities form a *Concern* about the situation in which the individual is situated. The revealing of the present concern of an individual is essential for the understanding of how the individual experience situations occurring in his life-world. By a meaning constitution analysis of *Fundamental Ontological Processes* the character of an individual concern can be understood and by that why the individual value things in his environment in specific ways.

Keywords. Fundamental Ontology, Meaning Constitution Analysis, Natural Attitude, Life-World, Phenomenology.

Agneszka Ostaszewska

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Session:B01

I, as a student, see the phenomenological approach and the MCA-Minerva method from the perspective of researcher-beginner. Although this perspective is created by academic experience, which mainly consists of quantitative method researches, but also qualitative: psychological interview and phenomenological approach research. Because I was “brought up” on statistical methods and lately turned also toward the phenomenological approach, the comparisons, usefulness and application of those two seems to be clearer for me than for somebody, who stayed within only one perspective.I represent the approach, in which quantitative and qualitative methods should be combined. We can start discovering the “living truth” from the source of knowledge with phenomenology by engrossing in somebody’s “Lebenswelt” and further on we can elaborate this knowledge with statistics. This model gives us the opportunity to be – as far as it is possible – objective from the beginning till the end of the research, so from data collection (not influenced by a researcher) till outcomes based on the data, and elaborated with the MCA-Minerva Software, and combined results established with statistical measures. Another way is to start with classic gathering data, and after the elaboration of “answers on questions” (data collected with an impact of the researcher, who shows the direction for participants) and obtaining answer for the hypothesis stated before, we can broaden the narrow result going back to the respondents, and asking them about details, so to speak going to the source. The first combination is closer to me,

because we can be objective as researchers, and reach the subjectivity of participants. The second combination can be applied in the work environment, when e.g. consultant needs to recognize the problem and focus on it. He or she can create a questionnaire for grasping the idea, in which direction should he or she go. My field of interest is focused on psychology of organizations and motivation at work. We can observe a big turn toward the individual across the last few decades there. Even a big change can be maintained only through changing the individuals and, as the most powerful tool communication is perceived nowadays. Above presented statements can be applied also in psychotherapy or cross-cultural psychology, as being a method useful for grasping the broad nature of human and precise description of measured correlations in one.

Keywords: Phenomenology, Teachers, MCA-Minerva, Qualitative method, Quantitative method, lebenswelt, organizations, motivation.

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Session:B01

The aim of this study, which will be made during April and May 2005 at a high school located in a middle sized town in Sweden, is to explore how high school teachers constitute meaning in their work. The study was entered without a hypothesis constituted of presumpted relationships between variables, since the aim was to minimize preunderstanding and expectations on the data. The way of conducting the research is phenomenological, which implies that it is based on subjective descriptions made by the teachers, analyzed by puting the presumptions of the researchers into parenthesis, and revealing of the experienced life-world and the strivings of the individual. The aim of the study is not to try and predict an individuals subjective relation to a phenomena in an objectic sense. The data is collected with an open question in written form and analyzed with the *MCA, Menaing Constitution Analysis,* method. The aim with this method is to transform the meaning or meanings of every meaning unit into an existential analysis revealing the subjective experiences of the life-world and how the life-world and phenomena detected within the life-world become meaningful for the individual. The method used is stringent, by analysing word by word and clause by clause, to avoid presumptions about the meanings of the texts. An analysis is not based on classifications and coding of words and clauses, but on the way in which words relate to other words in the text and in which context they occur.

Keywords: Epoche, Phenomenology, Teachers, MCA, Qualitative method, Intersubjectivity, systematization, hermeneutic circle.

SUBMITTED PAPERS

ACZÉL

Language and learning: alike in nonconsciousness

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Session: A09

Language and learning both have a common feature in their twofold aspect on consciousness. Both of them are usually regarded to be apparently conscious processes, however, an essential part of them goes also without aware control. The question arises, if they rely on the same mental system, or whether we deal with parallel nonconscious structures. Objective: To evaluate objective data that nonconscious systems underlying the use of mental grammar and implicit learning are equivalent. Methods: An implicit Serial Reaction Time task (SRT) was applied with all participants. Secondary tasks were sentence processing, word processing, and mathematical tasks. Process: After the first block on the SRT task the participants in the experiment groups had to evaluate grammar correctness of sentences, or rightness of words, or to judge arithmetical summation while not intermitting working on SRT. The secondary task finished two blocks before the last session. Results: During all the three secondary tasks the reaction times became longer, while in the last two blocks they became shorter. The reaction times decreased significantly less in the sentence evaluation setting in relation the other groups. Conclusion: The previous explicit secondary tasks did not cause any decrease in the performance in the final SRT measures, while the sentence processing – a supposed implicit mechanism – brought about interference. This supports the claim of the model that mental grammar is connected to procedural system and shows a common nonconscious background of mental grammar and learning.

AHLSTRÖM

Revisionary epistemology

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Session: A12

This paper attempts to characterize what I call revisionary epistemology. I begin by making a case for a certain general conception of epistemology, and then demonstrate how revisionary epistemology fits into this conception.

Within this general conception, epistemology consists of four main tasks: (i) describing and elucidating epistemic concepts, (ii) describing and elucidating epistemic desiderata, (iii) evaluating epistemic concepts and desiderata, and (iv) choosing epistemological desiderata. Task (i) through (iii) pertain to ordinary epistemic inquiry, or what I will call level 1 inquiry, while (iv) pertains to the study of such inquiry, i.e., epistemology, or what I will call level 2 inquiry.

I will be concerned mainly with the stipulative character of task (iv). I illustrate the significance of this task by showing how different stipulative takes on it can result in radically different epistemological theories, even in cases where the results yielded by (i) through (iii) are held constant.

Combining the acknowledgement of the stipulative character of (iv) with the claim that we cannot assume that our epistemic folkways are philosophically unproblematic, raises the question of a potential improvement of our folkways. I end the paper by showing how to frame such improvements in terms of revisionary epistemology—a kind of epistemology that transcends or revises our folkways in one or more of its central concepts and/or desiderata.

ALLEN

Illuminating 'Real Colour'

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Session: B02

The colour which an object appears depends upon the nature of the illumination under which it is perceived. This fact is often thought to pose a problem for the view that objects are 'really' coloured: if an object can appear to be different colours under different illuminations, then under which illumination does the object's colour appear as it really is? In the first part of the paper I consider, and reject, the relationist view that objects really have all the colours they appear to have. I argue that relationism is inconsistent with our ordinary conception of colour, and therefore represents little advance over the view that objects are not really coloured at all. In the second part of the paper, I argue instead that there is a perfectly good reason to think that an object's real colour is actually revealed in natural daylight. My argument for this conclusion is based on the nature of daylight. Natural daylight is composed of light that is of a roughly similar, relatively high, energy at each spectral wavelength. It therefore accurately reveals the colours of objects, properties that bear an intimate relation to the proportion of the incident light at each spectral wavelength that an object reflects.

AVILA-CANAMARES

Blindsight, Perception and Action: Some Phenomenological Insights

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Session: A04

According to Campbell, the role of conscious experience in action –in a personal–level axis of explanation– is that perception of categorical properties of objects gives us a rational understanding of why our actions in the environment are successful. In this paper I want to sketch an alternative picture to this idea. Based on some phenomenological insights, I argue that conscious experience also provides us with a practical, non–theoretically based, experiential grasp of our own possibilities of action. I suggest that this picture gains support if we contrast our own normal phenomenological experience with blindsight cases. The general result of this comparison is an account of conscious experience in which the links between perception and action are primarily understood in terms of practical abilities, rather than in terms of a rational understanding of the success of our actions. In turn, this allows us to suggest that grasping the potentialities of an object to some degree depends on having a conscious experience of its categorical properties.

AYOB

Our senses speak to us: The normativity of perceptual experience

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Session: B09

McDowell has argued for a view of perceptual experience on which experiential states involve the exercise of conceptual capacities. Travis has recently challenged this view. Travis thinks that experiential states cannot be conceptual because the exercise of conceptual capacities involves the freedom to reject or endorse propositions, and in experience we are not free to reject or endorse anything. In experience we are simply confronted by the world. In this paper I suggest that the divergence between these two views of perceptual experience arises from the use of two different criteria for determining whether or not a subjective state is conceptual. For Travis, a subjective state is conceptual if the subject has the freedom to reject/endorse a proposition in that state. For McDowell, a subjective state is conceptual if it is informed by a conception of a mind-independent world. This latter criterion permits of a broader notion of freedom, in a way that I shall suggest. If that is right, then the constitutive connection between freedom and conceptuality is not compromised on McDowell's view. Having identified the source of the tension between Travis and McDowell, I proceed to argue that Travis's view is problematic because it does not seem to satisfy the Sellarsian requirement that experience must have intelligible import if it is to rationally constrain perceptual judgements. I then suggest a way of thinking about the sense in which we are free in experience. Finally I clarify a common confusion about McDowell's thesis that experience is conceptual.

AYTEKIN

How Not to Misrepresent Misrepresentation

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Session: A02

According to Fodor, content has two important aspects: information and robustness. According to him information reduces to causation and robustness is accounted by his notion of asymmetric dependence. We claim that Fodor's treatment of content and misrepresentation is infected with a couple of flaws. After criticizing Fodor's theory of content, we propose a new theory of content which explains how misrepresentation is possible.

BECK

Young children's handling of undetermined and determined possibilities

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Session: A11

In two experiments we investigated 4-6 year olds' handling of possibilities. We devised a new, simple procedure. Children saw a box with three doors (orange, black and green). The child had to put out one or two trays to ensure a block would be caught when it was pushed through the corresponding coloured door. On key trials the experimenter took an orange or green block from a bag at random. Children performed excellently when they were shown the block, and they needed to put out only one tray. On other trials the colour was unknown so the correct response was to put out two trays. In Experiment 1 4-6 yr olds were more likely to put out two trays (correctly) when the block had not been picked and the outcome was undetermined, than when the block had been picked and placed behind the door (the child did not know its colour). In Experiment 2 we found that the mere act of picking the block did not cause children problems. When the experimenter picked the block but neither she nor the child knew the colour, 5-6 year olds were relatively good at putting out two trays. However, when the experimenter had looked at the colour performance was no better than when the block was actually in place. We discuss whether our experimental trials can be construed as epistemic and realistic possibilities. We speculate about how these difficulties can explain children's problems with referential communication tasks involving multiple possible interpretations.

Quasi-Memory, Fission, and the Holism of the Mental

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Session: A14

Neo-Lockean Reductionists hold that personal identity can be analysed in terms of memory, because experiential memory is in part constitutive of personal identity. It is objected that such analysis is circular: memory presupposes personal identity because to remember something just is to remember something that happened to oneself. The solution to this accusation of circularity typically involves appeal to the notion of quasi-memory. Quasi-memory is like memory in that the remembered experience seemingly took place and the memory is appropriately causally dependent upon that experience, but the experiencing and the remembering subject are not necessarily the same person. If we replace our notion of memory with quasi-memory (rendering "ordinary", identity-involving memory a sub-class of the broader notion), memory is not identity-presupposing, and it is not circular to analyse personal identity in terms of it.

However, the proposal that one person could remember the experiences of another has been vehemently denounced as unacceptable on several grounds, predominantly epistemological. I argue that these attacks tend to succeed only in so far as they misconstrue the nature of the quasi-memory thesis, and/or because they are too limited in the hypothetical examples of quasi-memory that they consider. I show, for instance, how certain influential objections to quasi-memory (including criticisms by Marya Schechtman, John McDowell and David Wiggins) do not apply to a stock example from the Reductionist repertoire, namely the fission of a person.

BJÖRNE

Attention and sensorimotor abilities in autism: Learning context

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Session: A11

Early signs of autism, as seen in home videos of infants diagnosed later, include impaired sensorimotor functions, attention to social and non-social stimuli and a lack of circadian regulation. Children with autism will continue to engage in sensory activities usually disappearing in typically developing children. That is, children with autism continue a sensorimotor exploration of the world beyond the time when this typically disappears (Williams et al., 1999). Conversely, children with autism fail to develop some sensorimotor abilities at a typical pace (Teitelbaum et al., 2002).

Cognitive explanations of autism often involve higher order cognitive functions, functions developing late in childhood, such as theory of mind, executive functions or central coherence. In trying to understand the later developing impairments, it is of utmost importance to understand how the early signs are related to the diversified cluster of impairments constituting the autism spectrum syndrome.

We propose that the early signs of a developmental disorder need to be understood using a framework of context learning. An attentional disorder together with sensory and motor difficulties will impair the infant in learning about context. The suggestion that persons with autism attend to and process stimuli that are not relevant for a task at hand (Matthews et al, 2001) shows that the top-down control of context on attentional processes does not follow the usual course. A context learned in a atypical way will negatively influence subsequent attention and sensorimotor learning, and therefore further distort the developmental trajectory as seen in persons with autism.

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BLOME-TILLMANN

Conceptual analysis and the concept of truth

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Session: B05

The first part of the paper distinguishes between definitions and analyses. Definitions I take to be sentences determining a concept's extensions-across-possible-worlds, while analyses I take to be of an essentially decompositional nature: a successful analysis ascertains a complex concept's constituents, thereby displaying its internal structure. While it is fairly clear that concepts are to be defined by specification of conceptually necessary and sufficient satisfaction conditions, I take it to be less clear what it means to analyse or decompose a

concept. To cash out the metaphor of decomposition, I characterize conceptual complexity in terms of concept possession: if a concept c is complex, then there usually is a concept d such that one can possess d without possessing c, but not vice versa. Conceptual analysis is thus taken to be an enquiry into a concept's possession-conditions with regard to other concepts.
The second part of the paper then turns to the concept truth. It is argued that truth takes an extraordinary position among our concepts and is most likely to be simple, unstructured and unanalysable. To establish this claim it is argued on the basis of my characterisation of conceptual complexity that if truth were a complex concept, one would expect there to be a concept d such that one can't possess truth without possessing d, but not vice versa. I argue that there could not be a concept d satisfying this constraint by pointing at certain connections between truth and belief. I conclude that truth is truly simple.

BONARDI

Naming and acquaintance

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Session: B10

In my talk I am going to illustrate a problem connected with Russellian and Neo-Russellian theories of semantic content. According to such theories: (i) the semantic content of any referential term (i.e. its contribute to the proposition expressed by any sentence containing it) is nothing other than its referent; (ii) if a subject has an attitude towards a proposition then she is acquainted with such a proposition and its constituents (individuals, properties, relations); (iii) proper names are referential terms. Good reasons support the theses (i)-(iii). On the other hand, these theses seem jointly inconsistent: a speaker who asserts sincerely a sentence containing a proper name (so, a proposition containing the named object) does not seem to be acquainted with such an object if she has never perceived it. In my opinion, the problem can be solved as follows: the use of a proper name on the part of a speaker always involves a relation of acquaintance between her and the named object. It is a complex relation constituted by: the perception of the named object on the part of a person assisting at the baptism of this object; the segment of the causal-historical chain (associated to that name) having at an extreme such a person and at the opposite extreme the speaker. A relevant consequence of my proposal is that empty names and descriptive names (e.g. 'Neptune') are not referential terms, but rather abbreviations of definite descriptions (such as 'the referent of the English name 'Neptune' in the real world').

BOOTH

Attention, intention and conscious experience

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Session: B06

When we speak of an object affording something, we refer to a disposition of that object to provide for a certain type of interaction with an agent. What does it mean to say that an agent

can perceive such affordances? Specifically, what role if any, does the agent's conscious experience play in his affordance perception?

I claim conscious experience to be an explanatorily valuable medium of affordance perception, in so far as it can provide a subject with reasons for his intentional action, and can play a role in characterising the de facto phenomenology of such action.

I contrast this account with one from John Campbell, which suggests that affordances are non-consciously perceived. What he proposes is that conscious visual attention is used to target an object with which a subject can intentionally engage, whilst the 'hard work' of coordinating the subject's body with the precise spatial organisation of the object is done by a subpersonal action system, using non-conscious information. The affordances of objects, for Campbell, just are these non-conscious features that the action system detects and exploits. Conscious experience is causally inert in the process of affordance detection and exploitation.

I suggest is not obvious how conscious experience of an object's categorical properties could inform one's personal level understanding of how to engage with objects. One suggestion would be that one infers one's opportunities for engagement from a comparison of the physical structure of one's body in relation to the categorical properties of an object. However, such an inference-based account fails to capture the de facto phenomenology of first person intentional action, where the egocentric content of a subject's conscious experience is such that it can provide the subject with knowledge of how to interact with objects without his having to consider himself as an object at all. The subject can have knowledge of the possibilities for interaction that an object offers simply by looking at the object, by consciously experiencing what the object affords.

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BRATTICO

Why global cognition remains a mystery: A complexity theoretical perspective

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Session: B05

In a recent book [J. Fodor, "The Mind Doesn't Work That Way," MIT Press, 2000] Fodor argues that computational modeling of global cognitive processes, such as abductive everyday reasoning, has not been successful. A typical approach to this problem has been to develop better models and modeling paradigms, but the problem seems to go deeper into the model-independent computational complexity. In this paper the problem is analyzed from the framework of algorithmic information theory, concentrating to computational complexity, algorithmic simplicity and rationality. It is argued that the failed approaches are characterized by shallow reductionism, which is rejected in favor of deep reductionism and anti-reductionism. Deep reductionism states that our cognition is a product of logically deep principles, supporting evolutionary psychology and related computational approaches, such as genetic algorithms, as a viable research strategy. Anti-reductionism posits that cognition is a

high entropy system, supporting abstraction instead of reduction and simulation as a research strategy. Both hypotheses are defined within the context of algorithmic information theory.

BROWN

A non-causal explanation of action

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Session: A03

In this paper I propose a non-causal explanation of actions (as events) by arguing against Donald Davidson's causal explanation of action, particularly as given in 'Actions, Reasons, and Causes' and 'Problems in the Explanation of Action'. Davidson's explanation of action is an application of his 'event causal' theory of action, but some of his examples disconfirm that theory of action, or at least raise questions about its generality. I argue that this provides an opening for an alternative, non-causal, explanation of action.

Consider the case of a driver who signals a turn by raising his arm (1980, p. 12). The 'by' here cannot be causal in the way that, say, I turn on the light by flipping the switch is causal. In this latter case there are two events ('my flipping of the switch' and 'the light's going on') with a causal relation between them. In the case of the driver, however, there is no second event: the driver's signalling of a turn isn't caused by his raising of his arm. Thus many ordinary uses of the preposition 'by' to describe actions aren't event-causal in the sense required by Davidson. I propose that such non-causal actions and events might be described using the preposition 'in' not 'by'; that is, 'in raising his arm, the driver signals a turn'. Following Davidson's approach of treating the explanation of action as an application of an account of action, I argue that this non-causal 'in' relation provides for a non-event-causal explanation of action.

BUTTERFILL

Seeing collisions

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Session: B2

When one ball collides with another, what can we observe? Can we see how the first ball causes the second ball to move, or can we see only that one movement is followed by another? More generally, is perception a source of insight into the nature of causal relations? Many philosophers and some psychologists would say no; they regard perception as at best a source of cues to the existence of causal relations. But this makes it difficult or impossible to explain how we come to understand what causal relations are—for instance, how we come to understand what it means to say that the first ball moved the second ball.

Michotte, by contrast, held that perception is a source of insight into causation; he wrote that "the causal impression … plays a large part in giving ordinary objects the meaning which they have for us" (1946/1963:223). This highly intuitive position is surprisingly difficult to defend. One difficulty arises from thinking that collisions are causal insofar as they involve the transmission of motion or force from one object to another: transmission of force isn't

obviously something we can observe. In response to this difficulty, we identify a less theoretical way of thinking about collisions as causal by appealing to the notion of solidity. The key to explaining why collisions happen, and what their various outcomes are, is that they involve solid bodies, solidity being something we can perceive by touch. Thinking of collisions in this way makes it plausible that we can perceive how one ball causes another to move. In short, we aim to explain why, despite some difficulties, Michotte is right: perception is a source of insight into the nature of causal relations.

BUZAGLO

Filling in, perception and thought

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Session: A01

The idea that in perception we usually "add" something to what we actually see is best illustrated in the case of filling in blind spots and in Kanitza's illusory contours (Ramachandran 1992). In fact, perception is replete with examples of filling in activity (Pessoa L. Thompson E&Noe A. 1998). The first goal of my lecture is to draw attention to the analogy between this process and the procedure of the continuation of functions in mathematics. I shall then suggest to apply the formal structure of the latter (studied in Buzaglo 2002) to capture the structure of filling in that we find in perception. The philosophical importance of this application program lies in following:

2. We can make the first steps in the mathematization of filling in processes.
3. Expansions of concepts is indispensable to language and can also be analyzed by the same formalism. This implies a common structure between conceptual aspects of cognition and perception.
4. Moreover, it invites the application of the distinction of modal and a-modal completion to the conceptual domain.

Bringing these conclusion to the lively debate on filling in helps us correct Ramachandran absolute rejection of the analogy between filling in in perception and conceptual completion (Ramachandran 1998). It also allows us to think of e the perennial question on the relation between perception and thought in a fruitful setting.

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CARLSON

Intentionality, emotions and actions

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Session: A03

This paper argues that if we want to explain some intentional actions by emotions, and if we want to oppose these explanations to the standard account of actions and their explanations (i.e. a certain pair of belief and desire rationalising the action), then we have to treat emotions as intentional. In "Arational Actions" (1991) Rosalind Hursthouse argues that some actions are neither rational – done for a reason and explained along the standard account – nor irrational but arational. Arational actions are done out of emotion and explained by the fact that the agent was in the grip of emotion. Although an arational action may be an expression of the relevant emotion, it is – usually – not done for the reason to express this emotion. Someone who is angry with her computer and smashes the computer does not act in this way because she wants to express her anger and believes that smashing the computer is the right way to do so. If this were the case, the belief would be open for correction. But whether smashing the computer is the right way to express the anger or not does not seem to be a real question. My claim is that if we deny the intentionality of emotions and confuse the object with the cause, we will not be able to explain actions by emotions, since we will have to attribute a belief open for correction to the agent, namely a belief about the cause of the emotion.

CHENG

Resolving the normativity problem of rule-following from a learning perspective

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Session: B09

Dispositional accounts of meaning and rule-following face a severe normativity problem raised by Kripke (1982). It is shown that errors cannot be accommodated within a dispositional framework, and thus dispositionalism is doomed to fail. Most dispositionalists attempt to resolve the normativity problem by directly confronting the error problem. In this paper, I pursue a different dispositionalist line based on a Dretskean insight that conceptually, error is only possible at the after-learning stage. The key to resolving the normativity problem is then to determine which disposition a person gets established during the learning stage, rather than to offer a criterion of classifying behaviors manifested by a disposition into correct and incorrect ones which proves to be futile.

I point out that the main challenge to this learning approach is the underdetermination problem: there is a wide variety of ways in which a learner can respond to external stimuli and feedback from a learning environment, and thus it is underdetermined which disposition is established in the learner, and hence which rule or concept gets acquired. Drawing evidence in related empirical studies, I argue that the underdetermination problem can be solved. Certain innate cognitive constraints are imposed on the learning mechanisms of a human being. Together with a personal learning history, the determinacy and reality of a rule-following disposition can be vindicated. By tackling the normativity problem from a learning perspective, I hope to enhance our understanding of what a rule-following disposition embodies.

CHRISTENSEN

Interactive conceptual learning and the problem of qualitative conceptual change

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Session: A02

In this paper I outline a systems model of conceptual learning that casts light on processes of qualitative conceptual change. Whether qualitative conceptual change is possible has been controversial, and is a key issue for the viability of constructivist approaches to cognitive development. The prima facie problem is that, since cognitive development is presumably directed by the representations already available to the system, it is impossible for the learner to reach a cognitive state not already within the representational capacities of the system prior to learning. One strategy to circumvent this apparent constraint is to examine the role of factors other than existing representations in the learning process. Thornton (1999) claims to provide a solution based on the way that interaction during problem solving directs the learner's attention to features of the problem not anticipated in the learner's prior problem representation. As formulated Thornton's solution does not succeed because it fails to address the problem of how the novel conceptual structure can be cognitively represented, nor do her experiments conclusively show that it is in fact acquired. The approach is nevertheless highly suggestive, and I show how the weaknesses can be remedied with a model of learning that incorporates feature creation and interactive schema abstraction. Qualitative conceptual change occurs through representational reorganization driven by multiple cognitive systems and task factors.

COLLIER

Combining form and function - distinguishing semantics and pragmatics

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Session: A07

Formal pragmatics (Montague, Kaplan) was developed to incorporate context sensitive parts of language into formal semantics. However, purely formal approaches suffer from the symbol grounding problem (Harnad). The same openness to multiple interpretations that allows formal semantics to account for reference across a range of contexts does little to explain the context sensitivity of utterances. This means that formal pragmatics helps only inasmuch as circumstances of interpretation can be formalised. We offer some examples where this appears impossible.

To ground symbols is to place both utterances and meanings in the world, following Barwise and Perry's situation semantics. They replace traditional semantics with a relation in which an utterance in a given context/situation conveys information about another situation, this relation specifying the meaning of that utterance. None of these components is purely formal. We believe Barwise and Perry are right to place meaning in actual world relations, rather than a formal ghost-world with a vague if not uncontrollably anbiguous relation to the actual world. However, a total replacement of semantics is too radical with traditional semantics having advantages worth saving. We propose to marry Barwise and Perry's location of

meaning in the world, but in the form of informal pragmatics, with the abstraction of formal semantics (dependent on the situation). This puts pragmatics up-front - rather than making it an addendum to semantics - and, in an interesting connection to recent work in cognitive science, is a deeply analogous position to Andy Clark's marriage of brain, body and world.

DAVIS

The apriori and demonstratives

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Session: B10

Most theorists hold that a proposition is a priori just in case it can be known independently of experience. A standard treatment of knowledge independent from experience would have it that understanding of a proposition yields such knowledge. If this characterization of the a priori and knowledge independent from experience is conjoined with the standard direct reference theory of the semantics of demonstratives, the proposition expressed by a use of 'That exists' turns out to be knowable a priori. Most theorists would take this to be an undesirable consequence, since this proposition seems to be paradigmatically non-a priori. I consider what is involved in understanding demonstratives and in particular the propositions that can be expressed by uses of 'That exists.' And I explore several possible ways of holding onto the account of a priori propositions that appeals to understanding and what consequence this might have for direct reference theories of the semantics of demonstratives.

DE JONG

Mind-reading and mirror neurons: a case of successful reduction?

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Session: B07

The notion of Folk psychology spans a broad range of theoretical issues in psychology. Attributing beliefs and desires to others to explain their behavior is of course closely related to "mind reading' or empathy. It also involves a hotly debated problem in the philosophy of mind, the nature of intentionality (according to philosophers since Brentano, "the (irreducible) mark of the mental") and mental representations. Furthermore, attributing information and goals to agents involves a presumption of rationality as a personal-level construct that seems to elude reductionist approaches.
The cognitivist view of mind looks for the computational mechanisms underlying mind-reading and rationality, in terms of algorithms than can (ideally) be empirically tested (Nichols and Stich, 2003). The hermeneutical view (Heal, 2003) emphasizes the holistic, normative (non-empirical, non-contingent) aspect of rationality: it is not exhausted by a complete specification of the rules to be followed.
In stark contrast (or so it seems) to the hermeneutical view, recently so-called mirror neurons have been discovered that may be the evolutionary basis of attributing intentions to others (Gallese and Goldman, 1998; Gallagher and Frith, 2003) – thus, mind-reading may be

reducible to neural processes, and personal-level discourse replaced by neuro-speak (Churchland, 2002).
The present paper will argue against a simplistic naturalism that aims to reduce personal-level constructs to computational mechanisms or neurons and will defend a multiplicity of explanations.

DEBUS

Causation and desire: A relational account of emotional experiences

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Session: A15

Most contemporary philosophers agree that emotional experiences usually are directed at relevant emotion-arousing objects or events. However, views vary widely as to how we could possibly account for the directedness of emotional experiences. Some have suggested that emotional experiences are a special kind of belief, thought or judgment. Others hold that emotional experiences are a special kind of perceptual experience. Yet others advocate a middle position according to which emotions are a kind of "aspect-seeing".
The present paper, by contrast, departs from the conviction that we will be better able to account for the directedness of emotional experiences if we consider emotional experiences in their own terms. If we do so, so I argue, we find that emotional experiences are relational. Emotional experiences are usually characterized by two relations which obtain between the emotion-arousing object (or event) and the subject who experiences the emotion, namely a relation of causation on the one hand, and a relation of desire on the other. Furthermore, so I proceed to show, subjects who experience emotions are themselves aware of the particular relations of causation and desire which characterize the relevant emotional experiences. This observation in turn enables us to explain the "directedness" of emotional experiences.
Finally, as I show in conclusion, since subjects are themselves aware of the particular relations of causation and desire which characterize their emotional experiences, emotional experiences play a crucial role in a subject's understanding of her own situatedness in the world. Indeed, by providing the subject with some understanding of her own situatedness in the world, emotional experiences provide the subject with a particularly simple and fundamental form of self-awareness.

DEMIDDELE

Clausal implicatures of conditionals

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Session: B12

In [1] Atlas argues, against Levinson [2], that there are no generalized clausal implicatures of conditionals. He challenges the generalized aspect of these implicatures by giving examples of conditionals with an antecedent of which the speaker knows the truth value. Other cases will also be discussed. Throughout these counterexamples, we encounter many di_erent kinds of conditionals and this seems to render them less convincing. It will be argued that a solution lies in a pluralistic approach to conditionals and that the view that clausal implicatures are

generalized need not be given up, but only con_ned to a particular class of conditionals. In other words, the applicability of clausal implicatures to conditionals re_ects a semantical di_erence. I will suggest one particular way to _esh out this idea. Drawing upon an article of David Lewis [3], in which he contends that the meaning of 'if' in an ifclause depends upon the - possibly implicit - quantifying adverb it restricts, I will argue that for the class of conditionals of the form 'probably, if p, q' clausal implicatures are generalized. By contrast, clausal implicatures are not applicable - versus applicable but canceled - to conditionals of the form 'always, if p, q', for example. To conclude, I will touch upon some perspectives for further research along this line of thought.

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[3] David Lewis. Adverbs of quanti_cation. Keenan (ed.), Formal Semantics of Natural Language, Cambridge University Press, pages 3_15, 1975.

DICKINS

Mother nature's tolerant ways: Why non-genetic inheritance has nothing to do with evolution

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Session: B08

Recently a number of theorists have suggested that evolution can use non-genetic or environmental inheritance in order to pass on adaptations (e.g. Mameli, 2004). Furthermore, it has been suggested that non-genetic, or environmental factors, can play a central role in the process of evolution (e.g. Odling-Smee, Laland & Feldman, 2003). In this paper we present and clarify neo-Darwinian theory and then take issue with the notions of contemporary gene-centred selection and inheritance that non-genetic inheritance theorists have used. We claim that they have misunderstood the distinction and relationship between intrinsic and extrinsic inheritance. To demonstrate this relationship we apply information theory (Shannon, 1948) to neo-Darwinism. According to this analysis there is no such thing as biologically independent non-genetic inheritance, all extrinsic inheritance is a consequence of traits and dispositions that are intrinsic to an organism and intrinsic design can only be explained through neo-Darwinism. We point to the many implications this view has for current conceptions of cultural evolution.

DIETZ

Indicative conditionals, McGee, and modus ponens

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Session: B12

It seems a deeply entrenched intuition that in making inferences involving indicative conditionals, we can rely on modus ponens as a valid inference rule. In his famous paper ‘A

counter-example to modus ponens', Vann McGee argues that this intuition is misleading; he suggests a conditional logic on which modus ponens is given up, whereas the exportation rule is preserved – in contrast to the standard non-trivial standard logics for the indicative conditional (i.e. logics which treat the indicative as deductively weaker than the material conditional), on which exportation is given up, but modus ponens is preserved. Some authors have argued that McGee's assessment of certain arguments as counter-examples to modus ponens trades on a fallacious context-shift. The aim of my paper is two-fold: For one, it is argued that the context-shift fallacy objection has no dialectical force towards McGee's position. For another, we highlight a dilemma for McGee's non-standard possible world semantics for conditionals: Either (A) we give up a centering constraint on what may count as the closest A-world, or (B) we do not give this constraint – in which case, we have to give up a weak version of a basic logical constraint on conditionals, also known as conditional proof. The case for taking horn (A), however, would be ill-motivated, considering that natural theoretical motivations for giving up centering constraints are not applicable to McGee's counterexamples. In case the horn (B) is taken, the suggested solution to the triviality problem is a cure which is in effect much odder than the disease to be cured.

DOIZ-BIENZOBAS

"Is *If* a conditional conjunction?"

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Session:A08

The goal of this study is to reach a clear understanding of the semantic and syntactic properties of non-counterfactual conditional clauses introduced by the particle *if*. We propose to do this by examining a set of conditional conjunctions (e.g. *provided that, as long as*, etc.) and their differential behavior with respect to several grammatical phenomena. In particular, we consider three grammatical phenomena: presupposition inheritance, the possibility of establishing a new discourse referent and the possibility of constructing "speech-act" conditionals (Van der Auwera 1986, Sweetser 1990). We will show that, with respect to these phenomena, the conjunction *if* behaves differently from other conditional conjunctions.
Drawing from the observed grammatical behavior we make the following proposal. First, *if* is not a "conditional" conjunction, but rather, *if* is a space-builder (Fauconnier 1985, 1994) which creates a hypothetical space ("H") different from the space of the speaker's reality ("R"). Secondly, we argue that the information described by the protasis and apodosis is *asserted* in "H". Finally, the specific semantic relation established between both propositions is claimed to be the result of pragmatic inferences.
We believe that this study makes two important contributions. First, we propose to reach a characterization of *if*-clauses by comparing them with conditional clauses introduced by other linguistic expressions. Second, by relating non-counterfactual *if*-clauses with the notion of assertion, the analysis offers an account of other grammatical phenomena, such as the use of the indicative, as opposed to the subjunctive mood, in Spanish non-counterfactual conditional sentences.

EDUARDO

High density electrophysiological indexes of cognitive control.

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Session: A04

One of the most fascinating challenges facing cognitive psychology and neuroscience is to explain how mental processes are voluntarily controlled for the agent to achieve changing goals. Cognitive control refers to the set of processes that allows the computational resources of the brain to be selected in a dynamic manner and deployed flexibly. Classic models in cognitive psychology have not focused this topic, implicitly assuming a ³control homunculus², i.e., an intelligent agent residing elsewhere in the system with supervisory and executive attributions.

The question about the cognitive control is as old as the philosophical speculation about free will, and comes with a heavy theological and moral baggage. However our interest is rather in the isolation and characterization of empirical indexes of cognitive control processes. Cognitive control involves the creation or activation of particular organizations of goal-relevant mental resources, their triggering when they are appropriate and their suppression when they are inappropriate. Specifically we are interested in the characterization of objective markers for the detection of such inappropriateness. This has been conceptualized as ³conflict monitoring² in the ongoing research on the topic and there has been proposed that the anterior cingulated cortex is the critical brain structure for this operation. It has been proposed as well that an electroencephalographic marker, known as N2 (a negative deflection on the time-voltage function locked to the stimulus) is an index of the conflict monitoring operation. We present one experiment twofold aimed, on one hand at how good is the N2 indexing the operation of conflict monitoring against an alternative hypothesis holding that N2 is indexing the inhibition of a motor response-; on the other hand at how well indexed is the operation of conflict monitoring by the N2 against other potential electroencephalographic components. Toward that end we settled up an experimental design crossing two two-levels factors (with / without inhibition and with / without conflict) and recorded the ongoing EEG with 128 sensors on the scalp. In a go / nogo paradigm (nogo trials involves response inhibition) trials with high and low conflict (changing the stimulus-response compatibility) were generated. Our results do not support the interpretation of the N2 as an index either of response inhibition or conflict monitoring. The examination of the electrical fields on the scalp at a proper spatial sampling, uncovered a positivity over the right frontal pole that is higher for high conflict trials, irrespective of the need for the inhibition of an overt response and, thus, it can be interpreted as a proper index of the conflict monitoring/detection operation. Implications for outstanding theories on the control of cognitive processes are discussed.

FELTZ

Edelman's theory of neuronal group selection and the reductionist issue

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Session: B08

Edelman's Theory of Neuronal Group Selection (TNGS) will be philosophically analysed at two points of vue: the relations between structure and function, the reductionist issue. In relation with the works of Nagel, Wright, Rosenberg, Sarkar, I shall show that TNGS clearly proposes an inversion in the relation between structure and function during the maturation of Central Nervous System. This consideration will be interpreted in the context of reductionist issue in relation with analysis of Nagel, Churchland, Bechtel.

FISSENI

In favour of a concept of focus valid for empirical research

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Session:A07

The concept of focus is used in many subfields of linguistics and psychology (cf. e.g. the work by Jacobs, van Rooij, Kadmon, Rooth, Kiss, Hajicová/Partee/Sgall, Vallduví, Selkirk, Zuo/Zuo). Different approaches to focus are found on all levels of linguistic theory (phonology, syntax, semantics and pragmatics), and in psycholinguistics. Whatever the concrete meaning of 'focus', it is often considered a highly important feature of (spoken) communication. As 'the notion of focus [has been] notoriously obscure' (von Stechow), the empirical foundations of focus theories have been notoriously shaky. Therefore, it seems sensible to develop a framework that permits to empirically evaluate the intuitions behind focus theories, e.g. through experiments.
The aim of this talk is to present the similarities and contradictions between the most influential approaches adopted in the (mostly linguistic) literature, and the consequences of these similarities and contradictions for empirical work and for the communication among scientists. A solution to these problems arising from the current practice of very sketchy theory descriptions is attempted by presenting a co-ordinate system in which focus concepts can be clearly situated and a core concept of focus which captures the common intuitions about focus. Finally, a synthesis of the definition of focus is suggested which can be used in empirical work on focus interpretation.

FRANKISH

The anti-zombie argument for physicalism

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Session: A09

One of the best-known arguments for a property dualist view of consciousness appeals to the conceivability of zombies. This paper seeks to neutralize the argument by showing that a parallel one can be run for physicalism. The argument appeals to the conceivability of anti-zombies – beings which are bare physical duplicates of normal human beings and inhabit a universe which is a bare physical duplicate of ours, but which nonetheless possess phenomenal consciousness. I begin by setting out the anti-zombie argument and showing that it is exactly parallel to the zombie one. Defenders of the zombie argument, I conclude, have no option but to deny that anti-zombies are conceivable. The paper then goes on to defend the

conceivability of anti-zombies. I concede that there are difficulties in fleshing out the conception, since we have a strong intuition that phenomenal properties are distinct from physical ones, but argue that the problem can be resolved by appealing to special features of phenomenal concepts – drawing on arguments from the literature on the knowledge argument and the explanatory gap. Finally, I argue that even if it is easier to conceive of zombies than of anti-zombies, the difference is not significant enough to support the application of the principle that conceivability entails possibility. I conclude, not that the anti-zombie argument is sound, but that it has as good a claim to soundness as the zombie argument. The upshot is that considerations of conceivability have little role to play in establishing the truth or falsity of physicalism.

FRIEDRICH

Intentionality and costs of action

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Session: A03

Most laypeople judge an undesired but anticipated morally bad effect of an agent's action as intentional. This paper will explicate three prima facie puzzling aspects of these judgments and then argue that we can explain these judgments and resolve the puzzles raised by them if we ascribe a prima facie plausible theory of intentional action to laypeople

G.

Muscularity of mind:
Towards an explanation of the transition between unconscious and conscious

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Session: B08

It is argued in this essay that the problem of higher cognitive abilities including consciousness cannot be solved without establishing the physiological coupling that exists between nervous, sensory and muscular subsystems (modules) of a cognitive agent. Current scholarship neglected the role of the motor subsystem in higher cognition and therefore failed to solve the puzzle.
Argument begins by making a crucial distinction between harder and softer motor operations, where the latter are produced by the voluntary muscles that are emancipated from the mandatory biological (hard-wired) operations. Such operations form the basis of cognition by modulating the perceptual field generated by the input subsystems, contra encapsulated modules. The root of consciousness is due to another layer of self generated operations, softer reflexive motor operations. Modulation of modules help in creating cross-representations and differentiation of difference, which forms the basis for declarative knowledge, thus explaining the transition from unconscious procedural knowledge to conscious declarative knowledge.
This hypothesis also explains several known differences and similarities between other cognitive agents and human beings, drawing a clearer picture than before. Most notable facts

that fall in place are encephalization, asymmetry, and lack of genetic differences between humans and other animals. The argument is substantiated by both epistemological and empirical grounding and a discussion of affinities and differences with other cognitive scientists and philosophers. A draft of the full paper can be accessed from http: cogprints.org/4352/.

GANGOPADHYAY

How we drive our porsche:
An analysis of the sensorimotor approach to perception

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Session: B04

The sensorimotor theory of perception maintaining that perception is a skill-based activity of environmental exploration mediated by the perceiver's knowledge of the relevant sensorimotor contingencies has recently emerged as a powerful alternative to the idea of vision as chiefly consisting of representations at the sub-personal level. In this paper the claim that in the sensorimotor approach perceptual content can be analyzed as possessing two aspects viz. a factual aspect that is supposed to be determined by how things are and a perspectival aspect that is constituted by how things look, is questioned. Depending on whether perceptual content can be analyzed as possessing only perspectival aspect or both perspectival and factual aspects, it is contended that sensorimotor theory could assume a strong version and a weak version respectively. Then the implications and explanatory capacities of these two possible formulations within the sensorimotor paradigm are analyzed. It is argued that the strong version of the sensorimotor theory admitting only the perspectival aspect may lead to a notion of causality that may be called "subjective causality" whereas the weaker formulation seeking to incorporate both perspectival and factual aspects may not be completely averse to the notion of representation. The paper concludes with a brief discussion of whether or not either of these versions is to be preferred to the other as offering a more satisfactory account of perceptual experience.

GIERASIMCZUK

The problem of quantifiers learning

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Session:A08

We search for possible mechanisms of learning the meanings of quantifiers in natural language. We assume that meaning of a natural language construction can be identified with a procedure of recognizing its extension and that acquisition of natural language quantifiers consists essentially in collecting procedures for computing their denotations. We will understand quantifiers in the sense of Lindstr\"om. The method of coding classes of finite models corresponding to given quantifiers will be shown - the class of finite models can be represented by appropriate languages. We will use Gold identification paradigm in our semantic considerations. We will also analyze other learning models in this context (e.g.

Learning with Queries). Finally we will state the question about adequacy of tools of syntactic learning theory for describing the process of semantic learning. We will present some intuition and concrete proposal of reconstructing the semantic competence.

GOLDSTEIN

Non-substitutivity and reading the minds of our conversational partners

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Session: B10

This paper derives its inspiration from Jordan the supermodel. Reflection on her autobiography reveals that singular terms are used in a multiplicity of ways. Philosophers with a craving for generality are blind to this pluralism, and want to insist that such terms can be used only in one way, or, at most, in two ways – one for ordinary contexts, another for problematic contexts of which the following is a paradigm example:

Lois believes that Superman can fly
Superman = Clark Kent.
Yet it is not the case that Lois believes that Clark Kent can fly.

A logical principle apparently just as fundamental as modus ponens is the substitutivity principle
From Fa, and a=b, to infer Fb
Yet, in contexts such as the above, that principle apparently fails.

A variety of subsequent theorists have agreed with Frege that substitutivity sometimes fails. Another bunch of theorists deny this and say instead that we labor under unreliable intuitions about what statements are false.

Theorists of the second sort have long become impervious to the incredulous stare, and their theory at least has the virtue of simplicity – it tells a simple, if unbelievable, story of how we routinely go wrong when assessing the truth-values of sentences. Theorists of the first sort have contrived ever more baroque suggestions as to what singular terms, in the tricky contexts, refer to.

Jordan (known to her friends as Katie Price) points the way out of this dispute and towards the interesting question of how speakers secure intelligibility by tailoring their modes of expression to the particularities of conversational settings.

GROSS

Knowledge of meaning, conscious and unconscious

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Session: B11

Speakers possess knowledge of what expressions mean. There are two ways of supporting this claim: by focusing on language as rational behavior, and by trying to provide a cognitivist causal account of linguistic behavior. However, there's a mismatch between the semantic knowledge thereby ascribed. The semantic knowledge that rationalizes linguistic behavior must be accessible to consciousness, while the semantic knowledge posited by empirically well-grounded cognitivist accounts of semantic competence is inaccessible to consciousness. I consider two ways of arguing that the mismatch is not problematic. First, one might argue that the empirically posited semantic knowledge is only in part inaccessible to consciousness, and that the part that is consciously accessible is what rationalizes linguistic behavior. I reject this line, however, as unsustainable in light of the pervasive non-homophony posited by extant empirical accounts of semantic competence. Second, one might argue that speakers simply possess two different kinds of semantic knowledge: there is thus no problem, since we are not forced to say of any one piece of knowledge that it is both accessible and inaccessible to consciousness. But I reply that, while this may be correct as far as it goes, it renders mysterious the relation between these two kinds of semantic knowledge. In sum, I reject a standard picture of the relation between rationalizing semantic knowledge and tacitly cognized semantic theories, and I suggest that there's currently a gap in our understanding of their relation and thus in our understanding of the explanatory role of tacitly cognized semantic theories. I conclude by noting that my discussion undercuts arguments that move from the rationality of linguistic behavior to our tacitly cognizing semantic theories.

GRUENE-YANOFF

Are folk psychological practices inherently normative?

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Session: B09

Against the adoption of folk psychology into scientific practice, it has often been argued that folk is committed to normative principles, and that the mental concepts employed in folk therefore cannot be employed in science. In this paper, I argue against the first part of this claim: that the constituting principles of folk mental concepts are necessarily and inherently normative. The paper proceeds in three steps. First, I discuss what it means that folk principles are inherently normative. Second, I show that the arguments for the inherent normativity of folk mental concepts are not convincing. Third, I argue at the hand of an example from cognitive research into autism that cognitive scientists sometimes successfully abandon the alleged normative commitment while employing adapted folk practices, and that they are right to do so.

HEMEREN

The role of high-level representations and conscious awareness in biological motion perception

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Session: B04

The purpose of this research is to address the nature of high-level processing within visual perception. In particular, results from the visual processing of biological motion will be used to discuss the role of attention in high-level vision and visual consciousness. Original results from 3 priming experiments indicate "automatic" high-level semantic activation in biological motion perception. The view presented here is discussed in the context of Prinz's (2000, 2003) AIR-theory. AIR stands for Attended Intermediate-level Representations and claims that visual consciousness resides at the level of intermediate-level representations. In contrast, the view presented here is that results from behavioral and neuroscientific studies of biological motion suggest that visual consciousness occurs at high cortical levels. Moreover, the Reverse Hierarchy Theory of Hochstein and Ahissar (2002) asserts that spread attention in high cortical areas is indicative of what they term "vision at a glance." The gist of their theory is that explicit high-level visual processing involves initial feedforward mechanisms that implicitly follow a bottom-up hierarchical pathway. The end product of the processing, and the beginning of explicit visual perception, is conscious access to perceptual content in high-level cortical areas. Finally, I discuss the specific claims in AIR and present objections to Prinz's arguments for why high-level visual processors are not good candidates for the locale of consciousness. In conclusion, the central claim of AIR with an emphasis on the connection between intermediate level representations and perceptual awareness seems to be too strong, and the arguments against high-level perceptual awareness are not convincing.

HULT

Return of recovered memories

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Session: A14

This paper discusses about the concept of recovered memories. It has been assumed that mental process known as memory recovery is caused by some kind of traumatising event experienced during childhood; most typically that event is an act of childhood sexual abuse.
Child sexual abuse is a fairly common phenomenon worldwide, whereas the appearance recovered memories seems to be temporally and locally limited. The concept of recovered memories disappeared from the agenda when Freud abandoned his seduction theory until it reappeared in the United States in the 1980`s. This paper tries to point out some contextual features that might explain that reappearance.

HUTTO

The paradox of folk psychological development

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Session: A02

There is a paradox about how our social understanding develops if we take seriously the cognitivist dictum that all skilful interaction must have robust conceptual underpinnings. On the one hand, it is clear that young infants demonstrate a capacity to reliably detect and respond to other's intentions. For example, evidence of dishabituation experiments confirms that they have the capacity to appropriately parse what would otherwise be an undifferentiated

behaviour stream at its mentalistic joints. If we follow the cognitivist trend in thinking that having the appropriate concepts is an antecedent requirement for such recognitional capacities then it follows that we should ascribe to these infants the concept of intention (or, at least, a concept of intention). But if we also hold that mentalistic concepts are constituted by their links with other mentalistic concepts, such as belief and desire, as assumed by proponents of theory theory, then we ought to conclude that infants lack certain concepts, such as intention, because at their tender age they lack other concepts, such as belief, which are required to constitute their contents. I propose that the easiest way of squaring this circle is to reject cognitivism in favor of the idea that various nonconceptual capacities best account for our initial abilities for recognizing and responding to intentional agency and that this best enables us to make sense of talk of conceptual change.

JOHANSSON

Implicit learning, confidence, and processing strategies

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Session: A10

Two perspectives regarding the role of subjective measures of awareness as indicators of the implicit status of knowledge in artificial grammar learning are introduced and discussed. The subjective view (Dienes & Perner, 1999) holds that subjective measures of awareness based on confidence judgments may be valid indicators of the implicit status of knowledge, while the episodic-processing view (Whittlesea & Dorken, 1997) claims the opposite. The latter view holds that the attitude one develops toward one´s performance is not reducible to the implicit or explicit status of the representations that drive performance. Rather, the attitude one develops is a result of various factors during both learning and testing. Future research should focus on how processing strategies and expectational factors are related to subjective measures of awareness based on confidence judgments.

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JÖNSSON

The strong compositionality constraint

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Session: B11

By assuming that the semantics of a natural language is compositional we can explain important aspects of everyday successful communication. We thus obtain a constraint on what meanings are. The constraint can be given different forms depending on which aspects of successful communication we want it to explain. Recently, Peter Pagin (2003) made a strong case for adopting a stronger form of compositionality according to which the meaning of a

complex expression is structured out of the meanings of the parts of that expression. If we find Pagin's position compelling we thus obtain a stronger constraint to put on meanings than what was previously available. For instance, when Frege (1892) applied his substitutivity principle in order to argue against a purely referential semantics only a weaker reading of the compositionality constraint was assumed. Similarly, when Jerry Fodor and Ernie Lepore (1994, 1997) argued against inferential role semantics/prototype theories of meaning only a weaker compositionality constraint is assumed. So what happens if we try to apply the stronger kind of compositionality constraint to theories of meaning? Some tentative conclusions are drawn regarding what adopting this constraint would mean for various forms of function based semantics (e.g. Possible World semantics, Situation theory, Index-Based Semantics).

KHARKHURIN

The influence of language proficiency and cross-cultural experience on bilinguals' cognitive abilities

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Session: A06

This study examines the factors in bilinguals' development that contribute to their potential cognitive advantages. The hypothesis was that, in addition to the virtue of speaking two languages, bilinguals who experience and participate in two cultures may benefit from the meta- and paralinguistic advantages of biculturalism resulting in an increase in their cognitive flexibility and divergent thinking abilities.
In the cross-cultural study, 228 Russian-English bilingual college students living in the US and Russia were compared with 47 monolingual English native speakers. Bilinguals were classified by their exposure to American and Russian cultures and their proficiency in English and Russian. Divergent thinking abilities were assessed with the standard tool in the field, Abbreviated Torrance Test for Adults (ATTA).
A MANCOVA showed that when the effect of cross-cultural experience was partialed out, bilinguals outperformed monolinguals on the fluency and elaboration measures, but not on the originality measure of the ATTA. A partial correlational analysis showed that when the effect of language proficiency was controlled for, bicultural individuals tended to obtain lower fluency and originality scores than their monocultural counterparts.
The results are discussed in terms of the possible effects of conceptual changes on bilinguals' cognition and a spreading activation as a cognitive mechanism underlying divergent thinking.

KOKKONEN

Innateness and evolutionary explanations of psychological traits

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Session: B08

The distinction between biological and cultural is often equated with the psychological distinction between innate and acquired. Accordingly, several attempts have been made to explicate the psychological concept of innateness in biological terms, usually related to genes.

Innateness is also often taken as a perquisite for evolutionary explanations for a psychological trait. Recently this picture has been challenged in three ways: (1) Distinction between innate and acquired in biology has been questioned; (2) biologically inspired notions of innateness have been claimed to be useless in psychological context; and (3) the priority of genes in understanding evolutionary process has been challenged. I will argue, on the contrary to what is often concluded, that according to these arguments there is a connection between innateness and evolutionary explicability of a psychological trait. I will argue that the concept of innateness has an analogous, but substantially different use in biology and psychology. Biological interest in the development of a trait is in the biological processes guiding it and psychological interest is in the level of psychological mechanisms, independently on what exactly causally guides the development in biological level. Furthermore, even if the distinction between biologically innate and acquired is a false dichotomy, as some have argued, the concept of psychological innateness may still be perfectly sound and even biologically definable phenomenon. I will also argue that psychological innateness has relevance for evolutionary explicability for a psychological trait, even if biological innateness didn't.

KÖLBEL

Assertion, convention and intention

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Session: B11

In this paper, I motivate and defend a view of assertion as conventional action. Assertion can be conventionally indicated by certain features of sentence types (moods), and this is possible because assertion is a social-conventional kind of action and not, as opponents have assumed, a type of action specifiable in terms of the intentions of the asserter. (My view has similarities with those of, for example, Dummett 1973, Segal 1990, Harnish 1994 and García-Carpintero 2004.) I begin with some brief remarks on the normative nature of conventional actions and by sketching an account of assertion as conventional action. In §3 I answer an argument by Davidson (1979, 1982) to the conclusion that no conventional sign of assertion could be sufficient for assertion. This allows me, in §4, to spell out the motivation for a conventional account. In §5, I address a different argument by Davidson, claiming that there could be no conventional assertoric force indicator because it would be exploited by jokers, storytellers and actors. In the final section, I address Stainton's (1997) argument that, since assertions can be made by uttering subsentential phrases, the utterance of a sentence in the assertoric mood cannot be necessary for performing an assertion. Stainton has two arguments against the view that such apparently subentential utterences are merely elliptical. One of these arguments has already been answered by Stanley (2002). I address the second argument (from the ungrammaticality of VP deletion after purportedly subsentential utterances) and show in detail why Stainton's argument fails.

KULVICKI

Perceptual modes of presentation

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Session: B06

Representational externalism is the view that what an individual's mental state represents is determined in part by facts external to the individual. Representationalism has it that we are only ever aware of what we represent to be the case. According to phenomenal internalism, what it is like to perceive-the phenomenal character of perceptual states-is determined wholly by facts internal to the perceiver. Each thesis has compelling arguments and intuitions behind it, but taken together they are inconsistent, so something has to give. Quite a few philosophers hold the first two while denying the third, but this leaves them with the task of explaining away powerful intuitions favoring phenomenal internalism. This paper accounts for what it is like to see a property in terms of perceptual modes of presentation and shows that this can accommodate intuitions in favor of phenomenal internalism without vindicating the thesis itself.

LEGRAND

"I act intentionally": An interdisciplinary account of the experience of acting.

Dorothée Legrand

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Session: A16

Self-consciousness is classically described as immune to error through misidentification: one cannot be wrong about who entertains one's conscious experience. However, this conception has been challenged by considerations of the experience of one's body and actions as one's own. In this presentation I challenge this argumentation.
(a) Empirical evidence does not allow to assert that executed and observed actions completely share the same neuronal representation.
(b) The recording of neuronal shared representations does not imply in itself that experiential neutral representations can be isolated legitimately.
(c) An attribution mechanism is necessary to identify who the agent is if and only if the representation of action is neutral, but this is not the case at a pre-reflexive non-observational level.
(d) Pathologies and experimental manipulations prevent non-observational bodily consciousness and make the subject an observer of his own action, but this is not the usual way to relate to one's body and actions. These situations only involve consciousness of the self-as-object.
(e) "Immunity" only concerns the self-as-subject and is thus not threatened by the above argumentation.
These considerations lead me to talk about logical immunity under normal circumstances, abnormal circumstances including neuro- and psycho-pathologies, and experimental manipulations of normal subjects. This position neither denies the legitimacy of immunity nor

does it raise it to the rank of an immutable principle. It thus defines a terrain adequate for the investigation of the neuronal mechanisms underlying identification-free bodily-consciousness.

LEMAIRE

Guilt and shame

Stéphane Lemaire

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Session: A15

I propose to show that guilt and shame result from a single emotional process that relies on entrenched standards. In both cases, we experience the emotion while judging that we do not live up to the standards. Thus, a judgment has to be present for shame and guilt because if it were not present, we would not *know* that we experience shame or guilt. Anti-judgmentalists have argued against such views that one may experience guilt or shame while believing that one is not guilty of a wrong act or that one has not to be ashamed. They argue that this fact is harder to understand on the judgmentalist view because this position implies that one holds a contradiction. I reply that belief can also be held irrationally, even against all evidence.
My second contention is that the conceptual differences between shame and guilt result from the existence of a specific sort of standard violations in our culture: the situations in which one can say of the person who does not conform to the standard that he did something wrong where he could have done otherwise and where rituals of forgiveness or of punishment are available. In other words, the only real distinction between shame and guilt is a distinction between the norms involved.
Finally, I argue that all the other differences between the scripts or concepts of shame and guilt can be deduced from the distinction in standards.

LERMAN

The unspecificity of the way things are presented to us in experience

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Session: B06

In visual experience, our environment is presented to us as being a certain way. What can we say about the *way* in which the environment is thus presented to us? Usually people emphasize its richness, fine-graindness and perspectival character. In this paper I wish to draw attention to a further feature of the way things are presented in visual experience: unspecificity.
We tend to ignore the unspecificity of visual experience because, when we attempt to specify how things are presented in experience, we usually focus on the question of which judgements the subject could make on the basis of the experience. I claim that an accurate characterization of the way an environmental aspect is presented in experience requires taking into account the experience's effect on further elements of the subject's activity (especially, on how he intentionally directs his attention). Once we do this, it becomes plausible that the way in which many experienced environmental aspects are presented in visual experience is, in a certain sense, unspecific. In particular, this seems to be true of the experienced

environmental aspects which are not taken by the subject to be relevant to a specific question he is occupied with (at the time).
This claim, if correct, not only provides us with a more accurate characterization of how things are presented to us in experience, but also helps to clarify the sense in which the particular environmental aspects we experience are constituents of the content of our experiences.

LINDBLOM

Different perspectives on embodiment in social interactions

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Session: A12

Theories of embodied cognition offer a radical shift in explanations of cognition, and can be viewed as a Copernican revolution against computationalist cognitive science. However, despite nearly two decades of research under the banners of embodiment and embodied cognition, there is yet no common understanding of what actually constitutes embodied cognition, and consequently different levels, notion and aspects of embodiment have been developed. The focus in most theories of embodiment has been on the relation between the individual body and individual cognitive processes, but the view of the mind as first and foremost social has largely been neglected. Indeed, besides being coupled with a physical environment, there is also, to varying degrees, couplings with the social environment, and in order to interact with others there is a need for different kind of interaction means with the social world. These bodily interactions do also have crucial impact on the agent's cognitive processes, and recent work in cognitive science and related disciplines indicates that the body has several important roles in social interactions and cognition. Albeit the interest in social interaction has grown and has received increased attention, the role of the body in social interaction and social cognition is far from being well understood, and theories of cultural and social cognition still mainly tend to overlook the bodily aspects of social interaction. This paper therefore extends the present distinctions of embodiment and identifies different perspectives on embodied cognition that are crucially relevant to social interactions.

MACIÀ

Expressive meaning: Presupposition and logical validity

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Session: B11

There is a contrast between the sentences in (1) and the corresponding sentences in (2)

1. a. John came into the room
   b. Kuoji is from Japan and he is good at soccer
2. a. That bastard John came into the room
   b. Kuoji is from Japan but he is good at soccer

In a number of talks David Kaplan has argued that, first, these contrasts are 'semantic' as they have an effect on the validity of arguments and logical properties are determined by meaning. and, second, these contrasts can not be dealt with using the tools available to our current

semantic theories. Kaplan has suggested that we should distinguish between the usual "descriptive meaning" and what he calls "expressive meaning". I will argue, contra Kaplan, that the phenomena he presents do not force us to complicate our semantics and our ontology of meanings in the way he suggests (and so, that there is no need, either, to introduce any corresponding complication in the concepts and tools in terms of which we try to explain our semantic cognitive capabilities): We can explain the phenomena appealing to notions (most specially to that of "presupposition") which are already familiar and that we would need in any case to explain facts that belong to the regular "descriptive" meaning.

MACPHERSON

Synaesthetsia, functionalism and phenomenology

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Session: A4

Synaesthesia is often defined as occurring when stimulation in one sensory modality automatically and involuntarily triggers an experience in another sensory modality, without the need for any direct stimulation to this second modality. It has recently been argued that synaesthesia provides a counterexample to functionalism. The conclusion only follows given a certain understanding of functionalism. I argue that this understanding is inadequate. There are types of functionalism that are not threatened by the alleged counterexample. I also argue that synaesthesia provides a counterexample to functionalism only if synaesthetic experiences are identical to non-synaesthetic perceptual experiences. I therefore investigate the exact nature of the synaesthetic experience. There is some evidence that synaesthetic experience is genuinely perceptual. However, this evidence only exists in cases, recently brought to light, of intra-modal synaesthesia. I argue that synaesthetic experiences in intra-modal cases are not like ordinary non-synaesthetic perceptual experiences. Indeed, the nature of such synaesthetic experiences is quite problematic. Thus, functionalism is not threatened by the alleged counterexample.

MADDEN

Could a brain-in-a-vat self-refer?

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Session: A14

Hilary Putnam famously claimed that the sentence 'I am a brain-in-a-vat' is self refuting. I present his semantic-externalist argument for this claim, and raise the surprisingly neglected issue of the role of the first-person pronoun 'I' in the argument. I explain why a choice between 'token-reflexive' and 'demonstrative' semantics for the first-person pronoun has been overlooked here, and in fact presents a dilemma for Putnam's argument. It is shown that either the brain-in-a-vat's (positive) self-ascriptions are all self-refuting - including even self-ascriptions of predicates like 'thinks' - or the brain-in-a-vat cannot self-refer at all. Putnam's strategy threatens to replaces scepticism about the external world with scepticism about self-consciousness.

MAIBOM

Do we need empathy for morality?

Heidi Maibom

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Session: A15

MATEY

The concept of state consciousness in the higher order thought theory of consciousness

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Session: A09

David Rosenthal's Higher-Order Thought (HOT) hypothesis is one of the most widely argued for of the higher-order accounts of consciousness. In this paper, I address an inconsistency in his account of consciousness. Rosenthal's argument vacillates between two independent models of the HOT theory. At the heart of these two models are two different concepts of state consciousness. While both concepts refer to token target states, the two concepts refer to those states in virtue of different properties. In the first section of this paper, I review the two models. In subsequent sections, I examine these models more closely. I argue that the second model is preferable to the first for several reasons. One reason is that it fits better with the commonsense concept of intransitive consciousness. All else being equal, a theory that uses terms in a way that fits with our concepts should be preferred. But ultimately this model is also problematic. I highlight those problems and suggest that they might be averted by modifying a core feature of the HOT theory, the transitivity principle. In the second half of this paper I develop a version of the modified transitivity principle. I hypothesize that Rosenthal occasionally employs this modified model himself. This slip may make sense of some problematic aspects of his theory. I also suggest that the inconsistency identified in the first section of this paper might actually reflect these two versions of the transitivity principle. One version gives us a token target state centered concept of state consciousness, and the other, which discusses only mental state types, doesn't give us a theory of state consciousness at all. I offer one explanation of how this might have occurred. These two versions would result if articulations of the transitivity principle employed the term 'mental state' inconsistently, to refer on some occasions to mental state types and on others to refer to mental state tokens.

MCGANN

Goal dynamics and mental contents

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Session: A03

In this paper, criticisms by Clark (2002) of the dynamic sensorimotor view of consciousness put forward by O'Regan & Noë (2001a) are used as a means of illustrating the demand for a theory of goals in contemporary Cognitive Science. While historical examples of such calls for a theory of goals abound (Rosenblueth, Wiener & Bigelow, 1943; Miller, Pribram & Galanter, 1960; Boden, 1972 and others), it is argued that conceptions of goals within the discipline have largely been left undeveloped, and that the relationship between goal dynamics and mental contents is still largely misunderstood. Recent embodied, enactive views of mind and consciousness throw these difficulties into stark relief. Combined with related dynamical systems approaches, such as Juarrero's (1999) theory of dynamical action, a new view of the relationship between goals and content can be sketched out. Juarrero herself turns to distributed connectionist representations in order to account for content, but this contrasts somewhat with the more interactionist views of dynamic sensorimotor theorists. However, it will be argued that a reconciliation of these two approaches is possible and profitable. This more enactive view entwines content into goal-directedness in an inextricable fashion. A number of implications for the manner in which we carry out psychological experiments, and the manner in which we discuss intentionality and mental content will also be outlined.

MCKENZIE

Information leakage from logically equivalent frames

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Session: B05

Framing effects are said to occur when "equivalent" redescriptions of objects or outcomes lead to different preferences or judgments. For example, a new medical treatment is seen more favorably when described as resulting in "75% survival" rather than "25% mortality." Such effects have traditionally been seen as irrational. However, recent research has shown that a speaker's choice of frame can "leak" relevant information to listeners and that is why at least some framing effects occur. In the case of the new medical treatment, speakers are more likely to describe the outcome in terms of "75% survival" if the new treatment, relative to the old one, leads to more survivors than if it leads to fewer. Furthermore, listeners "absorb" the information leaked by a speaker's choice of frame. For instance, they are more likely to infer that the new treatment leads to relatively many survivors when it is described in terms of "75% survival" rather than "25% mortality." In short, a speaker's choice among logically equivalent frames is informative, and listeners know this. The information leakage approach to framing effects will be outlined, and recent findings in domains such as consumer behavior, risky choice, and organ donations will be summarized. Psychological and rational implications will be discussed.

MOORS

The conceptual separation of automaticity features as a first step towards their separate investigation

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Session: A13

Property-based accounts of automaticity have proposed to diagnose automaticity with features such as unintentional, goal-independent, autonomous, purely stimulus-driven, unconscious, uncontrolled (in the sense of alter/stop), efficient, and fast. Contemporary relative views moreover suggest that one should investigate for each automaticity feature separately to what degree it is present. We examine whether features of automaticity can be disentangled on a conceptual level because only then does it make sense to spend efforts on the separate investigation of these features. After a conceptual analysis of eight features of automaticity, we conclude that the conceptual separation of most of these features is indeed possible. Not all authors seem to agree with this position, however, and we show that assumptions of overlap between features is thoroughly pervasive in the literature. These assumptions are not always due to imprecision, but are often ingrained in the information processing model that one implicitly or explicitly adopts, or from the broader metaphor of cognition (computational versus connectionist) on which this model rests. We also discuss some implications of our analysis for future empirical research.

NIELSEN

Reidentification and cognition

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Session: A05

Ruth Millikan has defended a representational theory of mind for more than 20 years now and she has several times stressed that her version differs on crucial issues from the influential 'Language of Thought'-hypothesis and its underlying representational theory of mind.
One of her discussions of the pitfalls of the latter theory can be found in her 1993-paper 'On Mentalese Orthography' and with a different emphasis in On Clear and Confused Ideas from 2000. However, it seems to me as if there are some difficulties with interpreting its line of thought, underlying premises, and conclusions. For instance, Daniel Dennett seems to think of the 1993-version as essentially presenting a thought experiment, while in their review of her book from 2000, Cummins et al. think of it as arguing for the incompatibility of a Language of Thought and a thorough-going externalism about mental content. So there is some motivation for mapping out the territory covered by Millikan here and that is what I aim for. I don't intend a detailed exegesis, but to investigate how an argument might be construed from the relevant passages. My conclusion will be that Millikan does have an argument and that it illuminates and motivates fundamental assumptions in her philosophical position. The upshot is an analysis of what is 'inherently' wrong with the representationalism of classical cognitive science.

NUDDS

The content of auditory experience

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Session: B06

This paper investigates the content of auditory experience. I argue that auditory experience represents both sounds and the sources of sounds. A consequence of this is that auditory

experience can misrepresent in two different ways: it can misrepresent a sound, or it can misrepresent the source of a sound. In the latter case, the source of a sound may be misrepresented by a veridical experience of a sound. I argue that it follows from this that the dominant conception of sounds as properties of or events involving their sources is mistaken. An alternative conception of sounds is suggested.

PAGÈS

A new supporting language in philosophy ?

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Session: A12

WHY
When Data Processing applications grew more ambitious, engineering firms were submitted to increasing technical challenges, but also to tremendous legal risks. Hence, over decades, an extensive amount of basic and applied research developped approaches and methods such as Object Orientation; associated with rigorous descriptive supports and languages such as UML (Unified Modeling Language).
The practice of Philosophy, in the broad sense, does not yet appear so risky .. But it should be worthwhile to examine some of the reasons why new definition and communication supports might/should be developed for “Philosophy”.
HOW
Even the use of Logic (since Frege, Russel, etc..) in Analytical Philosophies is limited to rather narrow fields.
Some possible starting leads:
- UML has recently been used in other fields than data processing projects.
- Leibniz's admiration for the Chinese written language, which could be understood by several people speaking different languages, might nowadays inspire research using interactive graphic supports.
- Sign Languages for deaf people: the study of their birth and of their astonishing efficiency should help designing communication supports which would try to integrate readability and First Order Logic security.
WHEN
Such basic and applied research would involve huge amounts of people, time and money.
The Presentation will discuss the reasons and means to justify and stimulate this research orientation.

PIETARINEN

PIETARINEN

Logica utens vs. logica docens: Its origins and contemporary validity

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Session: B05

In the history of logical theory, a significant and far-reaching distinction existed between two logical faculties, the form of reasoning that resorts to the logica utens (logic in ‘use’ or in ‘action’) and the form that resorts to the logica docens (‘theoretical’ or ‘educational’ logic). The origins of the distinction date back at least to early medieval logic. This paper discusses the logica utens / logica docens distinction as it derives from Charles S. Peirce’s logic and his pragmaticism. From that point of view, the docens is the educable, improving, nurtured and schooled facility for reasoning for its own sake, while the utens is a native, stable, enduring and instinctive form of reasoning, appealing to imagination, experimentation and iconic representation of objects of thought. Unconscious in essence, the utens is not controllable by the active, reflective and self-aware mind. Given the progress and pluralism of the 21st century logic, it is argued that contemporary reappearances of the logica utens are well underway a century later. After a quiescent phase marked by the ascendancy of symbolic logic, forms of reasoning suggestive of the old idea of the utens have indeed re-emerged of late in areas such as practical logics, rational decision, strategies of reasoning and unaware information processing.

POLITZER

The psychological reality of quantifier entailment properties

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Session: A08

A test of entailment properties of classical quantifiers defined by the theory of generalised quantifiers (Barwise & Cooper, 1981) is described. Participants had to solve a novel task with two kinds of one-premise inferences. In the first one, aimed to study downward entailment, the premise came in two sub-types. One, designed to test left entailment, was"Q hyperonym verb [blank predicate]" where Q is one of the quantifiers all, no, or some (e.g. , some animals are [ ]). Participants were asked to indicate what can be inferred by filling up the slots of a conclusion, and had to indicate that nothing follows if they thought this was the case; the conclusion provided was ". . . hyponym verb [blank predicate] " (e.g. , . . . cats are [ ]). The second sub-type was designed to test right entailment (e. g. ,"some [ ] are animals" and the conclusion was". . . [ ] are cats"). The second kind of inference aimed to study upward entailment and came also in two sub-types to test left entailment (e.g. , "some cats are [ ]"; conclusion: ". . . animals are [ ]") and right entailment (e.g. , "some [ ] are cats"; conclusion: ". . . [ ] are animals"). The verb was varied across inferences (are or have). It was observed that people carry out most predicted directional entailments. This result is an essential prerequisite for the application of generalised quantification theory to the psychology of reasoning.

RAATIKAINEN

What is descriptivism?

Panu Raatikainen

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Session: B10

Kripke, in his Naming and Necessity, famously attacked the description theory of reference, or, more briefly, descriptivism. This is, roughly, the view that the meaning, or the descriptive

content, of an expression is given by a description (or a cluster of descriptions) that speakers competent with the expression analytically associate with the expression; the description determines which entities belong to the extension of the expression. However, the subsequent philosophical discussion has shown a wide variety of different ways of understanding what exactly constitutes descriptivism. It is my aim in this paper to analyze different variants of descriptivism and evaluate critically how well motivated and how plausible they really are.

ROALD

The body in emotion: a psychological-phenomenological investigation

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Session: A16

Feelings and sensations have frequently been claimed to correlate with or partly constitute emotions. Yet some cognitive stances hold that sensations or feelings are not necessary for the experience of emotions. Toward a resolution of this dilemma this paper briefly reviews cognitive theories of emotion and presents a psychological-phenomenological investigation exploring bodily experiences of feelings or sensations in emotions. The study involves interviews with museum visitors about their experiences with art because in such meetings emotions are frequently expressed. These interviews were subjected to meaning condensation as developed in qualitative methods and analyses of metaphors as developed in the cognitive-linguistic models of metaphors, arriving at descriptions of their main features. Based upon these descriptions it is clear that feelings or sensations are pronounced in the interviewees' relatively 'strong' emotional experiences and, accordingly, that their somatic experiences coincide, or temporally correlate, with their emotional experiences. Such awareness of their own bodies is not always present, and if one proposes a continuum from emotional to cognitive experiences, the body seems highly apparent in strong emotional experiences at one end of the spectrum, yet subtle to non-existent in more cognitive experiences at the other. It will be claimed in conclusion that cognitive theories of emotion suffer from an explanatory gap as they appear unable to account for such bodily experiences.

ROESKA-HARDY

Do mirror neurons solve the problem of other minds?

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Session: B07

A number of researchers take neural mirror matching systems to have important philosophical implications. For example, Vittorio Gallese and collaborators hypothesize that mirror mechanisms allow us to directly understand the meaning of the actions and emotions of others by internally replicating ('simulating') them; no conceptual reasoning is necessary. The claim that neurophysiological mirror matching mechanisms provide an account of the experiential dimension of both action and emotion understanding and thereby form the basis of the human ability to understand other minds offers the tantalizing prospect that mirror neurons might (dis)solve the philosophical problem of other minds. Indeed, a number of philosophers have argued that the problem of other minds should be settled by reference to our physical make up

and that of conspecifics. The mirror matching systems seem to provide just what is needed to bridge the gap between self and other, thus making the question of whether others have minds otiose. This talk examines whether mirror neurons solve the problem of other minds by (1) considering the nature of mirror neuron systems as characterized by V. Gallese and G. Rizzolatti, (2) briefly reviewing the problem of other minds and then (3) discussing what would be required in order for mirror neurons to solve the problem. It will be argued that although mirror neuron systems may be necessary in order to understand others as intentional agents, they do not solve the problem of other minds.

ROSSET

Intentional until proven otherwise: evidence of a heuristic

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Session: A16

Empirical work on intentionality has been guided by an assumption that intentional explanation develops with age; it is nascent in infants, increasingly developed in children, and mastered in adults. In this talk I would like to question this assumption, suggesting that it is instead the ability to explain human action in nonintentional terms that develops with age. I will propose that our analyses of human behavior are guided by a heuristic dubbed the AAI heuristic: When perceiving an agent engaged in an action, we infer that the agent intended the action (Agent + Action = Intention), rather than entertaining alternative, nonintentional possibilities (e.g. external causes, mistakes). This heuristic is automatically activated when perceiving an agent involved in an action, but may be suppressed with additional information, such as behavioral cues (e.g. a look of distress or surprise) and alternative explanations (e.g. biological or physical explanations). Both a better understanding of behavioral cues and the accessibility of alternative explanations increase with age and experience; thus the suppression of the heuristic should come easier with development, a different prediction than traditional approaches would make a priori. In addition to the implications for cognitive development, this proposal motivates a reanalysis of several adult phenomena, including classic examples from neuropsychology (e.g. overattribution of intention in split-brain patients), social psychology (e.g. the illusion of control), and judgment and decision-making (e.g. the omission bias). Far from mastering intentional explanation, these adult behaviors parallel those of children and may arise from overgeneraliztions of the AAI heuristic.

ROSSET

It stands to reason: Body posture and conceptual processing

Evelyn Rosset

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Session: poster

The extent to which perceptual cues play a role in conceptual processing is fundamental to understanding the nature of knowledge representation. The present research examines whether static perceptual cues such as body posture facilitate linguistic processing of object concepts. Using a reaction time procedure, participants were asked to make judgments about objects associated with sitting (e.g. chair), or standing (e.g. stairs), while either sitting or standing in

front of a computer. Results assessed the relationship between perception and conceptual processing without, critically, being confounded by the effects of physical action. This methodology therefore represents an important improvement over similar studies (i.e. individuals processed objects, not actions, as stimuli, and the required behavioral response - a keypress - was independent of the perceptual cues relevant to the task). Task instructions varied as to whether participants were primed to think about body position or not. Results show facilitative effects when participants were primed about body position (e.g. “stairs” was processed more quickly when standing). The differences disappeared, however, when participants were not primed. These results raise questions about the degree to which perceptual cues are represented as part of concepts themselves, or as part of the actions associated with concepts.

SAIDENNUNEZ

Gärdenfors' developmental account of cognitive emergence: A challenge for physicalism

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Session: poster

In his most recent book, 'How Homo Became Sapiens: On the Evolution of Thinking', Peter Gärdenförs (2004) has argued for an – I believe – extremely cogent model to understand and explain the emergence of several constitutive processes of cognition, such as sensation, perception and imagination. Gärdenförs’ model, among other things, frees the possibility of viewing these processes not as sets of reductive, discrete layers of causation, as it has been fashionable in some accounts of physicalism, but rather as part of an interactive continuum of deeply integrated aspects of living organisms. Elaborating on Gärdenförs macroevolutionary proposal, this paper will point out a number of common flaws in physicalist arguments, such as those in Jaegwon Kim’s (1999) well-known 'Mind in a Physical World' (of the impossibilities of maintaining a consistent physicalist position without reducing the mental to the physical). I contend, therefore, that by exposing the logical weaknesses of the presuppositions behind Kim’s argument, we can liberalize conceptual space for the kind of robust notion of genuine emergence suggested by Gärdenförs; especially, one whose assumptions are much more in tune with recent findings in developmental psychology, philosophy of biology and evolutionary theory.

SALMELA

True emotions

Mikko Salmela

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Session: A15

Philosophers widely agree that emotions are capable of having and lacking appropriateness or fittingness that is an analog of truth in the emotional domain. However, Ronald de Sousa has recently suggested that emotions are capable of being literally true or false. In this paper, I discuss de Sousa’s proposal and its problems. These focus on two issues: de Sousa’s

perceptual theory of the emotions and his account of emotional truth as fittingness between the particular and formal object of emotion. First, I defend de Sousa by arguing that emotions have a cognitive content as evaluative perceptions of the particular object of emotion in terms the relevant formal property. Secondly, I point out that the truth of an emotion cannot be defined in terms of its success alone since one must also have good reasons to believe that the propositional content of one's emotion is semantically satisfied or that the target of one's emotion exists. Moreover, I argue that de Sousa's attempt to define formal objects of emotion in terms of a wide reflective equilibrium of biological facts, social norms, and personal 'paradigm scenarios' remains vague. Instead, I propose that as cognitive states, emotions meet the syntactic and disciplinary requirements of minimally truth-apt states. Hence, they are capable of being true in the sense of being superassertible (Wright). In this account, fittingness between a particular and formal object of emotion is based on the former's ontologically lower-level properties whose warrant for the ascription the formal property is superassertible.

SANDIS

Dretske's causes of behaviour

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Session: A04

In his recent article 'Psychological vs. Biological Explanations of Behavior' Fred Dretske appeals to his 1988 distinction between triggering and structuring causes with the aim of showing how it is that psychological explanations of behavior differ from biological ones. He concludes that intentional human behavior is triggered by electro-chemical events but structured by representational facts (facts about how we view the world). In this paper, I shall argue that although this account is far more persuasive and sophisticated than the standard Davidsonian view, it nevertheless fails to provide a coherent analysis of intentional action and its explanation.

SARNECKI

Sortals for dummies

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Session: A1

Advocates of sortal essentialism have argued that concepts of like "thing" or "object" lack the specific individuative criteria necessary to play the role of genuine sortals in reference. Instead, they function as "dummy sortals" which are placeholders or incomplete designations. However, in disqualifying simple sortals, these philosophers have posed insuperable problems for childhood conceptual development. I argue that recent evidence in psychology shows that children do possess simple sortals of physical objects or things, but that they also provide genuine individuate criteria for reference. As a consequence, sortalism can be made compatible with the development facts of conceptual development.

SEABROOK

Distinct EEG signatures of conscious an unconscious problem solving

Rachel Seabrook & David Schwartzman

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Session: poster

In problem solving, intuition has been defined as a degree of access to the solution without conscious awareness of what that solution is. This may be revealed by above chance responses in a forced-choice task (Bowers, Regehr, Balthazard & Parker, 1990). At the other extreme, the 'Aha!' experience, associated with insight in problem solving, reflects an intense conscious awareness of the solution, though not necessarily its accuracy (e.g. Seabrook & Carter, 2004). These differing degrees of conscious access to a solution may both be elicited by the remote associate task (Mednick, 1962). Using this task, the current study identified cases of both Aha! (insight) and intuition then examined EEG activity associated with these phenomena. Focusing on the gamma range (above 30Hz), time-frequency analyses revealed bursts of activity associated with both Aha! and intuition. The similarity between these two modes of problem solving contrasts with previous findings (Jung-Beeman, Bowden, Haberman, Frymiare, Arambel-Liu, Greenblatt, Reber & Kounios, 2004) and reveals the signature of problem solving in a response that is behaviourally indistinguishable from guessing.

SHIMIZU

Reaction times and subjective distances: Perception-based theory of language for categorical semantic processing

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Session: A07

It can be thought that the amodal and arbitrary theory owes the mechanism of conceptual interrelatedness to the linguistics of Saussure that allows us to think of the "chain of signifying (signifiant)", whereas the opposing modal and analogical theory would lead us to focus attention on the side of the "signified (signifié)" or the image-based semantic identity. But the perceptual symbol systems (Barsalou) are by themselves elevated to become propositional constructs beyond the level of simply analogical paths.

As for another problematic aspect of the amodal theory, synchronic viewpoint, the Saussurian type of off-line treatment excludes the perceptual immediacy of the on-line language action, for example, the reflective judgment on the relevance of the relation between the terms. The amodal theory would then conclude that deliberation and reaction are too heterogeneous to provide a unified theory of semantic processing for a categorical interrelatedness.

To solve these problems, we adopted two seemingly heterogeneous measures, reaction time and subjective distance, to connect a stimulus with its target word. The connection was varied according to 7 semantic categories. We measured the average reaction time for the judgment whether a stimulus was relevant to its target word (stimulus: 1000ms → fixed point:250ms → target) and the subjective distance for the similar judgment (with a 5-scaled questionnaire).

The result highly suggests that the modal, analogical and perception-based theory of language can fully develop its own semantics for the conceptual interrelatedness even at the (meta-)level of language processing with relational categories of meanings.

SIKSTRÖM

ERP and the primacy effect

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Session: poster

STEINER

Mental explicitness

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Session: A05

My talk aims at clarifying what “explicit” may mean, as applied to representational contents and contrasted with “implicit” and “tacit” mental contents. In the first part, I put forward criteria according to which we might say that an informational content is explicitly represented in a human cognitive system. There are some theories (D.Kirsh, A.Clark or H.Clapin) enjoining us to give up linguistic and symbolic features in order to define mental explicitness (as in standard computationalism). I agree with the criticisms they develop. Still, I think these theories might be mistaken when they then promote a procedural definition of explicitness, linking the explicitness of an information with the accessibility and ease of use of that information within the system. Besides other problems, I argue that this procedural definition seems to blur the basic distinction between occurrent and abeyant contents, and confuses properties of psychological attitudes with properties of informational contents. According to the view I defend here, explicitness of content is rather related both to the physical occurrence of the representational vehicle and to its structural character. The latter one is identified from a functional level of analysis; it is not an intrinsic property of the neural vehicle. It allows us to give a single semantic value to the vehicle. In the second part of my talk, I briefly show how this definition of explicitness can cope with some properties of neural networks and how it may interact with a theory of explicit knowledge.

STONEHAM

Memory in inference

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Session: A14

I begin by distinguishing three ways in which our memories can fail us. (1) We might misremember. There are many familiar ways this happens, given that memory is not just the passive retention of data but an active process involving selection, interpretation and

reconstruction. (2) We might accurately remember mistaken judgements (call this the 'garbage-in-garbage-out' problem). We often remember things we previously believed without remembering the grounds of the previous judgement. There are many reasons to think that this is a good thing, a positive feature of our memories, but it does mean that sometimes using our memories will lead us astray even if we are not misremembering. (3) We might accurately remember something which we were justified in judging at the time, but our past justification would no longer stand up given what we have learnt in the intervening period (call this the 'intellectual maturity' problem). I then argue that there is an epistemologically important class of cases, where memory is relied on in inference broadly construed, in which the third type of error is ruled out. We can call this 'scratchpad memory'. Three conclusions can be drawn: (a) the traditional distinction between epistemologically secure 'intuition' and vulnerable (because memory-dependent) 'deduction' can be redescribed in terms of scratchpad memory; (b) philosophers should not generalize from cases of scratchpad memory to other cases of memory such as recollection of facts; (c) there is an interesting and open empirical question about where the boundaries of scratchpad memory lie.

STURM

The self between philosophy and psychology: The case of self-deception

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Session: A13

What are the ontological views and commitments of psychologists concerning the self? How do could or even should philosophers and psychologists investigate questions concerning the self? I start by outlining typical problems of the three most widespread ontological claims about the self - homuncularism, reductionism, and eliminativism. These problems are by no means avoided within current psychological research; rather, such research often lacks a sufficiently clear theoretical analysis of the concept of the self. But instead of aiming at theories about "the" self, we should analyze closer those concepts of thought, experience and action where reference to oneself is or seems essential, and reflect what commitments psychologists have to make for their research using these concepts (I). The example of self-deception will be used to illustrate this approach. I will show that empirical studies use divergent concepts of self-deception, partly differing in the role of the self in such deception - viz. the self-as-object versus the self-as-subject. Even studies using a notion of self-deception where the self-as-subject is involved are not necessarily committed to a strong homuncularism. One consequence of this is that they can safely neglect a traditional philosophical puzzle about self-deception: namely, how can one deceive oneself into believing something one does not believe at the same time? (II). I end with a few metatheoretical remarks concerning the division of cognitive labor between philosophy and psychology (III).

SUNDSTRÖM

Sensory qualities and concept empiricism

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Session: A09

According to a classical empiricist view, we can think only what we have experienced and permutations of what we have experienced. A small but significant part of this view is still advocated by many contemporary philosophers. According to Limited Concept Empiricism (LCE), there are ("phenomenal") thoughts that concern sensory qualities and that we can think only if we have experienced these qualities. This view is, for example, often embraced in discussions about Frank Jackson's (1982, 1986) Mary, who is brought up in a black-and-white room and has never experienced chromatic colour. I shall distinguish two ways of defending (LCE) on the basis of this scenario. First, one may argue that (LCE) is the most "natural and intuitive" account of Mary's cognitive situation. Alternatively, one may defend (LCE) by arguing that Mary, when she has seen (say) red, possesses a concept that differs in "cognitive significance", and is hence distinct from, any concept she could have possessed before she saw red. I shall try to show that neither argument is succesful, and that -- contrary to (LCE) -- Mary may well be able to think any thought that normal perceivers can think.

SUSI

Social interaction and artefact mediation

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Session: A01

Cognitive science has traditionally been based on the idea of internal computation, and cognition has been confined to the individual’s brain. Over the past 20 years new lines of situated cognition research have emerged that emphasise the close coupling between agent and external material resources. However, despite a growing emphasis on artefacts and their use we still have a poor understanding of the ways people utilise and adapt artefacts in daily activities. The importance of artefacts is evident, e.g., in the role they play in cooperation and coordination of collective activities. These processes resemble what is known as stigmergy, a principle that explains the achievement of coordinated behaviour through indirect interaction via artefacts. This principle could explain coordination of human behaviours as well. Much coordination is achieved through the use of scaffolding (artefacts), and it has been argued that the most important task we are facing is to better understand non-biological cognitive scaffolding, and the ways they augment our cognitive capabilities (Clark, 2002). This paper describes part of a framework concerning artefacts and human activities, based on the combination of three concepts related to agent and environment: triggers and placeholders (Dix et al., 2004), and entry points (Kirsh, 2001). The suggestion here is that these concepts, and the principle of stigmergy, can provide a means for further understanding of the role of artefacts in social interaction. The framework is illustrated by a case study conducted in a collaborative work setting where artefacts take a central role in ongoing work processes.

SVENSSON

A cartography of simulation theories

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Session: B07

In cognitive science, the simulation theory has mostly been associated with the theory of mind debate between simulation theorists and theory theorists. According to Nichols et al. (1996), the general idea of simulation theory is that a component or process is taken off-line to be used for a different function, for example, behavior prediction is achieved by taking the practical reasoning module/process off-line. However, even though most simulation theory accounts share this general assumption it is possible to distinguish different conceptions of simulation which could possibly confuse the debate (Stich & Nichols, 1997). The situation might have become even more complicated with the recent advent of several other so called emulation or simulation based models, which propose that cognition is often realized by the reactivation of the same processes and structures used for perception and action (e.g. Barsalou, 1999; Grush, 2004). These more recent simulation models have been proposed as explanations in different areas of cognition research ranging from action planning to conscious thought. In light of the ubiquity of simulation based models in cognitive science, the relations between different types of simulation accounts are explicated to investigate to what degree the concept of simulation or emulation actually denotes a common approach to cognitive phenomena and their explanation. This is done by providing a conceptual map categorizing simulation based accounts according to among other things their adherence to the traditional cognitivist assumptions of cognition, the type of mechanism, structure or process used, as well as explanatory scope.

SYLVAND

Concept change

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Session: A02

In this paper, I want to examine the possibility that a cognitive agent may change a concept she possesses. For instance a agent who think that whales were fish and learnt that they are mammals, change her concept whale.
Concept change requires a dynamic structure of concept. The concept is a mental entity which is representational. Being representation means here, being able to be corrected. The concept has a referential side, that means that it point to some entities outside itself. And finally the concept is an inferential entity i.e. it entertains particular relationships with other concept or mental entities.
Concept change is sustained by some reasons. Modification in use or application of a concept implies a revision of this concept, for instance the irrelevance of the concept, co-extensivity of concepts, reinforcment of weakening of inferential support, modification of extension or suspicion in use are reasons for changing a concept.

Concept change must be done following some principles : change must be consistent, concepts must respect inferential closure, positive and negative undermining, minimization and preference in change and categorial matching.
This paper is theoretical and presents normative structure and condition for concept change.

SZYMANIK

Computational basis for natural language quantifiers

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Session: A08

If we identify the meaning of a natural language quantifier with an algorithm computing its denotation in finite universes, then using the techniques from descriptive computational complexity theory we can classify quantifiers according to the complexity of their meanings. Recently, the anatomical differences in processing elementary quantifiers and higher-order quantifiers (i.e. not definable in elementary logic) have been demonstrated for the first time using neuroimaging studies. It was shown that all quantifiers recruit inferior parietal cortex associated with numerosity, while only higher-order quantifiers recruit prefrontal cortex associated with executive resources like working memory (McMillan C., Clark, R., in print). These findings are only partially consistent with the theoretical investigations on computational semantics for quantifiers. We discuss this research, especially focusing on differences between elementary quantifiers and quantifiers definable in the divisibility logic. The distinction which was not taken into consideration by authors of the neuroimaging study. We also present our own empirical research which can help to fill up into the gap in presented findings. In our study we focus on the difficulty in understanding quantifiers belonging to various classes. Our methodology is very similar to this from neuroimaging studies, but we measure the reaction time and the number of mistakes. We are also interested in NP--complete quantifiers and in the influence of universe ordering on the difficulty of recognizing the truth--value of sentences with quantifiers.

TÄRNING

And then what happens? Implicit and explicit processes in preference change through choice

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Session: A05

Choice Blindness is the failure to detect mismatches between intention and outcome in decision tasks. In particular, we have investigated this effect for choices between human faces based on facial attractiveness. We have shown that when evaluating facial attractiveness, participants may fail to notice radical changes to the outcome of their choice. We have used this effect to investigate the nature of intentions. As a strongly counter-intuitive finding, choice blindness warns of the dangers of aligning the technical concept of intention too closely with common sense. In addition, we have studied introspective awareness. Using choice blindness as a wedge, we are able to 'get between' the decisions of the participants and the outcomes they are presented with. This has allowed us to show that normal participants

may produce confabulatory reports when asked to describe the reasons behind their choices. However, of the goals of consciousness research is to be able to move beyond snapshot measure s, and study the dynamic interplay between implicit and explicit processes (as Dennett 1991, says, to ask the hard question: *And Then What Happens?*). In our current set of experiments we are investigating what happens when choice blindness is incorporated into longer series of choices, with repeated instances of verbalization, and with (explicit and implicit) feedback from outcomes being used as the basis for the next round of choice. We have found that exposure to the outcome in a choice blindness trial can lead to a preference change in line with the manipulated choice, and that this effect is strongly modulated by the level of introspective involvement shown by the participants. At the conference, we will present this (hitherto unpublished) material, and discuss the interface between conscious and unconscious processing with respect to choice, introspection, and preference formation.

VANDERBEEKEN

Towards a metaphysics of dispositions for psychology

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Session: B09

The most interesting feature of the concept 'disposition' is that it potentially provides in an explanatory and interpreting perspective that can be situated in between universal laws and singular causation. Dispositions, being behavioral properties of a system, allow us to capture typical tendencies of a system when it is confronted with a specific type of situation. Put differently, dispositions aim to pin down causal invariancies with respect to (groups of) individual systems. That's why dispositions are in so appealing for the Social Sciences in general and Psychology in particular.
However, when we consider the metaphysics of dispositions in order to get a grasp on what dispositions in social sciences consists of and how they work, we get tangled up in a pluralism of views: categoricalism, dispositionalism, the two-sided view, conceptualism, functionalism, etc. Typical about the metaphysical inquiry on dispositions is the emphasis on methodological analysis on the one hand, and a liberal pluralism of methodological tools on the other. Different methodological standards are involved, which leaves the discussion unsettled.
A way out to this theoretical impasse is to develop a new account on dispositions which fits our purposes. Such an account, called dualism, is credible because it is complementary with other views and compatible with the psychological theories. Another argument in favor of a dualism is that the conceptual analysis of the existing views univocally relies on physical paradigm examples like solvability, fragility or elasticity. In this way, important and more complex examples like human behavioral tendencies are not dealt with.

WALLIN

Errors in the prediction of preferences:
role taking and simulation in adult mind reading

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Session: B07

The debate between simulation theory and theory theory has moved towards hybrid theories including both types of mindreading. If such hybrid theories are to develop, we need more data on when which method of mindreading is used. A first step is to find diagnostic criteria for simulation- and theory-based mindreading. We propose to diagnose theory-use and simulation-use through the type of errors that occur in mindreading. We focus on third-person prediction and in particular the prediction of others' preferences. This type of mind reading is investigated in an everyday setting with adult participants predicting each others preferences. We argue that prototypical simulation-based mindreading is most compatible with participants overestimating the similarity between themselves and the person for whom the prediction is made (projection). Prototypical theory-based mindreading, on the other hand, is most compatible with participants simply predicting the most common preferences. This leads us to expect that the most common error in prediction will be an overestimation of the typicality of the preferences of the person for whom the prediction was made. We find that the errors made in prediction in this type of setting support theory-based prediction more than simulation-based prediction, despite the fact that simulation-based prediction could have been a very successful strategy.

WELSH

Experimental psychology and phenomenology's Search for an innate theory of mind

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Session: A16

One tradition in contemporary phenomenology and the human sciences is to draw upon experimental research to bolster phenomenological claims and to offer a continuation of phenomenology as a description of our most basic experiences of ourselves, others, and the world. This paper takes up this tendency to use studies of neonatal imitation as proof for a kind of innate intersubjectivity. I will argue that although studies in infant behavior indicate that infants are intentional beings, I will disagree with Andrew Meltzoff's claim that the neonate displays an understanding of the other as a similar kind of being. Thus, I will disagree that we have reason to think an innate theory of mind (ToM) exists. Instead, I will propose the empirical data lends itself to a notion that infants are primarily self-regulating in neonatal "imitation."

WOLLERMANN

Perceptual evaluation of emotional congruency in multimodal speech synthesis

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Session:A13

This paper deals with the role of emotions in human-machine-interaction. During the last few years communications between humans and machines has become ever more important, e.g. in E-Commerce and E-Learning. Most of these agents are multimodal systems using the

auditive and the visual channel for communication. However, which role does emotion play in this context? Does a system with additional emotional expression appear more believable?
The current study investigates the role of emotional congruency in multimodal speech synthesis. A perceptual experiment is described, in which subjects were shown audiovisual stimuli with interactive speech. The stimuli consisted of the audio and video recordings of a female speaker, whose voice was replaced by a synthetic one. Therefor we used the Text-to-Speech Synthesis System MARY (Schröder, Trouvain 2003). Emotional faces were combined with congruent and incongruent emotional synthetic voices, e.g. a smiling face was simultaneously shown with a happy voice and then with a sad one. Alltogether there were five emotional categories: happiness, sadness, interest, boredom and neutrality. The listeners were asked to rate each audiovisual utterance, regarding the emotional categories and the degree of the persuasive power.
Results show that listeners found happy faces combined with congruent and incongruent voices mainly happy. Sad faces with congruent voices were always judged as boring, whereas subjects chose different emotional categories for the same faces with incongruent voices: boredom, sadness or interest. Interested faces in combination with congruent voices were not only interpreted as interested but also as happy. Subjects identified boring faces with congruent voices as boring. Surprisingly, neutral stimuli were recognized as happy and interested as well as bored. The experiment brought to light that the perception of incongruent utterances often depends on the emotional category of the acoustical information, e.g. a bored face with an interested voice was characterized as interested. Concerning the actual believability, subjects found utterances with happy and interested faces as positive emotional expressions more believable than utterances with none emotional expression or negative ones like boredom and sadness.

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WYSS

Downward causation revisited

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Session: B02

Downward causation occurs when an instance of a higher–level property (such as a mental property) causes the instantiation of a lower–level property (such as a physical property). Jaegwon Kim thinks that downward causation is incoherent because of problems with overdetermination and circularity. He uses these doubts about the coherence of downward causation to argue against emergentism. While I agree with Kim that downward causation (or something like it) is a central feature of emergentism, I show that the two problems can be defused even within Kim's own framework. However, there remains a difficulty related to downward causation and hence emergentism, viz. the claim that emergent properties are existentially dependent on so–called base properties yet have new and irreducible causal powers. Addressing this issue, I sketch an approach to this difficulty which is congruent with classical emergentism, gestalt theory, and recent work on emergence.

YANG

On the semantics and pragmatics of mandarin negative conditionals

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Session:B12

Negative Conditionals such as English 'unless' sentences and Mandarin *chufei* 'unless' sentences reflect interesting and intricate human reasoning processes. There are numerous studies on English *unless* constructions (Dancygier 1996, Dancygier & Sweetser 2004, Traugott 1986) but few on Mandarin *chufei* construction (Chao 1968, Eifring 1993, Li & Thompson 1981). The purpose of the present study is to provide a cognitive account of different types of *chufei* constructions, using Mental Spaces (Fauconnier 1996) and Construction Grammar (Goldberg 1995). There are five types of *chufei* constructions. Two most common types of constructions require the order *chufei* P (antecedent clause), Q (consequent clause) and an additional negative conjunction or a necessity modal in consequent clause.

Chufei clause serves several unique pragmatic functions when preceding the main clause, and these functions have never been studied in previous studies. There are four functions to be discussed in this paper: emphasis on unfortunateness of the state of affairs in reality, showing the speaker's uncompromising attitude, negotiation of demands of both parties, and evasion of responsibility.

The present study integrates cognitive approaches such as Mental Spaces and Construction Grammar to show different types of conditional reasoning reflected by clause orders and co-occurring elements.

ZAJENKOWSKI

Relationship between intelligence and personality

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Session: A11

The issue of interactions between intelligence and personality is of significant interest (Akckerman, Heggestad, 1997; Collis, Messick 2001; Matczak, 2001; Saklofske, Zeidner, 1995; Sternberg, Ruzgis, 1994; Zeidner, Matthews, 2000). Altough the nature of the interactions between the two constructs is still poorly understood. In my presentation I would like to consider possible conceptual framework for understanding the personality-intelligence interface. In doing so, I examine two different levels of intelligence: intellectual ability and cognitive task performance. I focus especially on the second level. The distinction comes from R. Cattell (1971), who distinguished between fluid (Gf) and crystallised (Gc) intelligence. First one is responsible for current intellectual performance and second one is the sum of acquired knowlegde and experience. This theory was further developed by P. Ackerman (1996a; 1996b), who proposed intelligence as process and intelligence as knowledge.

In the area of intellectual ability (or intelligence as knowledge) I consider, so called, investment theories. In this viewpoint intelligence is partly the result of engaging (investing)

in intellectual activities (Chamorro-Premuzic, Furnham, 2004). The scale of this engagement depends on many non - ability factors, especially on personality. I would like to present Ackerman's theory of PPIK, i.e., Intelligence as Process, Personality, Interests, and Knowledge (Ackerman, 1996a).
The influence of personality on cognitive task performance is the main aim of my presentation. I focus on, so called formal theory of intelligence, originated with Polish researcher, E. Necka (2000). He wanted to describe intelligent behavior from formal point of view. This account is tied up with considerations about artificial intelligence, especially with Simon and Newell work (Newell, Simon, 1972). Necka created a model of intelligence which consists of three aspects: short term memory, attention and activation. The last one represents all non - ability factors. I present my own model of influence of personal factors, like extraversion and neuroticism, on process of intelligence. I believe that personality traits modify the activation and by that, influence on short term memory and attention. This model is based on my earlier research.

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ZENKER

Proper heuristics or ad hoc antecedent loading? auxiliary hypotheses for explaining failed predictions in data from language acquisition

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Session: A07

Following Chomsky, and motivated by the common sense insight that an adequate syntactical theory must be learnable, generative syntactical theories find their potential falsification instances in language acquisition research. Insofar as particular versions of syntactic theories in generative grammar are claimed to hold (true) empirically, they allow to formulate (by logical derivation) predictions regarding stages in child language acquisition. More specifically, under addition of boundary conditions and auxiliary hypotheses, a prognostic statement can be understood to constitute a deductive consequence of that theory, so that comparison with empirical data allows to test the theory. Two basic assumptions about grammatical development are prominent in acquisition research: (i) the continuity hypothesis claims that a complete system of syntactic representations is available to the child from the outset; (ii) the maturation hypothesis holds that some predetermined biological maturation in the child's brain is necessary for children's speech to become adult like. The latter is suggestive of being unempirical, because always correct, and in need of specification. The former is straight-forward but empirically false. Thus, theoretical predictions under both of these assumptions regularly run into contradiction with empirical data. Our work reconstructs empirically contentful versions of the continuity assumption from the literature and traces forwarded explanations of deviating empirical results under a meta-theoretical perspective. That perspective is informed by research in the philosophy of science on theory dynamics.

Concretely, we apply Popper's (1965, 1968) criterion of increased degree of falsifiability and Lakatos' (1974, 1978) criterion of a progressive problem shift onto these cases.