

Can Western Scrub-jays Plan for the Future?

Alexis, Dean, Anthony Dickinson & Nicola Clayton

Session: B2

Future planning is the ability to anticipate future motivational needs (e.g., hunger) and take steps in the present to satisfy these needs. According to the Bischof-Köhler hypothesis, only humans can plan for the future: animals cannot anticipate a future motivational need beyond the one they are currently experiencing.

Food-caching behaviour is future-oriented in that its benefits are not experienced until recovery, days if not weeks later. Yet, there are a number of behaviours that are prospective in nature but do not require cognition, from nest provisioning by digger wasps to the migratory orientation of black-capped warblers. In the case of corvids such as the western scrub-jay (*Aphelocoma californica*) however, there is evidence that their cache-recovery behaviour involves complex cognitive processes. For example, these birds form episodic-like memories of previous caching episodes and keep track of the social context of caching. The objective of this experiment was to test whether or not the caching behaviour of scrub-jays is mediated by prospective cognition.

The present experiment consisted of two trials. On Trial 1, sated birds were given the opportunity to cache food in two locations and later recover from one location while hungry and one while sated. Initially, the jays did not show a preference for caching in either location. On Trial 2, sated birds were given the opportunity to cache in the same two locations from the previous trial. The Bischof-Köhler hypothesis claims that the jays are only sensitive to their current motivational state. Consequently, it predicts that there should be no change in caching behaviour between Trial 1 and Trial 2, and the birds should cache indiscriminately in both locations on both trials. Conversely, if caching behaviour is sensitive to the animal's future motivational needs at recovery, then there should be a change in behaviour between Trial 1 and Trial 2. In this way, the jays should cache primarily in the hungry tray on Trial 2 because this would meet a future motivational need as opposed to a current one. The results showed that the birds did change their caching preference, storing food almost exclusively in the hungry location on Trial 2.

The primary finding of this study was that western scrub-jays can use their previous experience about cache-recovery to anticipate future motivational needs, and adjust their caching strategies to meet these needs. This result is counter to the Bischof-Köhler hypothesis and represents the best evidence to date of future planning in animals.

On the Location of the Unique Hues

Allen, Keith

Session: A8

Normal perceiving subjects vary in where in the visible spectrum they locate the unique hues – ‘phenomenally uncomposed’ instances of blue, green, yellow and red. These variations have been used to argue for a range of surprising philosophical conclusions about the nature of colour. I argue, however, that reflection on the details of this ‘location problem’ suggests that inter-personal variation is neither as pronounced, nor as philosophically significant, as we are often lead to expect. I outline an account of colour perception according to which our colour experience is primarily geared towards sorting colours into broad categories, and argue that it is consistent with what inter-personal variation there is that colours are in this respect properties that normal subjects all successfully track.

Is theory of mind automatic?

Apperly, Ian, Andrew Simpson, Kevin Riggs, Dana Samson, & Claudia Chiavarino

Session: A2

It is often claimed that belief reasoning depends upon a cognitive module and that the process of inferring beliefs is domain-specific, fast and automatic. We used an “incidental false belief task” to investigate the automaticity of belief inference. Participants viewed short videos in which the location of an object and a character’s beliefs about the location of the object often changed. At the end of each clip, participants pointed to the location of the object. During the video clip participants also had to respond “yes” or “no” to an unpredictable probe sentence about where the character believed the object to be located or where the object was located in reality. In the “incidental false belief” condition, participants were given no specific instructions about the content of the probe sentences. Responses to Belief probes were significantly slower than matched Reality probes. In two further conditions, where participants were instructed to track where the character thought the object was, no response time differences were found for Belief and Reality probes. We suggest that the reaction time cost for Belief probes in the incidental false belief condition reflects the need to infer the belief, suggesting that beliefs are not inferred automatically. The absence of this cost when participants are instructed to attend track the character’s beliefs suggests that beliefs may, nonetheless, be processed on-line under voluntary control. We discuss the implications of these findings for accounts of theory of mind, and the place of explicit belief inferences in relation to other cognitive activities.

Emotion's Intensity and Linguistic Markers in Hebrew

Argaman, Osnat

Session: A6

Theorists of emotion stress that language is the most convenient channel for approaching research on the topic of emotions, and that emotion words are the best way to reflect the emotional experience. The lexical means are the essence in emotional expression, since they are the building blocks of language, the foundation on which the discourse is built; and they are the ones that most naturally connect the signifier and the concept, in this case the emotion words and the emotion concept. The purpose of the presented experiment is to indicate possible relations between emotion's intensity and the lexical means for expressing those emotions in Hebrew. In the presented experiment, 60 Hebrew-speaking subjects were asked to watch 4 short films that aroused emotion. Two of the films gave rise to different degrees of happiness, and two to sadness. At the end of each film the subjects were asked to report on their emotions, choosing the name of the emotion from a list of emotion words, and to write a text describing what they felt. The suppositions behind this experiment are that there is a relation between various lexical means used by the subjects in writing about emotions, and the intensity of the emotion. The lexical means that were examined included intensifiers, use of emotion words, repetitions, use of first person singular, use of metaphors, use of exclamations etc. This experiment confirms the research hypothesis, since it proves that there exist significant differences between the lexical means found in texts written with lower emotional intensity (about both happiness and sadness) and those written with greater intensity of emotion.

Babies do not play dice, either: An enquiry concerning cognitive development of causal reasoning in infants and young children

Asgari-Targhi, Marzieh

Session: B12

Gopnik et al (2004) suggest that there is evidence that infants and children have the prerequisites for making causal inferences consistent with causal Bayes net learning algorithm. Here I shall call into question a number of assumptions underlying Gopnik et al's work. Key assumptions are:

- (a) Cognitive development of causality in babies and young children is based on the probabilistic aspect of causality.
- (b) The children in Gopnik et al's experiments gave answers similar to what would be produced by a Bayes net, therefore they used the Bayes net approach to get to that answer.
- (c) Infants and young children combine evidence from observation and interventions to learn causal structure in the way that computation accounts (such as the causal Bayes net formalism) might predict.

I will argue against these assumptions, by saying that causality is not a monolithic notion, it is a multi-faceted concept. Causality has many different facets, such as the counterfactual element, the probabilistic aspect, the logical element, the temporal aspect and it has the manipulability facet. These aspects have been the bases for different approaches to causality in AI, philosophy and developmental cognitive theories of causal learning. I suggest that each scientific or philosophical approaches to causality corresponds with certain stages in our lives. At infancy we use Humean regularity analysis plus the manipulability aspect of causality, as we grow older and become sophisticated agents with language skills who can understand many aspects of causality, we use various causal tools available to us depending on contexts we are in.

Experience, Reference and Inscrutability

Ávila-Cañamares, Ignacio

Session: A12

In *Reference and Consciousness*, Campbell suggests a theory about the role of conscious attention in demonstrative thought. He claims that conscious attention to an object is what gives us direct knowledge of the reference of a demonstrative and, in this sense, conscious attention plays a crucial role in causing and justifying the patterns of inference and verification we use in propositions containing demonstratives. According to Campbell, this view is committed to a general model in which reference to objects constitutes the fundamental point of contact between language and the world and, consequently, facts about meaning cannot be characterized independently of facts about reference. This model stands in strong opposition to the Quinean thesis of the indeterminacy of reference. Accordingly, in chapter 11 of his book Campbell discuss Quine's ideas as an indirect way of reinforcing his own approach. Campbell's main contention is that facts about meaning and reference are already available in experience and, therefore, there is no place for the inscrutability of reference.

The purpose of this paper is to examine Campbell's main line of reasoning against Quine. In the first part, I shall argue that Campbell overlooks the specific connection Quine draws between reference and ontology and, in consequence, he does not realize that the inscrutability of reference arises at the theoretical level of full reification and not at the more primitive level of perceptual experience. Having established that, in the second part I shall raise some doubts about the ontological value of demonstratives as full vehicles of reference and I will sketch an alternative in which reference involves an interaction between demonstratives and quantifiers. The central idea here is that demonstratives are genuine referential devices provided that the thinker is also able to quantify over objects picked out by demonstratives and, correlatively, that in the appropriate circumstances the thinker has to be able to refer demonstratively to the objects he quantifies over. The general upshot is, then, that reference in strict sense cannot be secured by conscious attention alone.

Syllogistic Reasoning and Natural Logic

Battaglini, Fabian & Jan van Eijck

Session: A9

In the first part of our talk, we will analyse the fine structure of syllogistic reasoning in terms of the application of the rules of monotonicity, symmetry, and existential import (van Eijck 2005b), and we will develop a version of natural logic for a fragment of natural language in terms of these rules (van Eijck 2005a). We will also show that this natural logic framework can be extended so as to deal with reasoning tasks involving higher-order quantifiers. This first part of our talk will result in a competence model of human predicate reasoning; i.e., it explains how logically untrained humans can perform a syllogistic task. In addition to this competence model, we will present a processing model in order to account for performance; i.e., we will try to explain the data collected by experimental psychologists. In particular, we will focus our attention on two phenomena: (1) The relative difficulty of some syllogistic tasks. We will show that the number of rules required in order to draw a conclusion is a good predictor of difficulty; and we will discuss Geurts' (2003) predictions based on a set of weighted rules. (2) We will also address the issue of explaining the figural effect, namely the fact that people have a tendency to produce a conclusion whose terms (subject and predicate) reproduce the role which they have in the premises; we will show that this effect results from the workings of our computational model. Finally, we will quickly present the formal properties of our computational model, which is sound, complete and polynomial.

Which developments in counterfactual thinking underpin thinking about regret and relief?

Beck, Sarah, Maria Crilly, & Zara Gains

Session: A6

Experiences of regret and relief require a comparison between what is the case and the alternative or counterfactual world. Children's understanding of these complex counterfactual emotions is relatively late developing, appearing at around 7 years old (e.g. Guttentag & Ferrell, 2004). In contrast, children as young as 2 show some success on tasks which have a counterfactual element such as those concerned with pretence or false syllogisms (Richards & Sanderson, 2001). Recently, it has been reported that children do not appreciate that counterfactuals were once possibilities, until after the age of 5 (Beck, Robinson, Carroll, & Apperly, 2006). We present two experiments that test whether this late development in counterfactual thinking might be necessary for children to understand regret and relief.

In Experiment 1 we used story tasks where children judged other people's experiences of regret and relief. Data from 30 5-6 year olds showed that understanding counterfactuals as possibilities was necessary but not sufficient to show understanding of regret. In a second experiment we used a simple game where children could experience regret or relief themselves. In this study of 41 4-6 year olds we found a strong relationship between success on understanding counterfactuals as

possibilities and experience of regret. We discuss the influence of reasoning on understanding and experience of complex emotions.

Experience and the first person

Billon, Alexandre

Session: B8

An argument is provided for the claim that there is a first-person privilege over experience. The argument relies on a thought-experiment in which we imagine a situation of conflict between the reports of a subject and the indications of a pain-meter --- a device measuring pains which relies on a futuristic science of consciousness. Roughly, it concludes that in such a situation, if there is no independent reason to suspect that our subject has attentional or conceptual limitations, we would have to trust him rather than the pain-meter. This allows to spell precisely what the first-person privilege amounts to, and to defeat many of the objections that were addressed to such claims.

Semantic Articulation and Movement Execution

Böger, Claudia & Jurgis Skilters

Session: B5

The present study discusses movement as a transmodal aspect of articulating meaning. Our assumption is that articulation of meaning is produced by reciprocal interaction between language and movement. Language is characterized as a non-autonomous system and movement as a relational and mutual determination process of the subject and environment (Tamboer 1991). Meaning is interpreted as a perceptually influenced complex cognitive structure with a subject- and a situation-foundation (Skilters 2004).

The core of the empirical part of the paper is an account of experiments on interaction of movement perception and meaning assignment and the perception of differences during the performance of action. Regarding the tapping experiments of synchronization research (e.g. Aschersleben 1994), a design has been proposed which makes it possible to investigate the phenomenon of negative asynchrony under the focus of the subjective determination of meaning. Experiments are guided by two main hypotheses: (1) Auditory perception during action is different from auditory perception without action, and (2) metaphoric instructions reduce the degree of negative asynchrony.

The main results let us assume that the self-active processes inherent to the action are activated within the subject and direct the execution of action (Böger 2006).

In a further step we propose a model of cognitive perception - and the processing of meaning. This model says that the units (structures) of perception are transformed (int. al.) into meanings and the meanings are represented and articulated (int. al.) in language. Meaning is already present at the level of bodily perception. Using this background we discuss some general principles of semantic movement articulation: tendency towards simplicity, completion. Within our theoretical and experimental

framework we also discuss some cognitive semantic principles such as subjectification.

If Mirror Neurons are the Answer, What is the Question?

Borg, Emma

Session: A3

Mirror neurons are neurons which fire in two distinct conditions: (i) when an agent performs a specific action, like a precision grasp of an object using fingers, and (ii) when an agent observes that action performed by another. Some theorists have suggested that the existence of such neurons may lend support to the simulation approach to mindreading (e.g. Gallese and Goldman, 1998, 'Mirror Neurons and the Simulation Theory of Mind Reading'). In this note I critically examine this suggestion, in both its original and a revised form (due to Iacoboni, Molnar-Szakacs, Gallese, Buccino, Mazziotta, and Rizzolatti, 2005, 'Grasping the Intentions of Others with One 's Own Mirror Neuron System'), and argue that the activity of mirror neurons can in fact tell us very little about how intentional attribution proceeds.

Vagueness, Boundarylessness and Communication

Carmody, Matthew

Session: A11

Vague concepts present themselves as in some sense "boundaryless". In attempting to capture this notion, most philosophers have come to accept that there is higher-order vagueness. I believe that there is no such thing as higher-order vagueness. I also believe that there are no fixed and hidden first-order boundaries. In this paper, I shall argue that a middle position of genuine boundarylessness can be achieved by focussing on how vague concepts (or the vague expressions that express them) are used in communication. By understanding our role in determining what falls under the concept, the contextual nature of vague concepts and how we communicate, we can make sense of the claim that to fall under a vague concept F is to be judged as falling under it. Since people differ in how they apply F, there will be no sharp limit to the extension of F. Yet we can still see ourselves as fully knowledgeable of what does and does not fall under F, hence avoiding hidden boundaries.

Martin and Heil on Rule-Following

Cheng, Kai-Yuan

Session: A4

A central part of Kripke's (1982) notable interpretation of Wittgenstein (1958) is the rejection of dispositional accounts of meaning. Kripke argues that semantic dispositionalism faces three major problems: the normativity, finitude, and justification problems. The former two problems regard how a disposition can be uniquely and non-circularly identified, given that people's dispositions are fallible and finite, while the third problem concerns how a disposition could guide one's action, given that people's dispositions are deep-seated and theoretically posited in nature. Dispositionalists typically invoke the idea of normality and idealization conditions to solve the normativity and finitude problems. However, epistemic difficulties of how to suitably specify the conditions in question seem to persistently plague dispositionalism. Moreover, even if these two problems can be solved, it is hard to see how the guiding aspect of rule-following could be explained within a dispositional framework.

Martin and Heil (1998) have defended a realist dispositional approach against Kripke's skeptical challenge that is very different from previous dispositionalist attempts. They argue that Kripke and subsequent dispositionalists have taken a highly inadequate counterfactual conception of dispositions such that all the major problems arise. Their main idea is that a disposition is real and actual, while its manifestations are mere *possibilia*, and hence that a disposition is ontologically not reducible to a set of testing conditions and observable behaviors. Based on their metaphysical view of dispositions, Martin and Heil claim that appealing to conditions of normality and idealization to solve the normativity and finitude problems is both wrongheaded and futile. Consequently, rule-following can be shown to consist in the possession of a real disposition.

The main purpose of this paper is to argue that 1) the normativity and finitude problems re-surface in Martin and Heil's realist dispositional account and remain major obstacles for it, and 2) despite its insufficiency, their realist account contains important insights about the metaphysical characteristics of dispositions, and can be suitably amended to offer a plausible account of rule-following to meet Kripke's skeptical challenge. More specifically, I argue that a realist account needs to be supplemented with an explanation of how a real disposition of rule-following is ascribed to a person in a way that is epistemically legitimate, and I attempt to show how such an explanation may be offered. This paper further elaborates on Martin and Heil's idea of "cue-manifestation" to resolve the justification problem that has been widely considered as unsolvable by a dispositional account.

Are people with autism the mindreaders here?

De Jaegher, Hanne

Session: A1

In this paper an argument is presented that casts doubt on the proposal that a 'mindreading' capacity (also called a Theory of Mind or mentalising capacity) is at

the basis of our social understanding. In order to do this, I draw on the characteristics of mindreading and Baron-Cohen's recent suggestion that autism is a form of 'extreme systemising'. I will suggest that mindreading can be conceived as a systemising capacity and therefore that people with autism would be expected to be good at it, in line with Baron-Cohen's suggestion that people with autism are extreme systemisers. It turns out that some people with autism are indeed good at mindreading. Still, however, they lack interpersonal skills in everyday, naturally occurring social situations. This casts doubt on the idea that mindreading is the bedrock of social understanding capacities. But what does it mean more positively? Many of the recent criticisms of the ToM approach coincide with a call for a more embodied approach (see e.g. Gallagher 2001; McGeer 2001; Gallagher 2005). The argument presented here also leads to this conclusion.

How many representations of the body?

de Vignemont, Frédérique

Session: B5

Do we have one single representation of the body, given that we have one single body? Or do we have more, given the multiplicity of bodily properties and the diversity of body deficits? The body can be viewed from many different perspectives (e.g. semantic, emotional, spatial, motor, tactile, visual, proprioceptive, etc.) and described with many pairs of opposing properties: conscious/unconscious, conceptual/nonconceptual, dynamic/stable, innate/acquired, personal/generic, spatial/non-spatial. How many body representations do we really have? One representation, integrating all the different types of information into a unified neuromatrix (Melzack, 1992)? Two representations, on the model of visual perception, distinguishing the body image for recognition and the body schema for action (Paillard, 1999; Gallagher, 2005)? Three representations, for a more fine-grained distinction within the body image, disentangling the visuo-spatial bodily map and the body semantics (Coslett and Scwhoebel, 2005)?

To reply to these questions, one needs first to understand what criteria to use to distinguish between different types of body representations. Following a functionalist account, one could argue that what distinguish between different kinds of representation are their inputs and their outputs, the way of gaining information and the functional role. On the other hand, one could base the distinction of the content itself of body representations. I will highlight three main components that could serve as criterion: the owner of the body (self versus other), the bodily property and the spatial frame of reference. Finally, I will describe the different dynamics of body representations.

Narrative, Memory and Knowledge about the Past

Debus, Dorothea

Session: A3

Sometimes we remember past objects or events in a vivid, experiential way. We sometimes also form (new) beliefs about the past on the basis of those experiential or "recollective" memories, and those (new) beliefs often count as (new) pieces of knowledge. However, a belief which a subject has formed on the basis of a recollective memory (or "R-memory") can only count as a piece of knowledge if the subject herself has, from her own point of view, a reason which is "adequate for knowledge" to endorse the relevant belief. According to the "Embeddedness-Condition" which I develop in the present paper, a subject who has formed a belief about the past on the basis of an R-memory can only have an adequate-for-knowledge-reason in support of a relevant belief if the subject has other beliefs (or experiences) on the basis of which the subject could tell a reasonably detailed, autobiographical story which contains a reference to the content of the R-memory. As I show, such "embedding" beliefs (and experiences) provide the subject with some reason to endorse the relevant belief which is necessary for the relevant belief to count as a piece of knowledge. Thus, if it was not for the subject's ability to tell autobiographical stories, beliefs which a subject forms on the basis of her R-memories could not possibly count as knowledge. This, in turn, seems a new and surprising result, which will contribute in important ways to our understanding of the epistemology of R-memory.

The Extended Mind Hypothesis and Phenomenal Consciousness

Dumitru, Marius

Session: B4

The Extended Mind Hypothesis needs a defence of phenomenal externalism in order to be consistent with an indispensable condition for attributing extended beliefs, concerning the conscious past endorsement of information. However, it is difficult, if not impossible, to envisage such a defence in its current configuration.

Silence as Means of Verbal Communication within Jakobson's Communication Model

Michal Ephratt

Session: B9

We first differentiate between pause, being outside of language and (eloquent) silence: a meaningful means of verbal communication alongside speech which is restricted to the choice of silence by the speaker: not the silence of the listener and not the silencing of the speaker. We then look at the role played by eloquent silence in

each of the functions identified by Jakobson. Silence being a linguistic sign conveys information within the referential function (e.g. zero sign and passive). Concerning the emotive function silence is an iconic affective way of expressing emotions (void, intimacy). Baker places speech in the locus of partial reciprocal identification between negative silence and positive silence, he then predicts that eliminating tension (using speech) results in silence. Within the connotative function eloquent silence serves as a direct and indirect speech-act. Caesura, metaphors and ellipsis are just a few examples of poetic silence. Silence is a means for maintaining intimacy and separation in the phatic alliance. Silence serves as discourse-marker in the meta-linguistic function (turn switching) or as a meta-linguistic means (the rationale for the 'right of silence'). We conclude looking at rhetoric questions, which are, too cases where silence is the communicative-linguistic unmarked choice.

Representation and Interaction

Eraña, Ángeles, Axel Arturo & Barceló Aspeitia

Session: A9

Dual Process Theory is a widely discussed proposal of solution to the problem of filling the gap between normative and descriptive theories of reasoning. According to DPT, the best way to model human reasoning and rationality is through the interaction between two broadly different systems of reasoning. Despite the centrality of interaction for DPT, accounting for its exact nature has proven to be an elusive endeavor. As the differences between Systems 1 and 2 pile up, the difficulty of finding an informational bridge across them becomes larger.

We contend that, given that the rules that S1 acts in accordance with are not explicitly represented in it, S2 can have no direct access to them. Moreover, if the only information available about S1 is what inputs are fed to it, and what outputs it produces, then S2 must induce (i.e., make explicit, represent and formalize) a theory about S1 upon such information. Therefore, two distinct cognitive processes can be identified within S2: (1) the production of competing outputs, matching the classic rational requirements, for at least some inputs shared with S1; and (2) the derivation of some of its operating rules from those of S1. Finally, we will argue that to the question of how to better represent S1's behavior inside S2, two answers can be offered: simulation or theory. Of the two, it is a theory of S1's behavior that better satisfies S2's operational needs.

Supervenience and Duality in Many Minds Interpretation of Quantum Mechanics

Felline, Laura

Session: B8

The Many Minds interpretation of quantum mechanics postulates that every sentient physical system is associated with an infinity of minds. Both in Albert and Loewer's and in Lockwood's version, this theory is presented as completely local. However Meir Hemmo and Itamar Pitowsky argue that: (i) as a consequence of the assumption of total supervenience of minds on body, Lockwood's version of the Many Minds interpretation is strongly nonlocal; (ii) as a consequence of Albert and Loewer's position on the so-called mindless hulks problem, Albert and Loewer's version of Many Minds shows a weak form of nonlocality. We will here argue that (i) stems from Hemmo and Pitowsky's repudiation of the instantaneous mind view which we think is absolutely in line with Lockwood's characterization of minds as "maximal experiences". About (ii) we will argue that Hemmo and Pitowsky's argument is based on an additional assumption which cannot be inferred from Albert and Loewer's theory. Moreover, a deeper reflection on what kind of dualism can follow from Albert and Loewer's theory will show that Hemmo and Pitowsky's thesis implies a philosophical background (strong mind-body dualism, and interaction between minds not mediated by the body) that is hardly tenable.

After an analysis of the problems that rise depending on the ontological status we assign to minds, we will finally argue that a deepening of the philosophical background is necessary in order to consider the Many Minds an acceptable theory.

The Ontogeny of Intersubjectivity: Can Normativity Be Developmentally Grounded?

Fultner, Barbara

Session: A10

The thesis that meaning is normative is often conjoined to the thesis that meaning is social. A developmental perspective offers such normative-social theories a better account of how normativity emerges, and a way to do justice to the affective dimension of intersubjectivity, redressing their cognitive bias.

Some explain intersubjectivity by positing innate structures. Others focus on cultural learning, emphasizing either social-*cognitive* skills, or social-*affective* development. These two can be seen as complementary by examining the ontogenetic source of the trope of making claims, central to recent social pragmatic theories of meaning (Brandom, Habermas). While neither infant nor caregiver "raises" a propositional "validity" claim to be vindicated by reason-giving, there is what I call a claim to (affective) attachment: each "lays claim" to the other, thus grounding intersubjectivity. Objective, normative, and subjective claims cannot yet be differentiated at this stage. Emotional and cognitive development are inextricably intertwined in infancy. This parallels the inchoate holistic nature of the lifeworld (Habermas). This early inseparability of the conative and cognitive is consistent with

their (analytic) separation once language appears and with a social-cognitive-affective foundation of intersubjectivity.

Assertion and the Contingency of Convention

García-Carpintero, Manuel

Session: B7

Austin appears to have held a radical conventionalist view of central speech acts like assertion; assertion would be conventional in that, just as acts such as marrying, it could not be performed except by successfully following a conventional procedure. As Strawson and others showed, this is an intuitively very implausible view. However, a weaker conventionalist view might still be correct: although there are nonconventional assertions, they are, in some sense to be articulated, parasitic on conventional ones. In this paper, I will object to a claim by Williamson that there is a relevant asymmetry between assertions and conventions, which have been appealed to in order to reject weaker conventionalist claims and related views – Williamson himself does not do so, but other writers have, on the basis of his claim. According to Williamson, the asymmetry lies in that, while assertions are defined by constitutive norms that are essential to the act, conventions are arbitrary and therefore impose only contingent obligations.

What motivates pretend play?

Gardiner Ross, Josephine and Susan Leekam

Session: poster

Research into the imaginative deficit in children with autism has thrown up the puzzling finding that these children are able to engage in pretend play, but only if they are given prompting and structure. This discovery suggests two further questions, first, why children with autism do not pretend spontaneously, and second, the extent to which pretend play in typically-developing children is actually ‘spontaneous’.

The assumption that pretending is something that emerges automatically from within the individual still appears to be dominant in much recent research, a tradition that can be traced from Piaget via Alan Leslie’s “de-coupler” mechanism (1987), to Nichols and Stich (2000) and the “possible worlds box”. A radically different approach to the source of pretend play can be found in the work of Tomasello and colleagues, who propose instead that pretence is “socially constituted” and symbolic understanding is created intersubjectively between child and adult. This theory predicts that pretend play, together with the later developments that may follow from it, would not emerge at all without the child’s basic understanding that an adult wants them to see something in a new way.

If pretend play is a ‘leading factor in development’, then it is important to understand how it emerges. Equally, if it can be shown that pretence in typical children relies less on innate ability than a motivation to see the world through the eyes of others, then

the puzzling reluctance to pretend seen in children with autism begins to make more sense.

The current study investigated the extent to which typical children spontaneously produce pretend play. Thirty-six typically-developing 2 and 3-year-olds were observed playing with 10 familiar objects without adult input ('free-play1') in order to observe spontaneous acts of functional and pretend play. This session was followed by a second session in which an adult demonstrated pretend and functional actions with the same objects. In the final session children were observed in free play with the same objects in the same way as for session 1. We predicted that 2 and 3-year-olds would show little or no spontaneous pretend play relative to functional play with objects in the first session, but that adult demonstrations of pretend and functional acts would increase the amount of pretend play shown by the children, both as immediate imitations, and during the final 'free-play' session. It was also predicted that children would show more social behaviour (measured by social smiles and communicative speech/sounds) in response to pretend rather than functional play-demonstrations by the adult, and during their own pretend play compared to functional play.

Results supported most of these hypotheses. We propose that the motivation for pretend play differs from the motivation for functional play and may emerge entirely within the social context of the play. The study seems to support Tomasello's claim that 2-year-olds would not start pretending in the absence of adult support.

A Psychic Matrix of Language: Klein, Matte-Blanco, Newirth, revisited

Garfinkle, Michael Stuart

Session: poster

Cartesian critiques of Freud's sense of the unconscious as timeless have come in the form of accepting language as the structure of both the unconscious and conscious. If timelessness is removed from a definition of the unconscious, it then becomes "dissociated mental contents, governed by the same rules as consciousness." Wolstein's conception of unconscious psychic experience is portrayed "as the movement between creation and discovery," or the repressed and unrepressed (or discovered). Working within the relational paradigm, Joseph Newirth advances a view of the unconscious which "retains its primacy as a developing structure of the mind, encompassing the irrational and the mysterious as a necessary counterforce to the rational and the knowable." Incorporating Ignacio Matte-Blanco's symmetry-asymmetry dichotomy and Melanie Klein's Paranoid and Depressive positions, Newirth generated a "Matrix of Psychic Transformations" as a means to analyze expressed affect and thought and to map expressions on to a system to understand unconscious processes. Matte-Blanco's redefinition of the conscious and the unconscious was formulated as a level of asymmetry, where "the mind works according to Aristotelian logic following the rules of differentiation" and the symmetrical, "characterized by an elimination of time and space, making any kind of relation mutually inclusive." Klein's work on symbolization, later developed by Suzanne Langer, Hanna Segal, and Norbert Freedman, delineates two positions: "the paranoid-schizoid," where objects are experienced as concrete; and, "the depressive," where abstract thinking prevails. Newirth's matrix represents his work in

conceptualizing a two-dimensional conceptualization of some of the intersections between Matte-Blanco and Klein. This integration, by effect, proposes four levels of symbolization: “protosymbolization,” where the word does not represent the thing, but is the thing; “incipient symbolization,” reflecting the basic ability of the individual to symbolize her state of being; “discursive symbolization,” consisting of historical and temporal causal connections; and, “presentational symbolization,” which consists of metaphor use.

One major shortfall of Newirth’s Matrix is in 2X2 dichotomous design, limiting possibility for statistical analysis and for considerations of magnitude and extent. This poster will display research completed that has converted Matte-Blanco and Klein’s continua from dichotomies to ordinal scales. The product is a tool that can be employed in analyses of text, from fiction to psychotherapy transcripts, that yields a sophisticated analysis of psychic transformations and unconscious content. A through expansion on the psychological, linguistic, and philosophical considerations upon which this research depends, will be presented alongside the updated matrix.

Empirical evidence for Hintikka's Thesis. The notion of computational complexity in psycholinguistics

Gierasimczuk, Nina & Jakub Szymanik

Session: B3

We discuss Hintikka's Thesis that there exist natural language sentences which require non-linear quantification to express their logical form. Our basic assumption is that the criterion for adequacy of logical form is its compatibility with sentence truth conditions. It can be established by observing linguistic behaviour of language users. Our empirical research shows that there is a statistically significant preference to interpret Hintikka-like sentences with the "most" quantifier as having some linear logical forms and that there are differences between understanding Hintikka-like sentences with the "most" quantifier and these with proportional quantifiers. The former are more often understood by people as having first-order reading, when the latter are usually treated as branching sentences. Our conclusion is that some of the Hintikka-like sentences have logical form expressible in elementary logic, despite what Hintikka stated. However, observed differences in the understanding of such sentences with "most" quantifiers and with proportional quantifiers demand theoretical explanation. As the notion of computational complexity proved its usefulness for psycholinguistics (see McMillan, 2005) our first idea was to explain the results by evoking this notion. However, it finally occurred that all of the our sentences define exactly NP-complete classes of finite models. Therefore, such measure of their complexity does not explain anything. Probably, the other - more psychologically plausible - notions of sentences complexity are needed. We will discuss this point together with other possible psychological explanations.

On Sincerely Saying What You Don't Believe, Again

Steven Gross

Session: B7

Cappelen and Lepore (2005) defend "speech act pluralism," a constellation of claims that includes:

- (1) No one thing is said (or asserted, or claimed, or . . .) by any utterance: rather, indefinitely many propositions are said, asserted, claimed, stated, etc. (199)
- (2) One of the many propositions asserted by an utterance is the semantic content of that utterance (the proposition semantically expressed) (200)
- (3) Speaker's don't have privileged access to the content of their speech acts (202)
- (4) Speakers need not believe everything they sincerely say (202)

These claims are clearly controversial, and controversial claims require defense. I argue that C&L fail to provide a compelling defense of their views.

C&L claim to arrive at their views by taking clear cases at face value. But their methodology is in fact far from clear. According to their most recent (2006) attempt to clarify it, we should accept the following principle:

If A utters 'P', B utters about A's utterance 'A said that Q', and speakers judge what B said accurate, then we have evidence that the proposition saliently asserted by the complement clause of that report is part of the speech act content of A's utterance. (72)

This principle, however, suffers from three defects. First, it is unclear: what is it for a complement clause to saliently assert a proposition? Second, depending on how it is clarified, it runs the risk of being not true: on at least one natural clarification, there are cases in which there is no proposition saliently asserted by the complement clause. Third, the truth of the principle, together with cases that satisfy the antecedent, would not suffice to establish the claims of C&L's speech act pluralism.

Modelling Learner Conceptualization of Morphological Causatives in a Second Language

Haase, Christoph

Session: A7

The grammaticalization of cause-effect relationships has been studied in a number of languages but few studies employ a typological-comparative method (notable exceptions are Comrie, 1989; Song, 1996 or Wolff et al., 2001). Even fewer employ a cognitive approach as suggested by Langacker's case hierarchy for the parameter of control in a cause-effect relationship. Further, little is known about the acquisition of causation for second language learners. Although L1 causative acquisition spawned extensive research (cf. Brooks/Tomasello, 1999), L2 has received little interest. In this study the conceptualization of learners of causation in English in its different lexicalizations is studied against the backdrop of a typologically close L1, German. The study will focus on morphological causative verbs. The evaluation of the data and

the theoretical considerations allow for establishing some tentative parameters. In this model the attribution of category membership of morphological causatives is influenced by at least four different cues: cue 1: absolute frequency; cue 2: productivity; cue 3: material/shape; cue 4: causative/inchoative alternation. The findings further suggest consecutive refinement of L2 learner theories which will lead to a generalized model of morphological causatives.

Trust as Comfortable Defocusing

Hayenhjelm, Madeleine

Session: A5

The philosophical literature on trust deals to a large extent with trust from the truster's point of view. There are two major lines of thought in the philosophical literature on trust: trust as primarily a positive attitude towards the trustee; or trust as primarily a set of positive beliefs or expectations about the trustee. Both accounts are intuitively appealing but seem insufficient to explain the value of trust for the trustee and the vulnerability caused by trusting for the truster. This paper develops an idea put forward by Olli Lagerspetz that trust is to be understood as certain mental states that fail to appear. It is argued that trusting can be understood in terms of comfortable defocusing: Trusting on this account is to cease to occupy our thoughts with whatever we have entrusted to the trusted other in combination with a comfortable feeling that the matter is in good hands. The defocusing aspect allows us to explain two things. First, how trust can be of value for both the truster and the trustee in terms of freedom. Second, how trust can increase the vulnerability of the trusting party. Trust on the one hand leaves a certain freedom for the trusted person to tend to matters, as he or she seems fit, but also a freedom for the person trusting to turn his or her attention to other matters. On the other hand the comfortable inattention of trust exposes the trusting person to the possible exploitation by the trusted other.

Plausibility of Property Explanations

Heussen, Daniel & James Hampton

Session: B6

Research on explanation in both philosophy and psychology has primarily focused on event explanations (Hempel & Oppenheim, 1948; Salmon, 1984; Heider 1958; Kelly, 1967). However, in everyday life we not only seek explanations of singular events, but often wonder about the properties or characteristics of particular entities: why a particular friend has the characteristic of always being late, or why the majority of prices end with 99 cents or why the moon appears to be bigger closer to the horizon. How do we explain properties as opposed to events? In a qualitative study we found that when people were asked to explain a property of an entity, they regularly referred to another property of that entity to provide an explanation. For example 'why axes are dangerous' was explained in terms of their property of being sharp.

In the present study we wanted to know what affects the relative plausibility of such explanations. A set of 146 explanations of the form 'x has p because it has q' were judged for plausibility. Measures of counterfactual relations between the two properties (i.e. likelihood of having p without q), co-occurrence and mutability of p and q, as well as a measure of conceptual coherence based on network diagrams (Sloman, 1998) were used in a regression analysis to predict plausibility. Conceptual coherence followed by counterfactual relations were the strongest predictors of plausibility in a model explaining almost 75% of the variance in plausibility judgments of property explanations.

Consciousness in Action: Some Distinctions

Huebl, Philipp

Session: B6

The role of consciousness in action is subject to much confusion. I will disentangle some confusion by drawing a few distinctions. My paper is threefold. In the first part, I will propose a view on consciousness that locates all conscious states in a coordinate system of two axes, that is, phenomenality and focality. Some mental states are also rationally access-conscious, if they enter into thought and action. Being focal is a necessary, but not sufficient condition for a mental state to be rationally accessconscious. My observations are inspired by the work of Ned Block and Tyler Burge on consciousness, but they crucially deviate from some of their essential assumptions. In the second part, I will apply those distinctions to the question: What is the role of consciousness in action? In order to answer this question, a further distinction has to be drawn, namely between consciously willing (or proximally intending) to act and consciously performing an action. The phenomenality of the latter, which can be called "sense of agency", is the topic of the remaining part of the paper. For want of a better term, I call "phenomenal reduction" any approach that tries to reduce the phenomenality of one mental state or process to the phenomenality of another. I argue for three claims. First, all attempts to phenomenally reduce our sense of agency fail. Second, for human beings the sense of agency is basic and veridical.

Third, having focal conscious states is a necessary condition for being an agent, but having phenomenal conscious states is not.

Reasoning About Contradictions Across Cultures: Empirical Findings

Huss, Brian & Yi Yingli

Session: A9

This paper concerns research in psychology that may suggest the Law of Noncontradiction (LNC) is not universally held as a logical standard. First we argue that if the LNC is not at least very widely held across cultures, then we face the threat of logical relativism. Second, we consider some studies conducted by Kaiping Peng and Richard Nisbett, and argue, contrary to their claims, that the studies fail to show that East Asian subjects are more likely to believe contradictions than Western subjects. Third, we outline the results of our own research. We presented a questionnaire (in English) to university students in Canada and (in Mandarin) to Chinese university students. Our results are consistent with the claim that East Asians are less likely to avoid the appearance of contradictions in their reasoning and that Westerners are more likely to shun contradictions. Still, due to some challenges in interpreting our results, the conclusion that East Asians, unlike Westerners, believe genuine contradictions is not entirely warranted.

Mimetic Sharing without Theory of Mind

Hutto, Daniel D.

Session: A10

It widely held that the gradual development of metarepresentational Theory of Mind (ToM) abilities constituted at least *one* important hominid upgrade. For it has been argued that such abilities are needed to explain hominid: (i) tool-making; (ii) social cohesion; or even (iii) basic interpretative and language formation and learning abilities. Yet, on close scrutiny, there is no compelling reason to think that this is true. There is a superior alternative explanation of what underlies these sophisticated capacities – the Mimetic Ability Hypothesis (or MAH). The core claim of the MAH is that a vastly increased capacity for recreative imagination best explains the kinds of sophisticated intersubjective engagements of which hominids would have been capable – and that these constituted an important basis for the development of complex language. In comparing the abductive virtues of these two proposals it becomes clear that claim that modern humans *must* have inherited a metarepresentational ToM mechanism from our nearest ancestors is in fact a weak and somewhat incredible hypothesis. When these considerations are placed alongside philosophical worries about the ToM theories that I have raised in other forums, the case against the existence of these devices is damning.

About the dissociation between causal and counterfactual reasoning

Jiménez-Leal, William & Nick Chater

Session: B12

Judgment dissociation theory (JDT) (Mandel, 2003) claims that causal and counterfactual reasoning are types of reasoning that lead to different judgments. In contrast, we argue that the dissociation between causal and counterfactual reasoning may be an artefact, caused by people having an inadequate and unstable grasp of the causal structure of the scenario over which they must reason. When this structure is clear, the mismatch between causal and counterfactual judgements disappears.

JDT is opposed to counterfactual analyses of causation that claim that singular causal statements of the form “Event c caused event e” can be explained in terms of counterfactual conditionals of the form “If c had not occurred, e would not have occurred”. Two experiments pitted these accounts against each other. Participants were given a story with a case of pre-emptive causation and had to list and rate the factors that they consider causally effective to produce a result, and ways in which the story could have been different. The level of specificity of the questions for both tasks was manipulated. It was found that people tend identify the same factors in causal and counterfactual judgements when the demands of the tasks are unambiguous. Dissociation can be explained in terms of the pragmatic factors responsible for the overlap between questions about explanation, causes and counterfactuals.

Our results can be interpreted in terms of causal networks, where counterfactuals are equivalent to performing a Ramsey test, which amounts to clamping on (or off) the node corresponding to the cause and reading off the activation level of the node corresponding to the effect.

Philosophico-psychological Theory of Reference

Jylkkä, Jussi

Session: A12

There are a few theorists of reference that rely on psychology in their accounts of natural kind term reference determination. In my paper I review these theories and present my own account, built on the empirical theories in the psychology of concepts.

The authors examined are Jessica Brown and Michael Devitt & Kim Sterelny from the camp of the causal theorists, and Frank Jackson and David Braddon-Mitchell from the camp of the descriptivists. Following the causal theorists I argue that a pure causal theory of reference succumbs to serious problems (qua- and composition problems) and to overcome these problems a descriptive, or psychological, element needs to be introduced in the theory. Both Brown and Devitt & Sterelny rely on the notion of a psychological mechanism in their accounts. The descriptivists, on their behalf, stipulate that instead of fitting a linguistic description, as is thought in

traditional descriptivism, an object may fall into a predicate's extension through triggering a cognitive module.

By way of relying on the notion of a psychological mechanism, the theorists from the two camps end up in very similar accounts. However, none of the authors looks in the direction of empirical psychology to see what the psychological mechanism is like. I build my own account on the empirical theories of categorisation, proposing that a natural kind term is fixed to the kind whose instances trigger the perceptual component of the associated concept, and then applies to objects that share a relevant deep structure with these instances.

The ascription of consistency to the human belief system by children

Kiss, Szabolcs

Session: B10

The research on naive theory of mind is an important topic within contemporary cognitive science. The investigation of children's reasoning about the mind plays a central role within this research. Within cognitive social psychology an important line of investigation concerns the consistency of the human belief system. Within philosophy of mind an effort has been made in order to identify the rational normative principles that we use when we interpret other minds. One of these normative principles of the intentional stance is the so-called closure principle. This principle relates to the consistency of the belief system of another person. It contains the basic assumption that if the other person believes that P and P entails Q then the other person believes Q as well. How and when does this principle emerge in the developing child? Our study was designed to investigate this question. In our experiment children were presented with logical syllogisms which were embedded in mental predicates (e.g. think). According to our results the closure principle emerges around 6 and 7 years of age after the child has understood pure logical consistency.

An Enactive Account of Phenomenal Intentionality

Kiverstein, Julian

Session: B4

In virtue of what do perceptual experiences have intentionality? I argue that perceptual experiences have intentional features in virtue of their phenomenal features. I call intentionality which is constitutively determined by an experience's phenomenal features, "phenomenal intentionality".

My account of perceptual intentionality contrasts with that of reductive representationalists. They offer an explanation of phenomenal features by appealing to an experience's intentional features which they claim can be accounted for in non-intentional, and crucially non-phenomenal terms. I reject the latter possibility arguing

for a constitutive connection between an experience's intentional and phenomenal features.

The broader aim of this paper is to exploit the enactive view of perception to explain how our experiences get their phenomenal intentionality. I argue that subjects have a practical understanding of how the appearances an object presents would change with movement, and that it is this practical understanding that fixes an experience's intentional content. This theory is an account of phenomenal intentionality to the extent that it appeals to a subject's knowledge of how appearances change with movement to explain how perceptual content is fixed.

I finish up by considering whether the enactive account of perception gives us a reductive account of phenomenal consciousness. I've argued that the enactive account gives us an account of phenomenal intentionality so it cannot be considered to be a form of reductive representationalism. Still this leaves open the possibility of appealing to the skills a perceiver draws on in perception to give a reductive explanation of phenomenal consciousness.

Where causal pluralism comes from

Koepl, Monika

Session: B12

In view of abundant philosophical accounts of causation, causal pluralism has become a fashionable position. Besides a number of definitional issues, the question is, however, whether causal pluralism is a consistent position in itself.

I concentrate on one particularly common version, causal dualism, which has recently been defended by Hall (2004). He proposes to distinguish between causes as being connected to their effects and causes as making a difference to their effects.

I consider three ways of interpreting causal dualism. One option is to take it as a mere psychological statement about our way of thinking about causation. A second option is to take it as a statement about two kinds of causal relationships in the world. Although both options yield a consistent claim, they are founded on strong assumptions.

My main thesis is that there is a third way of explaining causal dualism. The two senses represent different methodological approaches towards an analysis of causation and are based on conflicting epistemological convictions. As both approaches cannot be defended at once, causal dualism is inconsistent.

Ego States, Language, and Phenomenology—An Unavoidable Union?

Latecka, Ewa

Session: B9

The paper serves as an overview of the issues to be covered in a forthcoming PhD dissertation, *Contribution from Existential Phenomenology to Contemporary*

Language Studies with Special Reference to Language Acquisition. The main theme of the thesis is the presentation of phenomenological perspective as applicable to linguistic studies, with particular reference to language perception, production, and acquisition. So far, mainstream linguistics has concentrated on the “mechanics” of language, trying to answer the question “How does language work?” rather than “What is it like to use a language?” The latter question, concentrating on the experience of the speaker/hearer, can be answered from a phenomenological perspective.

The change of perspective as well as the inclusion of the concept of linguistic ego states will have far-reaching consequences for most, if not all, disciplines of modern linguistics, including applied linguistic studies, language acquisition theories, and, resulting from them, language teaching methodologies. While the thesis is meant as purely theoretical, it will have practical consequences and applications, mainly in the field of Second Language Learning. This does, unquestionably, refer to the teaching situation at the University of Zululand as well as other South African tertiary institutions dealing with non-first language speaking students.

Making sense of sensory dysfunction in autism

Leekam, Susan & Victoria McGeer

Session: A1

Sensory difficulties have long been reported to accompany the ‘triad’ of impairments in autism but until now a coherent theoretical framework for studying sensory dysfunction in relation to such impairments has been lacking. We believe that this is because the field is still guided by outdated theoretical assumptions concerning the requirement for vertical and horizontal integration of neurobiological, psychological and behavioural symptoms. We look at the prospect of revising these assumptions and developing new directions that explicitly incorporate a developmental dimension. We propose that this entails breaking down the boundaries between (a) autism and other child disorders (b) low and high level cognitive dysfunction (c) different sensory modalities and (d) social and non-social impairments.

World-involving perceptual content

Hemdat Lerman

Session: A8

Many philosophers hold that the content of our perceptual experience should be construed as ‘world-involving’ - i.e., as partly constituted by bits of the mind-independent world: the particular experienced objects, properties, events, places, etc. The main argument for this view is negative; it is argued that we must adopt it because the alternatives render experience incapable of explaining how we can entertain thoughts about the mind-independent world. For this reason there has not been much discussion of how to cash out the idea that bits of the world are part of what constitutes experiential content. This question, however, cannot be neglected.

First, opposition to the view is often supported by doubts regarding the coherence of this idea. Secondly, we should say more about what it is for an experiential content to be world-involving in order to clarify how experience makes it possible for us to entertain thoughts about the world.

In the talk I outline how I think we should construe the involvement of bits of the world in experiential content. I shall presuppose (i) that we (ordinary human subjects) have what is often called a simple theory of perception (a primitive grasp of the relation between our experiences and the mind-independent environment), and (ii) that our experiences are necessarily embedded in such a theory. My claim is that our simple theory is such that we take the experienced bits of the world to be part of what constitutes the content of our experience, and that this means that they actually are part of what constitutes the content.

Is Belief a Propositional Attitude?

Keller, Philip

Session: A2

Is belief a relation to a proposition or some other ‘object of belief’? Many assume it as a matter of course, taking the real question to be what objects of belief are. In my talk, I want to question this orthodox view. I will do so in two steps: first examining the arguments given in favour of the relational account of belief and then sketching an alternative picture.

The most important argument in favour of a relational construal of belief is that we need it to explain the similarity between John’s believing that Sam is Maria’s wife and Sam’s believing that snow is white. If these are just two states of John and Sam respectively, the argument goes, how are we to explain that they make both of them believers? This argument is no good: by the same token, you could say that the similarity between my running at ten kilometers per hour and your running at fifteen kilometers per hour is an argument for construing running as a relation between a runner and a speed. The same example rebuts another argument in favour of a relational account of belief: while it is true that if someone is a believer, then s/he believes something, the soundness of existential generalisation is not conclusive evidence of relationality. It is equally necessary that if you run, you run at a certain speed – but, again, this does nothing to show that running is a relation.

In the second part of my talk, I will give a positive argument for the non-relationality of belief. I will examine first the – in my view, prior – question what the bearers of truth and falsity are and what their being true or false consists in. I will defend the view that the bearers of truth are (interpreted) sentences and that their truth is a de-relativisation of their being made true by something. In the same way, I will argue, belief is a de-relativisation of the conceptually prior relation of acceptance. It is true that in order to believe, you have to accept something (an interpreted sentence, I will argue), in the same way that it is true that in order for something to be true, it has to be made true by something. But there are good reasons to think that this does not turn truth into a relation – by analogy, there are good reasons to think that to believe is not to stand in a relation to anything. The question as to what objects of belief are simply evaporates into thin air.

The Concept of Valuing: Experimental Studies

Knobe, Joshua & Erica Roedder

Session: A6

Philosophers have offered a broad array of competing conceptual analyses for the ordinary concept of valuing. The present paper reports a series of studies designed to get at the question empirically. Subjects were given short vignettes and then asked whether or not characters in these vignettes could be said to 'value' particular outcomes. By systematically varying specific factors within the vignettes, the experiments help us to get a sense for the nature of people's underlying concept of valuing.

A Corpus-based Study of Grammatical Errors in English SLI Children

Lin, Yi-An

Session: poster

Using the Leonard corpus in the CHILDES which is collected before the formulation of the Agreement and Tense Omission Model, the Agreement Deficit Model, and the Representational Deficit for Dependent Relations Model, the present study tries to evaluate these three accounts of SLI and to figure out the nature of grammatical errors made by SLI children. It is found that the SLI children in the Leonard corpus frequently commit errors on tense marking, agreement marking and auxiliary inversion but correctly perform other syntactic operations such as case assignment, A-movement and Wh-movement. However, in terms of Chomsky's Minimalist Programme (1998, 1999), it is shown that SLI involves a PF deficit rather than a syntactic deficit. As a result, it is found that none of the three linguistic models of SLI is compatible with this finding.

Asserting and Denying: Frege's Conclusive Argument

Marques, Teresa

Session: B7

An argument by Timothy Williamson (1994) shows that the supposition of counterexamples to bivalence is self-contradictory: if an utterance that says that something is the case is a truth-bearer, a counterexample to bivalence is such an utterance that is neither true nor false. The upshot of the argument is that either problematic utterances say nothing, or they cannot be neither true nor false. But Mark Richard (2000) claims that we can evade Williamson's argument, because we may deny bivalence without thereby being committed to asserting a contradiction. There

is, he claims, a difference between the acts of asserting and of denying. Denying, unlike assertion, does not require commitment to the consequences of the negation of what one denies. However, there is an argument by Frege (1918-19) to the effect that there cannot be such a distinction between asserting and denying. If this is right, then we cannot appeal to the distinction between asserting and denying to evade Williamson's argument, because it does not exist. If one nonetheless appeals to other sorts of negation, such as metalinguistic negation, to account for the intuition that one may deny a sentence without thereby wanting to assert the negation of the content expressed by the sentence, then one is not in a better position. Metalinguistic negation focuses on aspects of an utterance's correctness, like its tone, register, implicatures, etc., not on truth-apt content. So, Richard's proposal can be of no help to evade Williamson's argument.

Young children's ability to make temporal-causal inferences about events in the past and the future using a novel search and planning task

McColgan, Kerry & Teresa McCormack

Session: B2

Previously, we have used two versions of a novel task to measure children's ability to make temporal-causal inferences (inferences in which the temporal order of events and the causal relations between them must be considered). One version required reasoning about past events (search task) and the other required reasoning about future events (planning task). Our findings indicated that temporal-causal reasoning does not fully develop until the age of 5, and that it appears in tandem for past and future events. In these follow-up experiments, the visuo-spatial complexity of the task display was reduced. 4-year-olds passed the search version of this simplified task, but still failed the planning version. This was the case even if cues were provided to assist reasoning. These results suggest that while 4-year-olds can make simple temporal-causal inferences about the past, the ability to do so for future events may not develop until the age of 5.

Rebel Views of De Re Modality

McLeod, Stephen

Session: A11

I explain, in a minimally technical manner, the view that the modality operant in de re modal constructions in natural language is non-sentential and so not accommodated by standard modal logic. I examine the motivations behind this view, especially in the work of David Wiggins and Colin McGinn. I take issue, along the way, with the idea that the Kripkean notion of weak necessity succeeds in preserving the standard account of the de re/de dicto distinction.

Sensitivity to physical and psychological causality

Meini, Cristina & M. Bucciarelli

Session: B12

Even young infants can distinguish events involving physical causality from non-causal events. Consider a situation where a billiard ball moves toward a second ball. The second ball begins to move once the first ball stops. Previous researches investigated the role of both physical contact and temporal delay. We present a study in which we also investigate the role of the presence of the eyes in the billiard balls and the presence of eye contact. Further, we explore both the perception of physical and psychological causality. Our assumption is that both physical and psychological causality may hinge on similar interactions among temporal, spatial and eyes-related features in events. The prediction deriving from this assumption is that an investigation of sensitivity to physical and psychological causality more fine-grained with respect to the investigations in the literature, could detect unexpected similarities between the two. To validate this prediction we carried on an experiment on thirty-six adult participants (Experiment 1). We also carried on a further experiment on forty children aged 11 to 12 years (Experiment 2).

Globally considered, the results of the two experiments suggest that the very same variables interact to produce in adults the perceptions of physical and psychological causalities. Also, they reveal in children a sensitivity to causal events different to the sensitivity detected in adults.

Is Pretence Really Non-Metarepresentational?

Meini, Cristina & Alberto Voltolini

Session: B10

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Examining the mapping problem in dual-mode models

Moors, Agnes

Session: B6

Dual-mode models have been proposed in domains as diverse as reasoning (e.g., Sloman, 1996), categorization (e.g., Rouder & Ratcliff, 2004), learning (e.g., Shanks & St. John, 1994), social judgment (e.g., Strack & Deutsch, 2004), and emotion (e.g., Smith & Kirby, 2001). These models have proposed several criteria to divide the realm of mental processes into two categories or modes (e.g., Sloman, 1996; Strack & Deutsch, 2004). Examples of criteria (and categories obtained with these criteria) are operating conditions (automatic vs. nonautomatic), formal process or mechanism (associative vs. rule-based), format of the representations or codes on which the process operates (analog vs. propositional), content of the representations on which the process operates (heuristic vs. systematic), and neurophysiological routes (neocortical vs. subcortical). Construing categories on the basis of one or another criterion is legitimate. Most dual-mode models, however, choose two or more criteria and make a priori assumptions of overlap among the categories obtained with these criteria. For example, associative processes are said to operate on analog codes, and rule-based processes on propositional codes (e.g., Leventhal & Scherer, 1987). For another example, associative processes are said to operate automatically (i.e., in suboptimal conditions such as when time and attentional capacity are scarce, when stimulus input is subliminal, when the person has no intention to engage in the process, and/or when the person has the intention to suppress the process) and rule-based processes nonautomatically. I argue that these mapping assumptions should be investigated empirically, in a way that allows falsification of them. Before this is possible, however, further theoretical work is needed to pinpoint the formal distinction between analog and propositional codes, and between associative and rule-based processing. This theoretical work should be guided by two principles. First, associative and rule-based processes should be defined without making reference to conditions (automatic vs. nonautomatic) or to codes (analog vs. propositional). Second, formal distinctions must be found that can be translated in functional/operational differences. Only then can it be empirically investigated which

mechanism can operate on which code, and which mechanism can take place automatically.

Methodological Science and World-Brain Interface

Nakajima, Takashi

Session: poster

According Chomsky (1957, 1965, 1995), language is a predisposed cognitive competence that occurred to a complex biological system, namely, the brain. The driving force behind this approach is what is called the methodological science which applies the familiar hypothesis testing procedures to brain albeit in a modified manner due to the apparent limitations on experiments. Adopting this idea, the current paper shows a surprising parallelism between Chomskyan conception of Universal Grammar and Jungian conception of Collective Unconscious and Archetypes (Jung, 1968). This realization brings a new perspective to the process of social adaptation of humans and their psychological development.

1. Linguistic Predispositions

A piece of robust evidence for linguistic predisposition comes from the study of Aktionsart, or the aspectuality of event descriptions in verbs. Aktionsart is particularly intriguing since it shows that certain features of physical events are selected for linguistic information encoding. The relevant features are (1) the “stativity” of events (know, love), (2) telicity, i.e., whether events have a logical end point (build, draw a circle) or not (walk, push) and (3) events that occur in a single moment (win, reach). (Aristotle, 1984, Vendler, 1967, Tenny, 1994)

The verb build, for example, has a logical terminus point, and saying that John built a house in a month implies that there is a completed house standing due to John’s building of it while saying that John built a house for a month is awkward and lacks such implication entirely. This difference in grammaticality occurs because the time expressions may or may not match the inherent aspectuality the verb embodies.

Example like this and numerous others are universal, which strongly suggests that conceptualizing physical events in terms of the selected features in language is an inherent part of our linguistic competence, or the Universal Grammar (UG), out of which an individual language evolves.

2. Psychological Dispositions

The idea that humans have genetically determined cognitive scheme like Aktionsart is hardly new, nor is it unique to linguistics. In fact, C.G. Jung developed an almost identical theory to UG in developmental psychology long before Chomsky did. Jung proposed that our brain acquired certain cognitive predispositions called Archetypes that are thought to be impersonal and universal in nature. The Archetypes develop in individuals subconsciously through socio-cultural interactions and shape the base for individual personality. That is, just like the aspectuality features of events and UG, Archetypes are some of the features that our mind is predisposed to and are an inherent part of the competence of mind, or the Collective Unconscious (CU), out of which individuality evolves.

3. A New Horizon

The conceptual parallelism between UG and CU has consistently been overlooked. If the current approach of unifying the two under the methodological science is a valid one, it would enable us to interpose some linguistic apparatus such as Parameters into psychology. This would connect the deep universality and the surface diversity of mind-culture in a coherent manner (Nakajima, 2005).

Marked Theme - More Attention? Better Retention?

Netz, Hadar

Session: A7

In this study I analyze three different marked theme (topic) constructions: (1) Extraposition (XP) (aka. Left-Dislocation), in which the theme is marked by a morpho-syntactic alternation: Cathy, she's not a good friend herself; (2) Object Fronting (OF) (aka. Topicalization), which is an order alternation: Joy I like; and (3) Subject Marking (SM), in which the theme is marked prosodically: Dad, ...you know, has done some of it. The study checks the effect of marked sentence structure on recall of the theme of the marked sentence. The design of the experiment follows the paradigm of the Isolation Effect. According to the isolation effect, when an isolated item is embedded within a list of homogeneous items, recall of the distinct item is enhanced. In contrast to my expectations, marked sentence structure did not necessarily have a facilitative effect on recall. Thus, while in the case of XP, recall of the theme was indeed enhanced, in the case of SM, and even more so in the case of OF, recall was actually inhibited. In addition, in order to assess the perceptual salience of the isolated item, I have asked for Judgments of Learning (JOL). Analysis of the JOLs indicates that the marked themes were NOT perceived as salient. To conclude, while the results of the recall indicate that sentence structure affects memory, the results of the JOLs indicate that this effect occurs at an unconscious level.

Beyond the Bounds of Time: Mourning as Public Complaint

Orsi Portalo, Rocío

Session: A6

Locked inside the house and forced to silence, Greek women did not have any chance to take part in public discussion. One of the most original ways in which a woman could express herself in the public space -without leaving aside her womanly tasks- was assumed by Electra. In the eponym play of Sophocles, the heroine Electra uses the mourning for her father as a political mean against her political and family enemies. Electra transgresses the ritual of mourning extending it indefinitely in time: she does not give up mourning her father, she does not let the crime to be forgotten, and so she makes any reconciliation with his murders impossible: the indefinite prolongation of mourning is the way by which Electra can keep alive the memory of his father and the murdered that led Clitemnestra and Aegistos to the throne. Therefore, Electra keeps alive the past and the "debt" which the past involves. Her

endless mourning is a form of political revolt developed through language: in fact, we can observe the strength of the threat Electra represents and the impossibility of peaceful life at Mycenae by observing the use of words related to time, words that, as “always” or “never”, are pervasive in her speech.

Exploring some future supports for Philosophy (abstract)

Pages, Jean-Claude

Session: B4

While the methods and language support in Philosophy have remained practically unchanged along centuries, during the last 2 decades huge amounts of Research, Time and Money were invested into developing Object Oriented methods and languages (improving security was costly but necessary, because of legal risks).

Some reasons to expect the creation of new approaches & supporting tools in Philosophy

Language Support:

Some philosophers might, with the help of DP specialists, adapt DP supports (such as Unified Modeling Language for instance) in order to meet their specific (“philosophic”) needs and to express them with a better security than with Natural Languages and more flexibility than with standard First Order Logic notations.

“All the world is a stage..” (W. Sh)

Importance of Motricity

The “Two-cat Carrousel” (Held & Hein, 1963) illustrated the motor-power role for the development.

-Role-Playing Power

The Stanford Prison Experiment (1971) illustrates that “we become the role we are playing

Huge amounts of money have been recently invested into sophisticated programmable Role-Playing.

Just like Japanese women used the help of monks to enter a new form of Literature, Philosophers could be helped by technical specialists to design new powerful ways of describing and confronting “old” (and new..) problems.

Conclusion

Will it be possible to control the enormous power of role playing?

Believing without accepting: The doxastic conception of delusions revisited

Pagliari, Fabio & Ryan McKay

Session: A2

The conventional, diagnostically codified view of delusions is that they are a species of belief. This doxastic conception of delusions, however, has proven to be rather controversial, and has provoked strong objections and led to the development of

alternative proposals. Perhaps the strongest objection to the doxastic conception of delusions stems from the observation that delusional individuals frequently evince a lack of pragmatic commitment to their alleged beliefs. Such individuals often fail to act in accordance with the convictions that they give verbal expression to (Bleuler, 1924; Jaspers, 1963; Sass, 1994; Currie, 2000) – their beliefs are “behaviourally inert” (Hamilton, in press). Our aim in this paper has been to defuse this objection to doxastic accounts by importing from the philosophy of action and epistemology a conceptual distinction between beliefs and acceptances. Briefly, whereas our beliefs constitute attempts at veridical representations of the world, our acceptances define the premises we rely upon in our practical reasoning: when we accept a proposition, we act as though that proposition were true. Typically belief and acceptance will coincide, but they need not. Whereas critics of the doxastic conception of delusion claim that the phenomenon of behavioural inertia demonstrates that certain delusions are not beliefs, we argue that this phenomenon merely shows that those delusions are not, in certain respects, acceptances. Aside from neutralizing one of the strongest objections to the doxastic account of delusions, these observations also suggest some tentative (yet testable) speculations about the psychological function and dynamics of behavioural inertia.

Vision Science And The Philosophical Problem Of Perception

Paternoster, Alfredo

Session: A8

According to some eminent advocates of direct realism in philosophy of perception, such as McDowell (1994) and Putnam (1999), computational vision is committed to indirect realism because it postulates perceptual representations, which can be regarded as a mental interface between the subjects and the real world. They regard this position as untenable, since it involves, inter alia, mind/body dualism and skepticism as to the existence of the external world.

My aim in this paper is to discuss whether the assessment of computational vision as a form of indirect realism is correct, and, more generally, to what extent empirical evidence and psychological theorizing cast light on philosophical theories of perception. My conclusion will be that, although there are some analogies between constructivist theories of perception (among which computational theories can be included) and indirect realism, on the one hand, and between ecological theories of perception and direct realism, on the other, evidence from cognitive science does not provide any conclusive vindication of either philosophical account of perception. I shall argue, eventually, for a sort of intermediate position, according to which direct and indirect realism can both be said true, at two different levels of description. On this view, McDowell and Putnam’s criticisms against computational vision are ineffective.

Tomorrow and Tomorrow and Tomorrow – Can Western Scrub-Jays (*Aphelocoma Californica*) think about tomorrow the night before?

Raby, Caroline, A. Dickinson, N. Clayton et al

Session: poster

Human beings think about tomorrow, indeed all their tomorrows, with such ease that it does not occur to most what a remarkable skill it is. But are any other animals capable of such mental time travel into the future? Evidence for being able to plan forwards in the animal kingdom is scarce. Research to date has shown very short term prospective memory in rats and pigeons and cued prospective cognition in some monkeys, apes and birds. Only humans seem to be able to foresee being in a different drive state from their current one and to make plans more than a few minutes ahead. Western scrub-jays readily cache and subsequently recover food in the wild and their considerable cognitive abilities relating to their food caches, including their episodic-like memory, have been demonstrated in a number of experiments. We wanted to find out if they also show future cognition. We ran two experiments in which we compartmentalised their housing and put them alternately in one of two different compartments overnight and for the first two hours of the following morning with different conditions in each compartment. In the first experiment the birds had to make a decision the night before about where to cache food for the following morning, choosing between a place in which they would be hungry in the morning and a place in which they would find food; in the second both compartments had food in the morning but not the same type of food, would the birds preferentially cache food the night before that was different from the type that they would find in each place thus giving themselves a choice of food the following morning?. The results show that the Western scrub-jay can make plans for a meal 12 hours ahead both preferentially storing food in a place in which they have learned that they will be hungry the following morning relative to a place in which they will be given food; and differentially storing a type of food in a place in which, although food will be available the following morning, that specific type of food will not be available. This suggests that these birds have the capability to plan for the future over a longer timescale than yet demonstrated in other animals including primates.

Why do children with autism have problems with categorization and generalization?

Radenovic, Ljiljana

Session: A1

In this paper, I argue that both perceptual and social learning are necessary for the development of concept acquisition, categorization, and generalization. This point has not been fully acknowledged in Plaisted's theory of enhanced perceptual processing (2001), which aims to account for the impairment of these abilities in children with autism. I argue that Plaisted's theory builds on highly problematic similarity-based theory of concept acquisition. In order to provide adequate theory of category

development, concept acquisition and generalization, we need to account for how the child comes to see similarities in the process of development, rather than to start with the perception of similarities as the basis of that development. Building on this point, I also argue that if we are to understand the role of sensory perception in the formation of concepts or generalization abilities, we need to take a closer look at the literature dealing with the development and function of sensory integration and multimodal perception. Finally, given the importance of joint attention for normal development of categorization, generalization, and concept acquisition, I end the paper by suggesting a tentative account of the development of joint attention.

Molyneux's Question and the Meaning of 'Made to See'

Richardson, Louise

Session: A8

Molyneux's Question asks whether a man born blind and able to recognise shapes by touch would be able, on being made to see, and before he touched them, to recognise the shapes of objects by sight. The question has been taken to be pertinent to a variety of issues in the philosophy of mind and both Gareth Evans and more recently Alva Noë have presented theories on which spatial perception and action are constitutively linked as answering 'yes' to Molyneux's Question. I argue that this 'yes' answer does not imply the Evans/Noë theory, and that the theory implies the answer only 'vacuously' by underpinning the meaning of 'made to see' in such a way that it follows by definition that a true Molyneux subject will recognise the shapes. This interpretation has some interesting implications for the way in which we should understand the philosophical import of the question and answers to it, and in particular for the role of empirical and conceptual considerations in addressing it.

Introspecting One's Perceptual Experiences

Roberts, Jonathan

Session: B4

How do we know about our own perceptual experiences through introspection, and what is it that we know about them? On an 'inner sense' view of introspection one knows about intrinsic phenomenal properties of the experience. Furthermore one knows about them in a particularly direct way – by perceiving those properties. The 'inner sense' view of introspection is often rejected on the grounds that there is no such thing as perceptually attending to one's experience as distinct from attending to the objects of experience. Intuitively, one knows about the nature of one's experience simply in virtue of being in the experiential state, rather than by perceiving it. I discuss Dretske's account of introspection based on a representationalist view of perceptual experience. Dretske claims that introspection provides knowledge of facts about the representational content of one's experience. I claim that Dretske's account fails to capture the fact that one knows about the phenomenal properties of experience, and that one knows about them in a direct way. I suggest that what we

need to make sense of is how we can know about the phenomenal properties of experience without perceiving them. I go onto consider whether a Naïve Realist account of experience can make such self-knowledge intelligible.

Is the Theory of Mind innate?

Roska-Hardy, Louise

Session: B10

Proponents of nativist modularity theory claim that the 'Theory of Mind' (ToM) – the ability to understand, anticipate and interpret the thoughts, feelings and behavior of oneself and others by reference to specific mental states – is innate. Although modularity theorists differ in their specific views on modular mechanisms, their basic claim is that the Theory of Mind is a special purpose body of knowledge contained in a mental module that matures through a process of ontogenetic development. On this view the Theory of Mind is a domain-specific ability, supported by an innate, dedicated modular mechanism or a set of such mechanisms that starts developing in infancy.

This talk examines the empirical and the logical arguments advanced by nativist modularity theorists in support of the claim that the human Theory of Mind is innate. First, the innateness claim is clarified vis à vis the notions of domain specificity, species specificity, localization, modularity and learnability. Alan Leslie's strong innate modularity account and Simon Baron-Cohen's minimalist innate modularity account of ToM-mechanisms are then discussed in order to highlight the arguments they advance for the innateness of ToM. Upon examination these arguments turn out to be confronted with telling objections. In conclusion, an alternative view is proposed.

Children's beliefs about subjectivity and truth

Rowley, Martin & Elizabeth Robinson

Session: A2

Children and young adolescents (6- to 13-year-olds) were asked to evaluate the reasons given for diverse views held in the contexts of personal taste and ambiguous fact. Sometimes the reasons were appropriate for the given context (e.g. for a matter of fact, "I think the mouse is in the red box because I saw it being put in there"), sometimes the reasons were less appropriate (e.g. "I think the mouse is in the red box because I like the colour red"). For each dispute, participants were also asked whether it was okay for diverse views to be held and whether a single truth could be found. Responses were compared with those from a group of adults (19 to 44 years). Even the youngest children acknowledged it was okay for people to hold different viewpoints, but compared with older participants the 6- and 8-year-olds were less likely to view preference as a legitimate basis for personal tastes and were more likely to say a single truth could be found about matters of taste. These data will be discussed in the light of previous findings suggesting that children's acceptance of the

possibility of diversity indicates adult-like understanding of the role played by subjective factors in the construction of beliefs.

Explanation by appeal to one's remembering that p

Sakuragi, Shin

Session: A4

What is it to remember that p? This question has attracted a lot of attention from philosophers. This paper aims to illuminate a conceptual connection between one's remembering that p and one's other propositional attitudes having the same propositional content, in light of an ordinary way of explaining such attitudes by appeal to one's remembering. In a certain situation, one's remembering that p explains a certain type of psychological event. This paper focuses on a situation in which one's remembering that p explains one's accepting that p, and elucidates the structure of such an explanation. It is argued that in a certain explanatory context, the explanans cites no event which is a cause of the explanandum event. 'Remember' in such an explanation expresses a disposition, rather than an event which is an occurrent remembering. Thus, it is claimed that the explanation cannot be a singular causal explanation, but rather it is of the type Ryle called a dispositional explanation. This approach gives us an insight into the connection between one's remembering and one's other propositional attitudes which are explained by citing dispositional remembering. The explanandum event, one's accepting that p, itself manifests the disposition cited in the explanans, one's dispositionally remembering that p, rather than being an effect of an event of occurrently remembering that p which is a manifestation of the disposition.

Natural Mathematics: A Pluralistic Approach to Mathematical Cognition

Santos-Sousa, Mario

Session: A9

Accounts of mathematical cognition commonly divide into separate research fields, pivoting on a distinction that has been a matter of great dispute: the distinction between personal and subpersonal levels of explanation. I read it as one between accounts of mathematical performance and accounts of mathematical competence. This is a necessary distinction for a complete characterization of mathematical cognition, both of mathematical knowledge and its acquisition. Thus, while personal level or "philosophical" accounts of mathematical performance turn on the normative requirements for mathematical knowledge, subpersonal level or "psychologistic" accounts of mathematical competence focus on the implementational and/or computational requirements for its acquisition.

I examine two views that fall short of yielding a comprehensive account of mathematical cognition: autonomy theory, which fails to explain our acquired facility

with mathematical concepts, and eliminativism, which misses the mark and fails to see mathematics as a normative inquiry.

Finally, I assess a more substantive view, Martin Davies's interaction-without-reduction conception of the relation between the personal and subpersonal levels of explanation, and show how my version differs from his. According to my view, mathematical performance can be explained in light of the inferential practices of the mathematical community, which are describable on a personal level of explanation. Further, mathematical competence need not require the existence of a syntactically structured language of thought. In a more speculative vein, I suggest that the problem of phenomenal consciousness applied to "number forms" might be solved in terms of subpersonal level facts and processes.

Development, Contingency and Modularity

Sarnecki, John

Session: A3

Evolutionary psychologists argue that selective pressures in our ancestral environment have led to a highly specialized set of modular cognitive capacities. However, recent papers in developmental psychology and neuroscience claim that evolutionary accounts of modularity are incompatible with the flexibility and plasticity of the developing brain. Instead, they propose cortical and neuronal brain structures are fixed through interactions with our developmental environment. David Buller and Valerie Gray Hardcastle contend that evolutionary accounts of cognitive development are unacceptably rigid in light of evidence of cortical plasticity. The developing structure of the brain is both too random and too sensitive to external stimuli to be the product of a fixed genetic mechanism. I argue that these arguments are not persuasive. Theories of modularity do not rule out the possibility that innate cognitive systems exploit environmental regularities to guide the developing structure of the brain. Consequently, the anti-adaptionist consequences of these positions should be rejected.

Two kinds of vagueness

Sauerland, Uli & Penka Stateva

Session: A11

While all morphemes in natural language can exhibit vagueness, markers of approximation (e.g. approximately) and precision (e.g. exactly) have a much more limited distribution. In this paper, we argue that in addition to the general epistemic kind of vagueness inherent in language (Williamson, 1994), a second kind of speaker-inherent vagueness must be recognized. We propose that some words (e.g. cardinals, "the middle", "the same") have both a precise and a vague interpretation as part of their lexical meaning.

Human Behaviour Modelling - Development of a Reference Model for Agent- based Simulation of Human Panic Behaviour

Schneider, Bernhard

Session: B8

Human behaviour and its modelling is one of the major challenges in state of the art modelling and simulation for a broad range of application areas, no matter if dealing with question sets in social, economic or even in a security or military context. In general, the human being is perceived as a psychosomatic unit with cognitive capacities, able to interact with others in a social community. In order to create realistically acting human agents, emotional behaviour as a complex aspect of human behaviour has to be taken into account. An application area where emergence and dynamics of emotion in particular are of great importance can be found in the modelling of human panic behaviour.

The objective of the presented research work is defined by the development of a reference model for the purpose of psychologically based modelling of human panic behaviour. Within the scope of the presented approach, the paradigm of agent- based modelling is chosen since agent- based methods are especially suitable for constructing simulation models including human factors.

The model is intended for employment in the field of analysing and testing kinds of behaviour and strategies to avoid panic. Simulating the complexity of panic situations in an adequate way also includes emergent phenomena and gives the analyst the possibility to identify specific dangerous situations that could be avoided by changing the procedure of an operation or some parts of the infrastructure. Possible fields of application are hereby mass meetings of political kind, sporting events, fires in closed rooms, acts of terrorism in public places or air accidents. The intersection of all mentioned scenarios is the need to develop strategies to evacuate people from danger zones in a systematic manner without triggering panic behaviour.

Panic is defined as an internal state, marked by a strong emotion like fear. A high level of fear may prevent an individual from showing certain kinds of behaviour, among them conscious and planned behaviour. More critical, strong fear can additionally lead to thoughtless flight reactions of panic participants. Depending of the exact circumstances of the situation, it may be possible to get panic situations under control or even prevent people from starting to panic.

Of special interest within the presented modelling approach are the following aspects of human behaviour. Each aspect has to be taken into consideration for designing a reference model:

- Different kinds of human behaviour, known as reactive, deliberative and reflective behaviour.
- Gradual reduction and impairment of human behavioural control.
- Motives and mechanisms of motive dynamics and motive selection in particular.
- Social influence on the emergence of emotion, attitude and action.
- Emotional intelligence and the ability of consciously controlling emotion.

As a basis for modelling the concepts of human panic behaviour, the architectural pattern PECS by Schmidt and Urban was considered. The PECS reference model provides capabilities for object- oriented model specification. Its application area is settled in the field of agent- based simulation. PECS offers a modular but comprehensive view of human behaviour modelling, where a human being is considered an autonomous creature with physical conditions, emotional states and

cognitive capabilities, embedded in a social environment. The internal structure of the pattern PECS makes it suitable especially for models deriving from studies in sociology, economy and psychology.

The presented approach is interdisciplinary and touches on research areas in computer science, especially artificial intelligence and psychology, above all social psychology.

Functional isomorphism as an exploitable relation between representations and their targets

Shea, Nicholas

Session: B3

In chapter 2 of *The Organisation of Learning* (1990) Gallistel equates representation with isomorphism. This proposal has not been widely accepted in philosophy. However, if claims that animals use a cognitive map in spatial navigation are to be fully vindicated, then there must be some explanatory role for a functional isomorphism between the cognitive map and the spatial environment. Thus, to sharpen the claim that animals deploy a cognitive map, this paper identifies a sense in which animal behaviour might exploit a functional isomorphism between a domain of representations and the spatial structure of their environment. The sharpened understanding of an exploited functional isomorphism, offered in this paper, can in turn be applied to the ongoing controversy about which experimental results require the postulation of a cognitive map and which depend only on simpler representational mechanisms.

Materiality, Normativity and Intersubjectivity

Sinha, Chris & Cíntia Rodriguez

Session: A10

Intersubjectivity is often conceptualized in terms of (a) intercorporeal bodily engagements characterized by mimesis; (b) intermental engagements characterized in terms of joint attention and “intention reading”. We argue that most current approaches neglect the role of the *objects* which are the focus of participation in joint action, and that the embodiment of intersubjectivity and normativity extends “beyond the skin” to encompass the material world. The development of the normative structure of canonical interaction formats cannot be divorced from the canonical use of objects. Furthermore, objects are not only the *signified* objects of linguistic and gestural signs, but also *signifiers* of the normative structure of social practice in the material world. Semiosis, in this account, is not a purely intermental dimension distinct from materiality, but constituted in and through practical engagement with a meaningful material surround which, together with other signs, constitutes part of the “semiosphere”. The semiotic status of objects also underpins the imaginative enactment in later development of narrative structure. We refer in our presentation to

our analyses of developmental data ranging from early object exchange routines to socio-dramatic play in early childhood, and draw attention to the relationship between autism and impairments in understanding object usage conventions.

Realism about computation

Sprevak, Mark

Session: B3

If one is a realist about Xs, then one supposes that Xs exist independently of us and our beliefs about them. Can one be a realist about computation? If there were no humans beings or interpreting agents, would there still be computations? The main battleground for a realist/anti-realist dispute about computation is cognitive science and the computational theory of the mind. I show how issues concerning realism connect to the computational theory of mind. I consider a number of difficulties and argue for a particular way in which the realist/anti-realist dispute about computation should be phrased in this context.

No Strings Attached: Towards a Robotic Model of Minimal Creativity

Stokes, Dustin & Jon Bird

Session: A4

We outline our motivations for using an evolutionary robotics approach to investigating creativity. We propose two necessary conditions that a robot must satisfy in order to demonstrate minimal creativity: agency; and novelty. Our preliminary results demonstrate that this methodology can produce simulated robots that mark their environments and interact with the lines that they have made. Our simulated robots satisfy a 'no strings attached' form of agency, but it is contentious whether their behaviour could be described as novel. Furthermore, it is an open question whether even as we incrementally increase the complexity of the robot controllers their behaviour will be classified as creative and their markings rudimentary drawings. However, we argue that a synthetic, bottom-up approach is a fruitful methodology for generating and testing hypotheses about creativity and generates concrete examples that can help to clarify the necessary and sufficient conditions for creative behaviour.

What is Temporal Externalism?

Stoneham, Tom

Session: A3

Philosophers of language have, over the past 30 years, become quite used to the idea that the semantic value of a term may not be fully determined by how an individual speaker uses that term. Various famous arguments have been used to show that the semantic value may depend upon the physical nature of the environment which the speaker inhabits, upon the opinions of experts, and upon features of the use in the speaker's linguistic community of which she is unaware.

More recently attention has been drawn to cases where the opinions of experts or the features of community use on which semantic value appears to depend lie in the future of the speaker whose utterances we are trying to interpret.

In this short paper I present the abstract structure of such cases (and give a few concrete examples) in order to outline the options available and discuss a few of the pros and cons of each. The examples give one reason to think that semantic values do not supervene upon the non-semantic facts about the past and present of the utterance. If one accepts this, then one can either reject the claim that the semantic supervenes upon the non-semantic at all or think that it supervenes upon the past, present and future of the utterance. If one takes the latter option, one can either explain this as a form of non-causal determination or in terms of the essentially normative nature of meaning talk.

Do "Remember" judgments reflect episodic memory as a re-experiencing of events?

Stöttinger, Elisabeth, Wolfgang Kaiser, & Josef Perner

Session: poster

According to Tulving (1985; elaborated later by Wheeler, Stuss and Tulving, 1997) there are two means of accessing the past: remembering (episodic memory) and knowing (semantic memory), which are accompanied by two different kinds of awareness. Remembering is associated with mental time travelling into the past and the possibility of re-experiencing past events (autonoetic consciousness) whereas knowing stands for the simple knowledge of past events without this possibility (noetic consciousness). The common way of testing the difference between episodic vs. semantic memory is the usage of the Remember-Know-Recognition paradigm.

Because the terminology of the word remember is not as strait forward as it seems (remember can either reflect re-experience or mark retrieval effort) we developed a completely new manipulation. Participants witness an event direct or get to know indirect what had happened. Obviously there can be no re-experiencing of the event if they have not experienced the event. Hence, any Remember-judgments in this condition give us an estimate of how often participants use "remember" to convey retrieval or encoding effort: only if the event has been actually experienced can an Remember-judgment reflect the recollective experience of re-experiencing the original event. Therefore the difference between Remember-judgments for directly

experienced events minus Remember-judgments for indirectly conveyed events provides an estimate of how many events are being re-experienced. In using this method of difference we could show that about 71% of Remember-judgments were due to re-experience and 29% marked retrieval or encoding effort.

Consciousness, Bodily Consciousness and the Imagination

Stuart, Susan

Session: B5

My aim is to elaborate a notion of imagination as bodily expectation that has been established through a history of prehension and apprehension by the agent its world. I will concentrate on imagination's productive, bodily, character; that aspect of the mind that extrapolates through bodily consciousness or experience an anticipation or, let us say, an expectation of how our world will continue to be from moment to moment, from sensation to sensation. It is a notion of imagination that is fundamental to any conscious experiencing system, for it is through the smooth functioning of this imagination that we are able: (i) to have unconscious expectations about how our world will be with regard to each of our senses and (ii) to recognise change when our sensory expectations are not realised. Perhaps most importantly it is from this power of the imagination, to build up unconscious sensory expectations and recognise when they are not realised, that we are able to develop our deep sense of the passage of time. Thus, our sense of the passage of time is, at base, physiological and unconscious, and derived from our plenisentient and dynamic coupling with our environment.

Empty Concept

Sylvand, Benjamin

Session: A12

In one hand there are concepts and in the others lexical terms. Both are semantically evaluable, i.e. may be true or false depending on how the world is. Sometime lexical terms means something but lack referent. Someone can speak say something meaningful about unicorn even if there is no such thing like unicorn in the world. This is possible because having a reference is different than having a referent. A lexical term has a reference if it points to something. It has a referent if there is something to which it points. If there is not such thing then lexical term is empty. But it can still have a reference if it is meaningful. A lexical term is meaningful if there is a concept to which it is correlated.

According to cognitive theories of concepts, concepts are determined by their application (the set of element they subsume) and their inferential connexions to other concepts. Following the analogy with lexical terms a concept would be empty if it lacks referent, i.e. if the set of the elements to which it applies is empty.

The first worry is to explain how empty concepts can constitute the reference of empty lexical term. The second worry is to explain what is the inferential role of a concept without application.

In this paper I explain that the application of a concept depend on the way the cognitive agent represent the world and not on the world itself and then that there cannot be empty concept at all.

Aspectual adverbs in conditional context

Ter Meulen, Alice

Session: A11

Using SDRT as representational toolkit, accommodation of presuppositions of aspectual adverbs in consequents of conditionals are shown to constrain antecedents of conditionals temporally and provide information about (perceived) causal correlations or interference. Still, for instance, not only constrains the subject NP of the antecedent clause, exploiting well-known mechanisms of accommodating presuppositions of VPs to restrict the range of quantifiers in Spec of IP, but it also requires an existential condition to be projected outside the scope of the quantifier into the main DRS. This existential force of still is even more tangible when the consequent clause updates the main DRS with the intensional information that the speaker is planning some action, overruling default application of a common ground generic constraint. Since the simple incremental update of contexts does not allow for such revision, the dynamic update relation of SDRT should be adopted to model such belief revision requiring a set of suitable attachment sites to be determined by the rhetorical relations.

Developments of symmetry: emotions, unconscious and infinity through the contribution of Ignacio Matte-Blanco

Tomassoni, Rosellai & P. Diotaiuti

Session: poster

Introducing the concept of infinity into the psychoanalytic lexicon Ignacio Matte-Blanco gives a new paradigm and new perspectives on unconscious mental life, even attributing the origins of cognition to it. He redefined secondary process as bivalent logic, by which he meant Aristotelian, or classical, logic mediated by negation, while bi-logic is associated with the primary processes. Symmetry and asymmetry, the two principles that constitute the templates of bivalent logic and bi-logic are ways of categorizing, comparing, and generalizing about objects. In asymmetry is concerned with the differences between objects, symmetry with their similarities and ultimately with their identicalness.

In symmetrical thinking a part can equal the whole and vice versa. Ultimately, symmetrical thinking becomes infinite sets of categories and infinity itself, or absolute indivisibility (which represents the ultimate hypothetical state of symmetry one, in which there exist no differences, one where everything is homogenous). Psychotics, because of their poor ego boundaries, feel at risk of irresistibly plummeting into this state, as do analysts who experience cataclysmic regression. Absolute heterogeneous divisibility, on the other hand, represents that state of bivalent logic in which everything is absolutely different and there are no similarities, which can also typify psychosis. The qualities of reversibility and infinity that characterize symmetrical thinking suggested to Matte-Blanco that the principle of symmetry subtends, and thereby is able to account for, all the characteristics of the primary processes. The unconscious consists only of classes, of infinite sets of classes, according to Matte-Blanco, not of individuals per se. The unconscious responds to events as sets of signals that it classifies as infinite sets. These sets ultimately become emotions thus emotions are symmetrical, subjective outcomes of symmetrical thinking which reveal themselves through bi-logic.

Young children's abilities to select between sensory modalities and ignore ambiguous information.

Waters, Gillian & Sarah Beck

Session: poster

As adults we immediately understand the sort of information we can gain from different types of perceptual access. Previous research suggests that children aged 4 are able to select the correct perceptual action when presented with a pair of objects that look the same and feel different (or vice versa), (O'Neill, Astington & Flavell, 1992). The current study investigated the development of children's understanding of the origins of their sensory knowledge, together with their abilities to ignore ambiguous information. Sixty 4-5 year-olds (mean 4;9) and 32 5-6 year-olds (mean 6;3) had to select the correct sensory action (looking or feeling) in order to gain perceptual information from hidden objects. The objects were presented either in pairs

or in groups of four. Children were allocated to two 'question type' conditions that either provided just the relevant perceptual information, or also included irrelevant perceptual information. The results indicated significant main effects for question type ($F(1,92)=8.03$, $p<0.01$) and for number of objects presented ($F(1,92)=5.98$, $p<0.05$). Both age groups were more likely to choose the appropriate response on 'feeling' trials than 'looking' trials, but only when the ambiguous information was included in their instructions. In this 'irrelevant information' condition, the appropriate 'feeling' response was more likely to be chosen by the older children when four objects were presented and by the younger children when two objects were presented. The results are discussed and future research is suggested to determine the precise circumstances under which ambiguous information causes difficulty for understanding sources of knowledge.

Using eye tracking to investigate satisficing behaviour when reading texts

Wilkinson, Susan & S. Payne

Session: poster

As part of an information rich environment we are constantly faced with multiple sources of information and the task of choosing between these sources based on our learning goals. Recent work by Reader & Payne (submitted 2006) has indicated that when a time restriction exists, readers actively adopt a 'satisficing' strategy, which means that evaluations and judgements of text sources *and* learning take place simultaneously, to compensate for the limited total reading time available. Whilst data on page visits suggested that the unit of text readers were judging was less than or equal to a page, eye tracking allowed a closer analysis of the way in which this satisficing behaviour was played out. Two experiments were carried out to track the eye movements of readers when searching for specific facts within texts. Participants were given access to four texts (two answering many questions and two answering few) on the topic of the human heart and circulatory system, and asked to learn for a specific test. Scan paths of readers' eye movements, and data on time and duration of texts viewed showed that all or most pages of a text were consulted by the reader, with the later pages of a bad text being read for less time than the early pages. Most paragraphs on a page were viewed, but less time was spent on the later paragraphs of bad texts than the early paragraphs. This supports the theory that readers are satisficing. The current results are discussed with relation to text design.

Is fetal pain a misnomer?

William, Stuart & George Derbyshire

Session: B8

A series of important points in neurological development have relevance to pain processing. At 7 weeks gestational age, for example, the major spinal tract carrying

noxious information from the periphery to the brain is largely complete. Terminations of this tract in the thalamus begin at about the same time and project to the immature cortex from 12-16 weeks. Thalamic projections form within the cortex proper from 23-25 weeks. Consistent with these developments, highly premature neonates respond to heel lance with a functional brain response from 25 weeks gestation. These discoveries are fascinating and exciting but they are the wrong sort of discovery if our aim is to understand pain. Arguments over self-awareness, identity and subjectivity, which must be resolved to understand any specific experience such as pain experience, are not resolved by the presence of anatomical structures. To answer the question of fetal pain will require a broader investigation of how human awareness develops. Logically, the experience of sensation and emotion must include elements of sensory and emotional experience that have an independent existence in a persons mind. This existence is brought about in the first instance by a confluence of continued brain development with discoveries made in action and in patterns of mutual adjustment and interactions with a primary caregiver. Pain experience, like all other experience, is a product of human relationships as much as any peculiar properties of human brains. Consequently, fetal pain can be viewed as misnomer.

Young Children Understand Status Functions in Pretence

Wyman, Emily, Hanne Rakoczy, & Michael Tomasello

Session: poster

Young children understand that objects may have conventional functions in that they are 'for' particular practical purposes (Keleman, 1999). However, when a function is unrelated to the physical properties of an object and instead exists only by collective agreement, the object is said to have conventional status (Searle, 1995). This is conferred on an object when people agree to treat it as having some additional function in a certain context. So, for instance, a piece of paper counts as money within the context of a given currency area or a piece of wood counts as a queen within the context of our chess game. Although developmental research on status understanding in children is in its infancy, joint pretend play has been identified as one of the first areas in which children participate in the collective creation of status (for example, "this stick counts as our telephone in our pretend game"; Rakoczy, in press). We tested the ability of 3;0-year-old children to adapt their pretend actions to an object whose status changed between two contexts. The results of four experiments are presented which are the first to demonstrate that young children understand the context-relative nature of status and can adapt their actions accordingly.

Emergentism About Phenomenal Consciousness

Wyss, Peter

Session: B6

Persistent troubles with the reduction of phenomenal properties (often called qualia) have brought emergence back into play, mainly by philosophers inspired by physicalism. The crude idea is that qualia are emergent properties of the brain; they emerge from a complex neurophysiological configuration. I am suspicious about qualia emergentism, and this paper explores the reasons for these doubts. I discuss three problems with emergentism about phenomenal properties, viz. a problem with triviality, a problem with motivation, and a problem with coherence. First, qualia emergentism is trivial, or at least uninformative. This is because emergence is commonly defined in terms of irreducibility, rather than novelty or its role in the individuation of kinds. As long as emergence and reduction are two exclusive and exhaustive categories, saying that a property is emergent because it is not reducible is not saying much. Second, qualia emergentism is ad hoc, or at least dubiously motivated, because physicalists endorse emergentism merely due to problems with complete reductionism, that is, because a special range of phenomena resist reduction. Emergentism turns into an emergency exit from a philosophical dead end. In contrast, I think that emergence should be subject to serious metaphysical debate. Third, qualia emergentism is an incoherent position for physicalists, because a major motivation for physicalism is the rejection of emergence. In this sense, it is ironic that the attempt to refute emergentism, e.g., by opting for a restrictive model of reduction, leads to its apparent acceptance for a limited range of phenomena.

How emotions influence our cognition

Zajenkowski, Marcin

Session: poster

The problem of interactions between emotions and cognition has been the subject of much research. In my presentation, I'm going to examine theoretical aspects of that issue and then I'd like to present my own research from this area.

Origins of the problem one can find already in Freud's theory of defense mechanisms such as rationalization, projection, sublimation, repression etc. Freud says that they protect us from being consciously aware of feelings which we cannot tolerate and by that they deform our judgements. Other famous examples of such influence come from experimental psychology. Robert Zajonc (Murphy, Zajonc, 1993), for instance, demonstrated, in his studies conducted with subconscious emotional priming prior to a neutral stimulus (e.g., a Chinese ideogram), that sometimes our judgements about the external world could be result of experienced emotions.

The influence of personality on cognitive task performance is the main aim of my presentation. Psychologists found, for example, that high trait anxiety individuals took longer to perform a cognitive task than low trait anxiety individuals. Eysenck and Calvo (1992) suggest that high trait anxiety individuals employ more resources in completing a task in order to maintain the same level of accuracy as low trait anxiety

individuals. This strategy incurs poorer performance and longer response times, as the utilization of more resources lowers working memory capacity.

In my own research 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'd like to 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.

The correlation between identification of familiar labels and the false belief task in preschoolers: A pragmatic account

Zauner, Petra & Bibiane Rendl

Session: B10

Children's difficulties to acknowledge that something can be one thing and at the same time something else have been studied in the context of word learning under the name of the mutual exclusivity bias. Most commonly it is argued that children assume word extensions are mutually exclusive. When children are confronted with two new labels for one object they tend to deny one of them. Under a pragmatic point of view children's mutual exclusivity bias stems from their tendency to infer word meaning from judgement of others' communicative intentions. Apparent demonstrations of a mutual exclusivity bias are the results of pragmatic inferences about what the experimenter is referring to or artefacts of the experimental situation. For instance, it has been argued that the communicating agents rely on communicative maxims and on the principle of cooperation. The listener assumes that a speaker has a specific communicative intent underlying his or her utterance and that in order to make this intent as transparent as possible, the speaker will formulate an unambiguous and informative utterance.

In sum, the described difficulty of children to refer to an object with two labels can either be explained by lexical (mutual exclusivity bias) or pragmatic principles. The common ground of the present studies is that children were confronted with new labels and therefore they were in a word learning situation. The question arises whether children have similar difficulties with labels they are familiar with. Recent research shows that this reluctance to admit "alternative names" (more precisely: alternative descriptions or names) goes beyond the learning of new labels and persists even with terms the child is already thoroughly familiar with.

In an alternative naming game, it was shown that this reluctance to describe an object under two descriptions goes beyond the learning of new labels and persists even with terms children are already familiar with. In addition, this research found a correlation between the ability to use two different labels for one object and the mastery of the false belief task.

In our study we wanted to test whether the naming problems of children persist when the known labels of different hierarchical levels (basic superordinate vs.

superordinate-basic) are embedded in context and if the order of the identification of the hierarchically different labels influences the ability to re-identify an object under a changed description. Finally, we tried to replicate the connection between the naming ability and the understanding of the false belief task. Therefore we tested 33 three-, four-, and five-year-old children with two versions of the false belief task, two identification-stories and a verbal intelligence test. The results showed that the children had significantly more difficulties to re-identify an object under a changed description than under the same but it makes no difference in which direction of hierarchical levels the change is performed. Moreover we found a significant correlation between the identification task and the false belief task which means that children who are able to identify an object with two different terms are also able to solve the false belief task correctly.

A cognitive-Neuroscience approach to the Sorites paradox

Zelcer, Mark & Leib Litman

Session: poster

A typical logico-semantic approach taken to resolve the sorites paradox is to show, in one way or another, that it is not a paradox at all. However, if one can show that the sorites paradox is not really a paradox then they are still left with the task of showing why it appears to be a paradox. We therefore will approach the sorites from the opposite direction. We start by addressing the appearance of paradox. Then we explore what this can mean for an analysis of the paradox itself. We look at the paradox from the perspective of the various brain systems that produce the premises of the sorites argument. We suggest that the implicit and explicit cognitive systems are responsible separately for the initial plausibility of the two premises. The appearance of paradox is a function of our brain's architecture and arises from the conflicting interactions of the implicit and the explicit systems.

The Desiderative Use of Language and Its Significance for Semantics

Zhou, Hong

Session: B9

In addition to the sense of doing things with words well known since Austin, there is a second sense that is psychological (as opposed to normative) and concerned with the individual speaker (as opposed to social). An act of inferring, apart from being valid or not, can be evaluated for success in another way: according as the speaker has or has not properly acquired the belief expressed by the conclusion. But acquiring beliefs is not the only (psychological) thing we may do with words. Successfully carrying out the argument 'I am in danger; so, I want to/will get away' means acquiring a desire or intention to get away. Inferences in the traditional sense have the dox-dox type (acquiring a belief state from an existing belief state), whereas the last example has

the dox-des type (acquiring a desire/intention from an existing belief state). There is also a des-des type: I want to crack open the nut, so I shall hammer it. My aim is to show that dox-des and des-des type inferences, albeit not traditionally discussed in semantics, are crucial for understanding two semantical phenomena and issues related to them. Dox-des inferences, together with some formal restrictions on inferences in general, are the key to understanding why utterances of certain grammatical form are closely connected with action (the problem of *de se*). Des-des inferences are for their part crucial for correctly describing the semantics of conditionals expressing causal relations. This will eventually give us a way of steering clear from (i) denying the existence of natural laws and physical necessities, and, (ii) modal-realism based accounts of them that were found objectionable, correctly in my view, in e.g. von Fraassen's Laws and Symmetry.

Language, Bodily Mimesis and Autism

Zlatev, Jordan & Pam Heaton

Session: A10

Cognitive theories attempting to explain autism fall into two different broad categories: (a) Those which propose a primary impairment in social cognition, e.g. Theory of Mind deficit, impaired affective interconnectedness, motivation for sharing deficit; and (b) those which hypothesise a primarily non-social impairment, e.g. executive dysfunction, enhanced perceptual function and weak Central Coherence. Few, if any, have proposed a way of accounting for both the social and the non-social peculiarities of autistic cognition.

We propose a model which accounts for all symptoms of autism, building on the concept of bodily mimesis (Donald), which has been argued to ground social cognitive development both phylogenetically and ontogenetically. We claim, in brief, that the core deficit in autism is an impairment in cross-modal integration. This causes perceptual-motor abnormalities which negatively affect categorization (generalization) in development, and in particular bodily mimesis. Since language is (in our account) essentially post-mimetic, this developmental derailment will affect it negatively as well. The impairment in language development reduces the ability to form conventional categories (concepts). We also predict that this deficit will predominantly affect "open" domains with vaguer "rules", such as imitation, aspects of social cognition involving the recognition of emotions and communicative intent, and less formal aspects of language such semantics and pragmatics. On the other hand, relatively "closed domains" with simpler rules and less cross-modality, such as arithmetic, music, more formal aspects of language such as prosody and syntax are predicted to be less affected. We present some evidence supporting these predictions.
