



Semantics & Philosophy in Europe
September 26 - October 1, 2011
Ruhr-University Bochum

SP
E4

Program & Abstracts

RUB

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Markus Werning and Heinrich Wansing

The Semantics and Pragmatics of Quotation

Organization: Markus Werning

The Semantics of Action Sentences

Organization: Heinrich Wansing and Caroline Semmling

The Semantics and Epistemology of Mental State Ascriptions

Organization: Albert Newen, Markus Werning, Simone Duca, Tomoo Ueda

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| Monday | Tuesday | Wednesday | Thursday |
|---|---|--|---|
| <i>Tutorial on Quotation</i> | <i>Tutorial on Action Sentences</i> | <i>Symposium: The Semantics and Pragmatics of Quotation</i> | <i>Symposium: The Semantics and Pragmatics of Action Sentences</i> |
| Expert Tutors: Philippe de Brabanter, Paul Saka | Expert Tutors: Andreas Herzig, Jan Broersen | 10.00-11.00 Philippe de Brabanter “ <i>Varieties of Hybrid-Quotation</i> ” 11.00-12.00 Manuel Garcia-Carpintero “ <i>Reference in Pure Quotation: Some Methodological Considerations.</i> ” Coffee Break | 10.00-11.00 Andreas Herzig “ <i>On the Relation between Stit Theory and the Logic of Programs</i> ” 11.00-12.00 Jan Broersen “ <i>Choice, Attempt and Action in Deontic Probabilistic Stit Logic</i> ” Coffee Break |
| 10.00-13.00 Part 1 | 10.00-13.00 Part 1 | 12.15-13.15 Markus Werning “ <i>Making Quotation Transparent</i> ” | 12.15-13.15 Danièle van de Velde “ <i>How to Build Events from Actions and Facts from Events</i> ” |
| Lunch | Lunch | Lunch | Lunch |
| 14.30-18.00 Part 2 | 14.30-18.00 Part 2 | 14.15-15.15 Dag Westerståhl “ <i>Quotation and Compositionality</i> ” Coffee Break | Coffee Break |
| | | <i>Roundtable on Quotation</i> | <i>Roundtable on Action Sentences</i> |
| | | 15.30-16:00 Manfred Harth “ <i>The Logical form of Quotation Sentences</i> ” | 14.15-14:45 Roberto Ciuni “ <i>Applying the Semantics of Group STIT: Coercion and Delegation</i> ” |
| | | 16.00-16.30 Emar Maier “ <i>On Quoting ‘My Favourite Philosopher’</i> ” | 14.15-15.15 Tillman Pross “ <i>On Anchoring Sentences in Action</i> ” |
| | | 16.30-17.00 Hans-Martin Gaertner “ <i>Quotative Modal ‘Wollen’, Assertion and the Zaefferer-Searle-Debate</i> ” Coffee Break | Coffee Break |
| | | 17.15-17.45 Daniel Gutzmann & Eric Stei “ <i>How Quotation Marks What People Do With Words</i> ” | 15.30-16.00 Ulrich Reichard & Wofram Hinzen “ <i>The Event Argument Hypothesis: In Search of Evidence</i> ” |
| | | 17.45-18.15 Cosmina Maria Hodoroga “ <i>Fronted Quotation</i> ” Break | 16.00-16.30 Tomas Barrero “ <i>Actions Sentences, Negations and Adverbs</i> ” Coffee Break |
| | | <i>Evening Talk</i> | 16.45-17.15 Roberto Ciuni & Alberto Zanardo “ <i>From CTL and CTL^U to BTC+</i> ” |
| | | 18.25-19.10 Robert van Rooij “ <i>Wittgenstein’s Nonsense Paradox and Lingualism</i> ” | 17.15-17.45 Heinrich Wansing “ <i>Some Remarks on Knowability and Agency</i> ” |

Friday

Morning Talks

- 10.00-11.00 Stephen Neale
The Act-Syntactic Account of What is Said
- 11.00-12.00 Friederike Moltmann
“Act-Based Conceptions of Propositional Content and the Action-Product Distinction”

Lunch

Colloquium on the Semantics and Epistemology of Mental State Ascriptions

- 13.00-14.00 Katarzyna Jaszczolt
“Representing Beliefs De Se”
- 14.00-15.00 Simone Duca
“Self-undermining and Self-enhancing Attitudes”

Coffee Break

Roundtable on Mental State Ascriptions

Session A

- 15.30-16.00 Marco Fenici
“Learning to Measure Others’ Beliefs in Early Childhood”
- 16.00-16.30 Andrea Lailach
“Authority and Asymmetry”
- 16.30-17.00 David Gray
“Slow-Switching and the Self-Ascription of Knowledge”

Session B

- Matthias Unterhuber
“Do Indicative Conditionals Have Truth-values? Challenging Bennett’s Four Routes to ‘No Truth Values’”
- Martin Fricke
“Rules of Language and First Person Authority”
- Dirk Kindermann
“De Se and Taste Attitudes in Communication”

Coffee break

- 17:15-17:45 Tomoo Ueda
“The Communicative Role of Propositional Attitude Reports”
- 17.45-18.45 Paul Saka
“Belief Reports”

19:30 – 22:30 Conference Dinner in der Taverna Avli

Saturday

Colloquium on the Semantics and Epistemology of Mental State Ascriptions

- 09:30-10.30 Hannes Leitgeb
“The Lockean Thesis Revisited”
- 10.30-11.30 Robert Matthews
“How to Be a Dispositionalist about the Attitudes”

Coffee break

- 11.45-12.45 Markus Werning
“Propositional Attitudes and Mixed Quotation”

Lunch Buffet

Poster Session

12.45-14.15

Colloquium on the Semantics and Epistemology of Mental State Ascriptions

- 14.15-15.15 Mark Richard
“Attitude Ascription Algorithmic or Artistic?”
- 15.15-16.15 Albert Newen
“Attitude Ascriptions and Mental Files”

Coffee Break

- 16.30-17.30 John Perry
“Networks and Attitudes”

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Abstracts - TALKS**Action Sentences, Negation and Adverbs**

Tomás Barrero
 Universidad de los Andes, Colombia

In this talk I will focus on some challenges for Davidson's proposal concerning action sentences by using some of Austin's examples connected with adverbial modification. In such cases, can be argued in a Davidsonian vein, negation in natural language has at least two formal readings. This option, though, faces some intuitive difficulties that suggest a different, non conjunctive approach to some adverbs just sketched here that prompts some general concerns for the alleged metaphysical neutrality of Davison's semantics. Consider these cases (Austin 1970 Chapter 8):

- (1a) He clumsily trod on the snail.
- (1b) Clumsily he trod on the snail.
- (1c) He trod clumsily on the snail.
- (1d) He trod on the snail clumsily.

Leaving aside the indefinite personal pronoun “he”, the logical form of anormal action sentence like:

- (2) He trod on the snail,

according to Davidson (2002 Chapter 6), is given by the existential quantification over events:

(3) $(\exists x)[\text{Trod on}(\text{He, the snail},x)]$.

So, a first option is to take the adverb “clumsily” as a usual predicate and add it to the logical form (3) as a simple event-modifier:

(4) $(\exists x)[\text{Trod on}(\text{He, the snail},x) \wedge \text{Clumsy}(x)]$.

that has a normal (propositional) negation:

(5) $\neg (\exists x)[\text{Trod on}(\text{He, the snail},x) \wedge \text{Clumsy}(x)]$

which, supposing some simple equivalences and definitions, can be transformed into:

(6) $(\forall x) [\neg \text{Trod on}(\text{He, the snail},x) \vee \neg \text{Clumsy}(x)]$.

But this option brings some problems with it, for the negation of (1a-d) is ambiguous, as shown in (1a*-d*):

(1a*) He clumsily didn't tread on the snail.

(1b*) Clumsily he didn't tread on the snail.

(1c*) He didn't tread clumsily on the snail.

(1d*) He didn't tread on the snail clumsily.

In (1a*-b*) we are asserting that he didn't tread on the snail and qualifying his not treading on the snail as clumsy. In these cases, the logical form should be:

(7) $(\exists x)[\neg \text{Trod on}(\text{He, the snail},x) \wedge \text{Clumsy}(x)]$.

(7), though, is not (4)'s negation (which is (6)) but (8)'s negation:

(8) $(\forall x)[\text{Trod on}(\text{He, the snail},x) \vee \neg \text{Clumsy}(x)]$.

This logical form fits with the idea of his not treading on the snail as a piece of clumsiness and this seems to be our intuition when asserting (1a*-b*). But it can be contended that (1c*-d*) whose logical form should be (6) have other intuitive sense, i.e., that his treading on the snail was not clumsy and this includes no logical complexity or “disjunctive” form but the simple denial:

(9) His treading on the snail was not clumsy.

One interesting option available for the Davidsonian is to give (1a-d) a similar formal treatment as that of “intentionally” (Davidson 2002, Chapter 5), namely, as an operator and not as a simple predicate. Following this option (1a-d) should be treated as:

(10) It was clumsy of him that he trod on the snail,

which has two possible negations:

(11) It was not clumsy of him that he trod on the snail

(the sense intended in (1c*-d*)), and

(12) It was clumsy of him that he didn't tread on the snail

(the sense intended in (1a*-b*)).

But this choice might be not just a neutral mere stipulation as far as it implies a preference for Davidson's causal theory of actions which supports his view on intentions. Without this view, I highly doubt that (11) and (12) can work, for intentions form a subset of causes and (11) and (12) take the agent as a

cause and try to draw some semantic consequences from this theoretical decision. This fact suggests that, despite some arguments for the metaphysical neutrality of a Davidsonian semantics, many adverbs should receive a semantic treatment on the condition that the actions they modify fit a causal model of action.

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Varieties of Hybrid-Quotation

Philippe De Brabanter
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In this talk, I will show how varied is the range of quotations that can be called ‘hybrid’ (core instances of which are strings that appear to be simultaneously used and mentioned, see De Brabanter 2010), and will then argue against the standard distinction between ‘mixed quotation’ and ‘scare quoting’ (Cappelen & Lepore 1997, 2005). The rejection of this distinction, if justified, poses a problem for some of the standard *semantic* accounts of (hybrid) quotation. Another issue with semantic accounts is their extreme dependency on marks

of quotation. I’ll argue that such theories are more properly called ‘theories of quotation marks’ than ‘theories of quotation’, and will look into the question whether such marks — explicit or not — are necessary for quotation in general, and hybrid quotation in particular. A final issue is the widespread assumption /postulate, within semantic accounts, that only syntactic constituents can be quoted. I’ll provide examples where non-constituents are quoted, and where a substitute analysis in terms of ellipsis is unpromising.

In the second part of the talk, I’ll set out the main lines of a *pragmatic* account of hybrid quotation, drawing on Clark & Gerrig (1990) and Recanati (2001, 2008). I’ll try to show in what respects such an account fares better than the semantic theories.

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Choice, Attempt and Action in Deontic Probabilistic Stit Logic

Jan Broersen
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One way in which standard deontic logic [1], but also most other systems of deontic logic, falls short is the treatment of action with uncertain, probabilistic or attempted effects. Yet it is very natural, and sometimes even crucial for rational decision making, to reason, for instance, about being forbidden to take certain risks, being obliged to try something, or to avoid being liable for an attempted crime (see [2] for an elaborate and detailed philosophical discussion of the role of attempt in criminal law). The modalities involved in these cases can all be viewed as applying to probabilistic action, that is, action with a certain chance of success. In particular, we suggest to model attempts as choices maximizing subjective probabilities of action success [3]. This modeling of attempt is quite different from other approaches in the literature. Placek [4] aims to define attempt entirely in terms of objective, non-mental modalities. Vanderveken [5] does take a subjective stance, but does not use probabilities or any other means to represent subjective epistemic attitudes. Finally, Herzig and Lorini [6] see attempt as an internal mental action preceding the objective external action. We will discuss how the obligation to attempt an action can be suitably modeled in a probabilistic stit framework extended with deontic modalities. Also we will discuss the modeling of a prohibition to take a risk and the

relation with the problems of 'moral luck' as discussed by Nagel and Williams [7,8].

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Applying The Semantics Of Group Stit: Coercion And Delegation

Roberto Ciuni

TU Delft, Netherlands

STIT logics are a family of formalisms which take the locution ‘seeing to it that’ as the canonical form of any expression of agency. In a nutshell, these logics may express the idea that a proposition ϕ holds true due to a given agent or group of agents. Such formalisms consider *agency* in terms of the *outcomes* of an action and take outcomes as obtaining due to a choice of an agent (better, *within* such a choice); choices are in turn disjoint sets of histories which are defined w.r.t. agents (groups) and moments in branching-time structures. The logic comprising individual agents a, b, c, \dots and groups A, B, C, \dots I shall call ‘Group STIT’. The modal operators expressing agency (stit operators) are defined on the ground of such structures and conceal a universal restricted quantification over the histories *in a given choice*. There are many different stit operators in the literature; here, I shall focus on the so-called Chellas’ stit ($[a]$, $[A]$) and deliberative stit ($[a]^*$, $[A]^*$). Their truth-clauses may be found in [X], [Y]. STIT logics also employ the usual necessity operator \Box .

Since they have first appeared, STIT logics have been used to give a formal rendering of theses and phenomena which involve the notion of responsibility (see [1]). More recently, STIT logics have been explicitly applied to the problem of

responsibility attribution, that is the problem of distributing individual responsibility within group action. In other words, the problem arises of how the responsibility of a collective action must be distributed over individual agents. STIT logics extended with groups have proved a good framework for dealing with basic cases of responsibility attribution (see [2], [3]).

The present paper aims at facing two particular cases of responsibility attribution, which we shall label ‘coercion’ and ‘delegation’. The two terms have to be understood as technical terms here: ‘coercion’ will apply to those phenomena where an agent (a group) *forces* a further agent (group) to make ϕ hold, ‘delegation’ will apply to those phenomena where an agent (a group) acts in such a way that another agent (group) deliberately make ϕ hold. In the first part of the paper I introduce GroupSTIT, its semantics and some valid sentences of STIT, and then show that, when two different individual *agents* a and b are involved, (i) coercion is trivial (that is, $[a][b]\phi \leftrightarrow \Box\phi$) and (ii) delegation is contradictory ($[a]^*[b]^*\phi \leftrightarrow \phi \wedge \neg\phi$). I also show that when two *groups* A and B are involved, (i) if $A \cap B = \emptyset$, then $[A][B]\phi \leftrightarrow \Box\phi$ and $([A]^*[B]^*\phi \leftrightarrow \phi \wedge \neg\phi)$; (ii) if $A \cap B \neq \emptyset$, then $[A][B]\phi \leftrightarrow [A \cap B]\phi$ and $[A]^*[B]^*\phi \rightarrow [A \cap B]\phi$. This shows that STIT logic is inadequate as a formal model for coercion and delegation, since – intuitively – delegation is possible and we force other agents (groups) to make propositions hold which are not necessary. In addition, coercion among overlapping groups does not seem to be reduced always to the action of a shared subgroup. In the second part of the talk, I introduce a STIT formalism where outcomes holds in the next moment w.r.t. the evaluation

moment, and I show how this allows to suitably model coercion in a STIT framework.

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FROM CTL AND CTL^U TO BTC⁺

| | |
|-----------------------|-----------------------------|
| Roberto Ciuni | Alberto Zanardo |
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In the present paper we present the STIT-temporal logic BTC⁺ and we prove that it is more expressive than the computational tree logic CTL and its variant CTL^U, which we introduce below. By this, we mean that there is translation from BTC⁺ to CTL (and CTL^U) but not vice-versa. CTL is a well-known computational logic which expresses notions such as ‘possibly

will hold’, ‘inevitably will hold’ and the like. The branching-time structures assumed for the evaluation of CTL’s formulas allows us to represent the modal notions ‘possibly’ and ‘inevitably’, which are in turn interpreted as quantifiers over history (i.e. maximal chains of moments). CTL^U refines CTL’s language, since it is able to express notions such as ‘jwill hold in all (some) histories which are now undivided with the history of evaluation’. The quantification within classes of undivided histories has been first introduced in [6]. STIT logics are formal machineries which express agency by means of the so-called ‘stit operators’ (stit is the acronym of ‘seeing to it that’) and are interpreted on trees endowed with a function of choice, that is in turn a partition of the histories passing through a given moment. Stit operators were born as purely modal operator, which should be combined with temporal operator in order to render the temporal dimension of action: when we act, outcomes are not just instantaneous, i.e. they take time to hold. There have been two main approaches to this enrichment of the STIT language: following an idea which can be found in [1], some have kept purely modal stit operators and added the operators of CTL as separate operators (see [2], [3]). This choice has a consistent drawback: when the number of agents is greater than 3, or groups are into account, a purely modal STIT logic is undecidable, and the property is transmitted to the corresponding temporal extensions. The second approach has more hopes to circumvent the problem. It consists in shaping fused stit-temporal operators, that is in building operators where the temporal dimension is already included in actions. In other words, instantaneous actions are not allowed in this framework. The approach has been first tried in [4], where only

stit-next operators are introduced (one for each individual agent a or group A , as usual in multi-agent and group STIT). In [5], we followed this last approach and built the logic BTC with a full set of stit-next-operators, but we confined ourselves to the mono-agent case. Here, we want pursue the approach further and present the tempo-modal Group STIT logic BTC^+ . The language of BTC^+ is the language of classical propositional logic enriched by the operators $[\Box]$ (necessity), $[A: X]$ (group A forces $_$ to hold in the next moment), $[A: F]$ (group A forces $_$ to hold at some point in the future) and $[A: G]$ (group A forces $_$ to hold from the next moment on). When individual agents a, b, c, \dots are at stake we will write $[a: X]$ and the like.

In the first part of the paper, we introduce the relevant logics – and their semantics. In the second part of the paper, we build translations from CTL to BTC^+ and CTL^U to BTC^+ , and show that none of them can be reverted.

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Self-Undermining and Self-Enhancing Mental States

Simone Duca

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In this paper, I defend the claim that agents can never rationally hold themselves to be anti-experts, i.e. knowingly disavowing their own beliefs. Recently, this view has been criticized for its appeal to an allegedly unrealistic notion of rationality. In particular, it has been suggested that self-attributions of anti-expertise are rational attitudes, since they allow people to revise their beliefs. I offer two arguments against this view:

1) Argument from theoretical rationality:

Self-ascribed anti-experts also violate Reflection, which is a highly desirable principle of rationality.

2) Argument from empirical evidence:

Robust results on the Above-Average effect show that people usually overestimate their performance at a large variety of

tasks. This suggests that people usually don't see themselves as anti-experts. More importantly, people seem to positively see themselves as experts. In conclusion, I suggest that self-attribution of expertise is indeed a powerful heuristic to get by in day-to-day tasks and show how this bears on notions such as confidence and overconfidence in our own judgements.

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Learning to Measure Others' Beliefs in Early Childhood

Marco Fenici

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Matthews [6] extensively defended the view that propositional attitudes are like numerical measure predicates used to attribute physical magnitudes. According to his view, propositional attitudes do not express a relation between an individual and a psychological object, but rather a relation between an individual and a linguistic representative of the attributed mental state. Therefore, learning to report propositional attitudes requires learning to correlate a representational structure of "*semantically and pragmatically interpreted utterance forms*" [IUFs, 6:167], which codify states of affairs, to the represented empirical structure of behaviours that are either apt to produce those states of affairs (in the case of desire propositional attitudes) or apt to be modulated by the awareness of those states of affairs (in the case of belief propositional attitudes).

Matthews' theory aims to explain both the semantic and the psychological value of propositional attitude reports. Therefore, it would be undermined if it were found incompatible with what we know about children's understanding of propositional attitude reports. In this talk, I will argue that empirical evidence supports it.

Indeed, recent evidence is showing that infants can process others' beliefs already in their second year of life [1,8,10,11]. If understanding belief reports were simply a matter of mapping

new words to pre-existing conceptual structures [3], two-year-olds could already be expected to correctly map belief reports on the right situations. Instead, we know that children's mastery of belief reports is delayed until age four [13]. Detailed analysis shows that this depends on children's need to previously understand (i) the syntactic structure of propositional attitudes [12], (ii) the different direction of fitness that desires and beliefs have with respect to the world [9] as well as (iii) the different role that beliefs and desires have in explaining people's behaviour [2,7]. Empirical evidence thus suggests that the problems children have in assessing the meaning of propositional attitudes are specifically the problems emphasised by Matthews' view of propositional attitudes. In particular, children's difficulty in understanding belief reports is specifically related to their difficulty to understand (i) the representational domain by which they measure propositional attitudes, as well as its correlation with both (ii) the state of affairs to which propositional attitudes are directed and (iii) the behaviours that are directed towards these states of affairs.

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Rules of Language and First Person Authority

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Can the “rules of language” explain first person authority? In this paper, I discuss three ways of relating language and first person authority: Bar-On’s neo-expressivism, Wright’s constitutivism and Shoemaker’s ideas about Moore’s paradox and self-knowledge. I argue that the first two remain, at best, incomplete because they fail to explain how the facts about language (the “rules”) can be instantiated by us. The third is intimately related with, and possibly reducible to, an epistemological explanation of first person authority such as the one recently suggested by Alex Byrne.

According to Dorit Bar-On, first-person privilege about mental states is a consequence of the expressive character of our avowals of such states. If my statement that I am in state M is the expression of my state M, then it is true that I am in state M, and this is what the statement is saying. So if avowals of mental states are expressions of those same states and if what they say is that we are in those states, then such avowals are true. – Bar-On makes a valiant effort to show that the expressive character of avowals is compatible with the idea that they are, nevertheless, capable of being true or false as self-ascriptions. However, it seems to me that there is an important lacuna in Bar-On’s neo-expressivism. Every self-ascription that succeeds in self-ascribing and expressing the same mental state is, trivially, true. But why do only some self-ascriptions, namely

avowals of certain mental states, reliably succeed in doing this? Bar-On characterizes these avowals as “sincere, spontaneously volunteered [and] unreflective” (Bar-On and Long 2001, 326). But these attributes also describe avowal-like ascriptions of perceptual and proprioceptive states (cf. Byrne forthcoming, 13), which lack first-person privilege. Even ascriptions of blood pressure might share such characteristics (cf. Heal 2001, 9). Why, then, is it the case that “I can speak my mind, but I cannot speak my body” (cf. Bar-On 2004, 428)? The expressive character of avowals alone does not seem sufficient to explain this fact.

An analogous problem arises in Crispin Wright’s constitutive theory of self-ascriptions of mental states. According to Wright, our language game concedes truth by default to such ascriptions. In normal conditions, the self-ascription of the mental state is part of what constitutes the fact that I am in the state. As in the case of Bar-On’s expressivism, on this set-up it is trivially true that self-ascriptions of mental states are normally correct. But as Wright himself remarks, the success of such a language game “depend[s] on certain deep contingencies” (Wright 1989, 632). It depends on us being “subcognitively moved to opinions concerning our own intentional states which will indeed give good service to others in their attempt to understand us” (ibid.). But how is it possible to be reliably moved to true opinions about our own mental states? Wright’s theory does not answer this question. But arguably it should. After all, other language games are conceivable where truth is the default position for, say, statements about whether it will rain tomorrow. Clearly, we are incapable of playing such language games. The relevant “deep

contingencies” are missing. It seems that a good theory of first person authority should have something to say about why this is so in these cases, but not when we are dealing with mental self-ascriptions.

A completely different way of explaining first person authority is by way of Moore’s Paradox. As Sydney Shoemaker points out, anyone with normal cognitive and conceptual capacities should know that it is incoherent, for others or for herself, to utter Moore-paradoxical sentences of the form “p, but I don’t believe that p”. This fact alone, Shoemaker claims, should dispose any such person who accepts that p, also to accept that she believes that p (cf. Shoemaker 1988, 200). So the capacity to avoid Moore-paradoxical sentences provides a tool for making correct self-ascriptions of belief, a tool that is, arguably, more reliable than the methods we have for ascribing mental states to other people. But is this an example of a theory that derives the authority of self-ascriptions from features of our language? It might be argued that the procedure is an instantiation of Alex Byrne’s “epistemic rule” for the formation of second-order beliefs: “If p, believe that you believe that p” (Byrne 2005, 95). At this point, we might alternatively conclude that the paradoxical character of Moore’s sentences is due the violation of Byrne’s epistemic rule or that it provides independent evidence for the fact that we can self-ascribe beliefs by directing our attention to the world.

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Quotative Modal *Wollen*, Assertion, and the Zaefferer-Searle-Debate

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Zaefferer (2001) offers an alternative to Searle’s (1976) classification of illocution types that arguably establishes a better match with the typologically attested class of natural language sentence types (cf. König & Siemund 2007). This involves the following analysis of the assertive illocution type (Zaefferer 2001:223):

(1) *EXPRESS(S, H, WANT(S, ASSUME(H, p)))*

Zaefferer, seeking integration of force indicators and modal operators, takes independent evidence for volitionality in (1) to come from German quotative (evidential) modal *wollen*. Such modals "are by definition both illocutionary and propositional [...]: Seen from above they are in the scope of the top illocutionary force operator, seen from below they represent the quoted force operator which in turn has the propositional content in its scope." Thus, the following analysis of quotative *wollen* is developed (cf. *ibid.*:217). (*X* represents Max's addressee.)

(2) a. *Max will reich sein.*

"Max claims to be rich"

b. *EXPRESS(S, H, WANT(S, ASSUME(H, WANT(M, ASSUME(X, RICH(M))))))*

In his reply to Zaefferer, Searle (2001) defends his own familiar analysis of assertion as having the illocutionary point of committing the speaker to the truth of the asserted proposition. In particular, Searle (2001:288) objects to the alternative in (1) that

a speaker can make an assertion quite satisfactorily without giving a damn whether the hearer assumes what he says is true. He might even make this explicit. He might say, "I don't care whether you assume that it is raining, all the same it's raining." If Zaefferer were right, this would be a self contradiction on part of the speaker.

Interestingly, a finer point of the interpretation of quotative *wollen* confirms Searle's critique. Imagine a situation where Julia secretly overhears Max making utterance (3) to himself or (4) to Klaus.

(3) *Ach wie gut, dass niemand weiß, dass ich den Mount Everest bestiegen habe.*

"Oh, how good it is that nobody knows that I climbed Mount Everest."

(4) *Sag's nicht weiter, aber ich habe den Mount Everest bestiegen*

"Don't tell anybody: I've climbed Mount Everest"

Crucially, Julia can report (3)/(4) by using quotative modal *wollen* as follows:

(5) *Wisst ihr was? Max will den Mount Everest bestiegen haben.*

"You know what? Max claims to have climbed Mount Everest."

Given the content of the matrix clauses in (3)/(4), i.e., Max's eagerness to keep his climbing success to himself / himself and Klaus, the only sensible ways of dealing with the addressee variable *X* when rendering (5) in terms of (2b) are the ones in (6).

(6) a. $EXPRESS(J, H, WANT(J, ASSUME(H, WANT(M, \neg \exists X (ASSUME(X, CLIMBED(M, ME)))))))$

b. $EXPRESS(J, H, WANT(J, ASSUME(H, WANT(M, ASSUME(M/M \oplus K, CLIMBED(M, ME))))))$

Max doesn't want anybody (else), (just) himself, or (just) himself and Klaus to make the assumption that he climbed Everest. However, this part of the putative meaning of (5) is not recoverable for Julia's addressees.

Thus, if quotative modal *wollen* mirrors the standard assertion operator, standard assertion had better not appeal to hearer assumptions. On Searle's interpretation of assertion, things come out quite adequately, as indicated in (7).

(7) $COMMITTED.TO(J, COMMITTED.TO(M, CLIMBED(M, ME)))$

The remainder of this presentation makes the following three points: (i) Zaefferer (2006) revises (1) in a way that meets Searle's critique. That revision still doesn't work in an analysis of (3)-(5). (ii) The embeddability of quotative modal *wollen* indicates that a purely illocutionary analysis is problematic. (iii) (3)+(5) contradict the anaphoric account of *say*-reports by Brasoveanu & Farkas (2007), which disallows reported material picking up presuppositions.

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Reference in Pure Quotation: Some Methodological Considerations.

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Corey Washington (1992) identified three questions that a theory of pure quotation (as in "'Boston' is disyllabic") should address, and on the basis of which such theories could be classified: (i) what part of a quotation has a referring role, (ii) what is the reference of that referring part, and (iii) how that reference is fixed. In this paper I will compare the answers

given by the sort of demonstrative, Davidsonian account that I (1994, 2004) have advocated with those provided by what I take to be the most interesting alternative emerged in recent years, the “disquotational” Tarski-inspired account advocated by Gómez-Torrente (2001), a (much less compelling) variant of which has been recently adopted by the former Davidsonians Cappelen and Lepore (2007). My focus will be on general methodological and theoretical issues about the distinction between semantic and speaker’s reference, the relation between reference-fixing and meaning, and in general the semantics/pragmatics divide, which I think the debates about quotation can helpfully illuminate.

Slow-Switching and the Self-Ascription of Knowledge

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In debates over self-knowledge, there are those who believe that externalism is incompatible with us having certain kinds of self-knowledge.¹ One of the ways that some philosophers attempt to illustrate this incompatibility is in the form of a thought experiment that I will call 'slow-switching'. The thought experiment attempts to show that if we were relocated to a new environment, unbeknownst to us, we may end up being

mistaken about what we previously knew about ourselves. In other words, externalism and a slow-switch can bring it about that we would systematically lose our self-knowledge about a type of belief – e.g. a past beliefs about water. Thus, the first-person access we have to our own beliefs does not seem to justify us in claiming that we know what it is that we believed. I will argue two main points. First, the standard account of externalism is itself incompatible with a slow-switching thought experiment. Second, once a version of externalism is found that is compatible with a slow-switching thought experiment, I will show that these thought experiments are inadequate for the incompatibilist project. That is, nothing brought by a theory of externalism into a slow-switching thought experiment threatens our self-knowledge. In short, I will not be attacking incompatibilism per se, but a method of argumentation used by the incompatibilist. Arguing for this seemingly odd second point is the main task of this presentation.

In this presentation, I will first examine the threat that externalism is supposed to pose to self-knowledge via a slow-switching thought experiment. While the standard version of physical externalism would not allow slow-switching to occur, I believe that a modified version of physical externalism could allow for this. Second, I will argue that a new version of physical externalism would allow for slow-switching.²

Third, I hope to uncover what it is that actually causes our mental contents about a natural kind to change what they are about. Fourth, I will introduce a non-externalist theory that can generate the same self-knowledge problems as physical externalism when used in a slow-switching thought experiment.

Finally, I will conclude that slow-switching thought experiments, i.e. someone switching environments so that they interact with a superficially indistinguishable natural kind, coupled with what, I argue, causes the change in mental contents, are sufficient to pose a threat to self-knowledge. That is, slow-switching thought experiments do not depend on an externalist theory to generate a self-knowledge problem.

¹ The kind of self-knowledge I will be focusing on is knowledge of our beliefs about natural kinds. Some incompatibilist arguments which would deny that we have this kind of self-knowledge have been presented in Boghossian 1989, McKinsey 1991, and Ludlow 1995 and 1997.

² I am not intending this presentation of the new version of physical externalism as a defense of it or as something that I am committed to. I merely offer it as the most charitable version of externalism I can offer to the incompatibilist.

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How Quotation Marks What People Do With Words

| | |
|-------------------------------------|--------------------------------|
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Most existing theories of quotation are restricted, sometimes implicitly, to certain aspects of quotation mark usage. In our

talk, we pursue the somewhat ambitious goal of outlining an all-encompassing theory of quotation in written natural language.

We first provide a naïve but neutral definition of quotation – quotation is everything between a pair of quotation marks – followed by a brief typology. Then, we develop an account of quotation which relies mainly on pragmatic mechanisms in order to explain the role quotation marks play in achieving communicative ends of writers. Quotation marks (QM), we argue, are best understood as minimal pragmatic markers that block the stereotypical interpretation of the expression they enclose. They thereby indicate that some alternative interpretation ought to be inferred. A consequence of this view is that quotation marks are not assigned any proper semantic meaning. We will outline an exemplary derivation process in order to illustrate the theoretical machinery of the account. In a second part, we will discuss two worries our MPI-account seems to be confronted with. The first can be formulated as follows: How can QM play a purely pragmatic role, given that in some types of quotation they do seem to have an impact on truth-conditions? Of course, we do not deny that there is a semantic effect in some kinds of quotation. Yet, this effect is not contributed by QM, but by independent mechanisms like context-shift and mentioning (cf. Saka 1998). Thus, we argue that the distinction between semantic and rather pragmatic types of quotation (e.g. Recanati's (2001) closed vs. open quotation) is not to be construed as a difference in kind but as a difference in what is being quoted. The second worry addresses the resulting disconnection between mentioning and quoting: Can expressions be mentioned without being quoted? We think

they can, and we argue that any intuitions to the contrary rest upon an underlying problem of distinguishing between genuine rules of a natural language and stylistic norms. Whereas mentioning is part of the former, the prescription to use QM to mark mentioned expressions is part of the latter. Although mentioning without QM might be infelicitous in some cases, it is nonetheless grammatical. Finally, we present the results of a small corpus study which we consider a confirmation of the predictions our account makes.

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The Logical Form of Quotation Sentences

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In his classic, (T) “p” is true iff p, Tarski was puzzled about the logical role of the quotation marks, since they normally would signal that the letter “p” is talked about on the left hand side of (T). So (T) didn't seem to make sense to him and, therefore, Tarski dismissed (T) as a definition of truth. The rest of the

story about truth became philosophical orthodoxy, but the puzzle about quotation has no orthodox solution. After all, there is at least wide agreement that just two types of theories are in the run: a paratactic account, championed by Davidson, Garcia-Carpintero, Cappelen&Lepore and others, and an identity account, proposed e.g. by Washington and Saka. Davidsonians favour a logical analysis of quotation sentences within the framework of first order predicate logic augmented by demonstratives, whereas an identity-theoretic account has to exceed classical logic. So, according to Davidson, there seemed to be no appropriate logic of quotation besides his demonstrative analysis. Furthermore, Davidson objected to the Identity Theory that it is not able to account for the so-called pictoriality of quotation, since the alleged kind of reference of the quoted expression to itself does not seem to involve anything pictorial. Finally, the Identity Theory is said to be not in the position to explain the double duty that quotations serve in so-called mixed quotations. In my paper, however, I'll show that the objections aren't cogent: There are proper logical analyses for quotation sentences within the framework of an Identity Theory – I'll sketch a logic of quotation and quasi-quotation in the paper. The argument from the pictoriality is also rebutted. I'll show how my version of an identity approach – the Exemplification Theory of Quotation – can properly account for the pictoriality of quotation by holding that the reference of the quoted expression to itself is a non-standard reference that is constituted by the exemplification of the quoted expression by one of its tokens. Pointing out that a part of a logical form qua logical form principally cannot serve a double semantic role refutes the argument from double duty.

Finally, I argue that a paratactic account has to face at least two problems, (i) the dispensability problem and (ii) the presupposition problem: (i) The Davidsonian has to explain missing quotes – according to a paratactic analysis, after all the grammatical subject in many quotation sentences – as ellipsis or with resort to some other pragmatic phenomenon, which is quite implausible. (ii) A demonstrative reference presupposes the existence of a demonstrated token, but English quotation sentences do not presuppose the existence of a token of the quoted expression. Even if these problems are regarded as minor blemishes of the Demonstrative Theory the Exemplification Theory is, on balance, the preferable account: it is in a position to meet all the challenges and with respect to the appropriateness of logical form and its relation to the surface grammar of English quotation sentences it is even superior to a paratactic account.

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On the Relation between Stit Theory and the Logic of Programs

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While stit theory is most prominent in philosophy of action, the logic of programs (alias propositional dynamic logic) has been invented and used in computer science and artificial intelligence in order to reason about actions performed by computer programs and artificial agents. While both are particular modal logics they are however very different. I will

review the differences and will discuss how the logic of stit can be built from the logic of programs.

The Event-Argument Hypothesis: In Search of Evidence

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Half a century ago, the event hypothesis began as part of an effort to settle the ontological commitments of natural language (Davidson, 1967). Today, adding event-arguments is often done as a matter of course in formal semantic theories, and a large range of empirical linguistic phenomena are analyzed on this basis (Pietroski, 2005, 2011). From both a philosophical and explanatory point of view, on the other hand, such ontological assumptions have to be made on principled grounds: we argue, they need to follow from independent facts about linguistic form. However, independent empirical support in the structure of natural language is hard to come by. It turns out that the analyses of linguistic phenomena that allegedly motivate the event-argument are shown to largely presuppose the event-argument hypothesis. Moreover, the relevant data are all predicted on the basis of independently motivated grammatical assumptions, turning quantifying over event variables into barely more than a reflex of how the grammar operates in establishing reference for verbs.

For example, one of the main arguments for the event-argument hypothesis relates to the fact that a sentence to which an adjunct

is attached entails the sentence (John slept soundly entails John slept). The event-argument hypothesis explains this by interpreting both the sentential verb and the adjunct as predicates of a hypothesized extra argument-slot in the lexical representation of the verb. However, since it is in the nature of an adjunct not to be essential to its host and not to change the expression to which it is attached categorically, we expect that if a sentence is true, the dropping of an adjunct will not change the truth value of the sentence. The entailment in question therefore follows. We point out how this strategy can be integrated into a unified treatment of adverbial and adnominal adjuncts without the use of variables. Discussing a large range of constructions claimed to motivate the event-argument hypothesis, we draw analogous conclusions in each case. For example, well-known and independently motivated syntactic asymmetries account for the longstanding problem of explaining attributive adjectives.

For Davidson, the event-argument hypothesis had a direct metaphysical significance: In case it is correct and some sentences as so formalized are true, there indeed are events (e.g. Davidson 1993). If, however, the relevant linguistic phenomena can be explained on grammatical grounds alone, they are facts of grammar rather than the reflex of any particular ontology of entities, which they neither require nor motivate.

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Fronted Quotation

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This paper addresses the semantics and pragmatics of reporting sentences whose quoted constituent sits in the left periphery, e.g. (1). In modelling the meaning such structures convey, it makes use of syntactic projections related to information structure (a topic and / or focus head, cf. Rizzi 1997).

(1) “We only know the things that we tame”, said the fox.

First, insights pointing to a close kinship between quotation and phenomena in the left periphery are documented. Davidson 1979 proposes that quoted material be evacuated from the quoting clause, the logical form of which accommodates an anaphoric demonstrative. In modern syntax, this amounts not as much to adjunction as to topicalisation. Collins & Branigan 1997 develop an account for subject-verb inversions licensed by fronting the quotation; their solution features an empty quotative operator that lands in the specifier of the quoting CP,

in order to have its [+quote] feature checked against the similarly marked complementizer. Inasmuch as examples like (1) are intuitively interpreted as topic-comment configurations, it is likely that the [+quote] feature is actually borne by the dedicated topic head of the reporting clause. Cappelen&Lepore 2007 suggest that a mixed-quoted constituent raises to the left periphery (of the embedded clause), in order to preserve its semantic inertness.

As a second step, prosodic evidence is shown to support a focus-background interpretation of sentences like (1): in reading them out loud, speakers tend to employ a maximal boundary at the end of the quotation and no melodic variation or prominences on the quoting clause. If the quote is indeed a focused constituent, the sentence will be represented semantically as a quantificational structure. Presuppositional content will count as internal argument of the quantifier and the focus will be mapped onto its nuclear scope (cf. Partee 1993):

(2) $\exists x$ (RESTRICTOR the fox said x) (NUCLEAR SCOPE the fox said “We only know the things that we tame”).

The model in (2) is confirmed both by the subject-verb inversion (typically triggered by fronted focused elements) and by the fact that, without further ado, a negative VP in (1) would appear inconsistent (cf. Recanati 2001).

To capture the two divergent intuitions (topic-comment vs. focus-presupposition), (2) should be adorned with a further layer of quantification:

(3) a. $\exists x$ (RESTRICTOR 1 $\exists y$ (RESTRICTOR 2 x said y) (NS 2 x said “We only know the things that we tame”)) (NS 1 the fox said “We only know the things that we tame”).

b. $\exists x$ (TOPIC $\exists y$ (PRESUPPOSITION x said y) (INSERT FOCUS x said “We only know the things that we tame”)) (INSERT COMMENT the fox said “We only know the things that we tame”).

In the case of fronted quotation, what the focus-frame first contributes is a set of alternatives that differ in the value filled for the speaker, rather than a set of alternatives over utterances.

The fundamental result this paper works toward is that quotation pertains essentially to the left periphery: a focalisation phenomenon when (in Recanati’s 2001 terms) there exists a distal target, a topicalisation phenomenon otherwise.

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Contextualism and Minimalism on *De Se* Belief Ascription

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Early discussions of *de se* belief ascription focused on the status of the objects of attitudes and stemmed out of consolidated attempts to exercise propositions and introduce properties and ‘relations to oneself’ instead. Propositions were revindicated via various rescue plans but the problem of compositional semantics of belief reports, including *de se* attributions, has remained a testing ground for semantic theories to this day. In this paper I propose to look at *de se* belief reports in the light of the current debate between minimalism and contextualism in semantics. I argue that the differences in the reference-securing

functions between *de re* and *de se* occur on the level of semantic content itself where the latter has to be understood as on contextualist accounts. The contextualist orientation is required for the essential ingredient of self-awareness to be included in the semantic representation. This representation is regarded as compositional in the contextualist sense of compositionality of meaning. In the course of the discussion I propose some amendments to Chierchia’s (1989) claim of the systematicity of retrieval of the cognitive access to oneself from the types of grammatical expressions, and discuss the different roles that the concepts of self-ascription, self-attribution, and self-awareness play in a contextualist semantic theory of *de se* belief reports.

Expression of self-awareness does not require a specific grammatical marker in English such as ‘I’ in *oratio recta* or (coreferential) ‘(s)he’ in *oratio obliqua*, neither do such expressions come with guaranteed expression of self-awareness. We don’t seem to have a lexical or grammatical ‘peg’ to hang the property of expressing self-awareness on. Sometimes the property is externalised through the grammar, at other times by default interpretations of this grammatical form, and at yet others by pragmatic resolution of the truly underspecified representation. Contextualist framework and pragmatic compositionality embraced by Default Semantics (Jaszczolt 2005, 1010) allow us to provide for this diversity.

***De se* and Taste Attitudes in Communication**

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Centered worlds have played an important role in modelling content for at least two purposes:

1. content of attitudes *de se* (Lewis, 1979)
2. content of attitudes regarding matters of personal taste, and the content expressed by sentences containing predicates of personal taste (Lasersohn, 2005; Stephenson, 2007; Egan, 2010)

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In this paper, I explore the role of centered worlds content in thought and talk about (1) oneself and (2) matters of personal taste.

First-person Orientation

A striking similarity between *de se* thought and thought about taste is their first-person orientation. On a centered worlds model of mental content that Lewis developed for *de se* attitudes and that Egan, Lasersohn, and Stephenson endorse for taste, both our beliefs about who/what/where/how/when we are and about what is tasty can be understood as *self-location*. Our beliefs follow an egocentric belief-norm: Believe *p* only if *you yourself* are correctly located by *p* (only if *p* is true of you).

Problem: Centered Worlds in Communication

Thus, one might expect centered worlds content to also play a uniform role in the communication of such thoughts. However, the roles of centered worlds content about taste and about oneself in communication come radically apart. When I tell you, *Licorice is tasty*, and communicate the centered worlds content that is the set of all locations whose center enjoys the taste of licorice, it seems correct for you to accept my assertion only if you find yourself correctly located in this content. On the contrary, when I tell you, *I am hungry*, and communicate the set of centered worlds whose center is hungry, it is patently wrong for you to make your acceptance dependent on whether or not *you* are hungry. The production and uptake conditions for assertions about taste and about oneself are incompatible.

Solution: Sequenced Worlds

I briefly discuss existing solutions to this problem (Egan, 2010; Heim, 2004) and set them aside. Then I solve the problem by developing the notion of *sequenced worlds* as applied by Ninan (2010) to *de se* communication (cf. also Torre (2010)). A sequenced world is a world centered on a sequence of individuals – a triple of a world *w*, a time *t*, and a sequence $\langle x; y; \dots \rangle$. *De se* assertions put forward sequenced worlds contents that place conditions only on the center in the sequence that represents the speaker. Assertions about taste put forward contents that place conditions on all of the conversational participants.

I show how to combine sequenced worlds content with an orthodox Kaplanian semantics for 1st-personal pronouns (*I/me/my*) (following Ninan's approach), and I present how

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common relativist semantics for predicates of personal taste (e.g., Stephenson (2007)) can be modified to account for sequenced world content.

I extend Stalnaker's (1978) account of assertion and communication to make room for sequenced worlds content and argue that the norm of assertion needs to be group-centric: A sentence Φ is assertable in a context c only if Φ all conversational participants in c are correctly located by the content expressed by Φ in c .

Finally, I argue that we sometimes need to model the content of *de se* and taste *beliefs* with sequenced worlds. I distinguish between belief in a conversational context and belief in a solitary context, and argue that the former requires modelling with sequenced worlds in order to give a simple account of the relationship between thoughts and speech expressing those thoughts.

This Stalnakerian model of communication using sequenced worlds has at least three advantages. (1) It illuminates and makes room for the normative nature of taste claims, a feature that has received little attention by recent contextualists and relativists. (2) It provides an explicit and rigorous account of the dynamics of agreement and disagreement about taste, in particular the pragmatic effects of taste assertions and denials on the conversation's common ground. (3) It offers a simple account of audience-sensitive assertions and thus avoids the need to complicate the semantics and pragmatics of context-sensitive expressions.

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Authority and Asymmetry

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In this talk I will argue that the First-Person-Authority-Thesis leads to skeptical and, moreover, counter-intuitive consequences. If these consequences are to be avoided, we need to give up the claim that beliefs about our own mental states have a special kind of epistemic authority. While subjects do have the ability to acquire beliefs about their own mental states in a special way, this does not make them especially justified in entertaining those beliefs.

According to the First-Person-Authority-Thesis, a subject knows some of her properties (the relevant properties are mental states such as beliefs, thoughts, sensations, etc. as well as proprioceptive states) in a privileged way. On this view, the subject has either a special sort of access to those properties, allowing her to know them, or the subject is justified in a special way. Two related but independent arguments are given for the First-Person-Authority-Thesis: The Immunity Claim holds that it is impossible for a subject to be mistaken in self-ascribing mental states. Whenever one attributes a mental state to oneself, this attribution is necessarily true. The Asymmetry Claim asserts an asymmetry between a subject believing that she is in a mental state (the subject self-ascribes a mental state) and any other person believing that she is in a mental state (a person ascribes a mental state from a second or

third person perspective).

Since the Immunity Claim finds little acceptance these days, the Authority-These is based on the Asymmetry Claim. For most philosophers deny that the special access or justification a person has concerning her own mental states yields knowledge having a kind of certainty. What they do not deny, however, is that a person knows of her own mental states in a way that is different from that in which other persons know of such mental states in that person.

In my talk I will discuss two instances of the asymmetry claim, made by Wittgenstein and by Burge respectively. My focus will be on the asymmetry of justification, that is, on the way in which the justification for beliefs about our own mental states is supposed to differ from the way in which others can be justified in their beliefs about those states. Wittgenstein holds that self-ascriptions of mental states are not to be considered knowledge at all. Burge, in contrast, claims that such self-ascriptions are self-verifying and therefore should count as “basic self-knowledge”. Regardless of this difference both are committed to the asymmetry claim.

Understanding this asymmetry in terms of a difference in justification, however, leads to skeptical consequences: How can it be secured that ascriptions from different perspectives relate to the same mental state if there is a difference in justification between self- and other ascriptions of mental states? If self-ascriptions are justified with respect to A and ascriptions from other perspectives are justified with respect to B then one has to say something about the reasons why both ascriptions should be considered as equally justified. In order to avoid the skeptical consequences one would have to accept that

there need to be no difference in the justification for self- and other-ascriptions of mental states. But this eliminates the grounds for the alleged epistemic asymmetry. Neither is there a reason to maintain an epistemic authority on our own mental states since such an authority would require an essential epistemic difference regarding our self-attributions.

The best way to avoid the skeptical consequences is indeed, so I will argue, to question the idea of an epistemic asymmetry and hence the idea of an epistemic privilege. That does not mean that there is no authority at all, but it does rule it out in the sense the First-Person-Authority-Thesis holds.

The Lockean Thesis Revisited

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We will reconsider the so-called Lockean thesis which relates qualitative with quantitative belief ascriptions: a proposition A is believed if and only if the subjective probability of A is high, that is, above some contextually fixed threshold. In this way, belief ascriptions on two different scales of measurement are made to interact in a plausible and transparent manner. However, the Lockean thesis is also said to fall prey to the Lottery Paradox once the usual logical closure conditions

on qualitative belief are imposed, in particular, closure of belief under conjunction. As we will show, in spite of this "common wisdom" about the Lottery Paradox, the Lockean thesis is actually perfectly compatible with the logical closure of belief as long as the choice of the threshold value that is underlying the Lockean thesis is made fully contextual. We will explore some of the consequences, applications, and problems of the resulting theory.

On Quoting My Favorite Philosopher

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Many theories of mixed quotation struggle with quotations involving indexicals ('my') or ill-formed expressions ('philosopher'). On the basis of the former, I argue for a tight integration of the use and mention components of a mixed quote; on the basis of the latter, I argue against resorting to context shifting operators.

How to Be a Dispositionalist about the Attitudes

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More than a few philosophers have wanted to defend a non-relationalist, specifically dispositionalist, account of propositional attitudes (PAs), but they have been stymied by two major impediments: (i) the patently relational character of PA predicates, and (ii) the seeming linguistic properties of PAs themselves (notably their semantic, intentional and inferential properties). The first of these impediments is addressed by arguing that PA predicates are plausibly construed as a species of measure predicate, analogous to the numerical predicates by which we attribute physical magnitudes to objects. The second of these impediments is addressed by arguing that the linguistic properties that we associate with PAs are in fact properties of our natural language representations of PAs, not properties of PAs themselves. Together these arguments make it possible to defend a semantically respectable account of PAs as dispositional properties of their possessors.

Act-Based Conceptions of Propositional Content and the Action-Product Distinction

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Propositions as abstract truth-bearing entities raise a number of conceptual and empirical linguistic problems. A recent trend in philosophy of language is a return to an act-based conception of propositional content, by viewing predication as an intentional act (Hanks, Moltmann, Soames). One difficulty for act-based conceptions, however, is that acts, states, or events intuitively do not have truth conditions. In this talk, I will pursue a distinction that the Polish philosopher Twardovsky made in 1912 between 'actions' and 'products' and propose a novel ontological account of that distinction. While 'actions' like a thinking, a believing, or an act of claiming do not have truth conditions (or more generally satisfaction conditions), their (nonphysical, non-enduring) 'products' do, namely a 'thought', a 'belief', and a 'claim'. I argue that the ontology of 'products' of mental acts or states can best be understood in terms of the notion of a trope.

The Act-Syntactic Account of What is Said

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The aim of this talk is to motivate an account of what is said – the proposition(s) a speaker expresses on a given occasion by uttering something -- that flows from general facts about communication and cognition when filtered through what I call an act-syntactic framework for semantic explanation, by which I mean a framework that reflects the most fundamental features of speech acts as they are regulated by (or projected through the lens of) syntax.

Attitudes Ascriptions and Mental Files

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The German chancellor Willy Brandt (1970-72) was born in Lübeck, and named “Herbert Frahm” - after his mother Martha Frahm. Due to pressure of the Nazi regime, he emigrated to Norway and decided to officially change his name to “Willy Brandt”. During the Nazi-Regime, in the years 1936-38 he left Norway and went to Berlin to support communists and socialists. He then worked under the code name “Gunnar

Gaasland” in Germany (the real Gunnar Gassland stayed in Norway and changed his name too). So Willy Brandt had three widely used names during his life.

This leads to complicated situations with respect to how one could communicate about Willy Brandt. Suppose that a former neighbour Betty of the young Herbert Frahm only knows him under his first name and makes the utterance “Herbert Frahm had a poor childhood”. Rudolf hears this and understands what Betty is saying, but he knows that Herbert Frahm changed his name into Willy Brandt and became a famous chancellor. Speaking to Lucy whom he knows to have only a basic knowledge of Willy Brandt, he reports “Betty believes that Willy Brandt had a poor childhood”. What is the content of this belief report? Furthermore, since Betty would actually deny the truth of “Willy Brandt had a poor childhood” because she is convinced that this cannot be true of such a successful person, we have to account for the following intuitions: The belief report of Rudolf seems to be an adequate, given that Lucy understands that Betty thinks of the person Willy Brandt that he had a poor childhood. Nevertheless the report seems to be false given the utterance dispositions of Betty. In my analysis of the semantic content and the cognitive situation, I argue that (1) the communicative situation of Rudolf and Lucy is the relevant context of determining the content of the belief report (independent from the original utterance of Betty), (2) we need a cognitive analysis in terms of mental files to provide a complete semantic analysis of this example, and (3) we can conceive of a mental object file as (normally) being constituted by an information package that includes three types of information about an object (sensory information, image-like

information and descriptive information), and by an anchoring relation to one object in the world (the latter is not instantiated in the case of fictional objects or nonexistent entities a thinker presupposes to exist). Using such a conceptual framework, it can be shown how, first, a semantic content can be analyzed in accordance with the communicative situation of Rudolf and Lucy, and second, how this individuated content can be evaluated in terms of truth-value relative to Betty's organization of mental files. The talk will focus on presenting the details of a mental file analysis and aims at illustrating that this allows for an adequate analysis of the belief reports.

Networks and Attitudes

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I will present an account of reports of what people say and believe. My account is a descendant of the Crimmins-Perry account in our "The Prince and the Phonebooth," and Crimmins *Talking About Beliefs*. In that theory attitude reports have *notions* as unarticulated constituents. In my account attitude reports, and report of what is said, have *name-notion-subnetworks* as unarticulated constituents. In particular, they can have a certain kind of subnetwork, which I call a *thread*, as unarticulated constituents.

Suppose that Ivan travels to San Sebastian in the Basque Country for a Philosophy of Language conference. The Basque name for San Sebastian is 'Donostia'. It is Ivan's first time in the Basque country, and he has only heard of the city under the name 'San Sebastian'. He assents to "I am traveling to San Sebastian but not to 'I am traveling to Donostia'." On the way from Hondorribia Airport to the conference, he notices signs that announce that Donostia and San Sebastian are 15 km., then 10 km., then 5 km. He thinks that two cities must be close together, but it doesn't occur to him that they are the same. Ivan has two notions of the same city, one associated with each name. Thus there are three *name-notion subnetworks* running through his head, one on which both notions lie, one *thread* on which his 'San Sebastian'-controlling notions lies but not his 'Donostia'-controlling notion, and another thread on which his 'Donostia'-controlling notion lies but not his 'San Sebastian'-controlling notion. The report "Ivan doesn't believe we are on the way to Donostia" is true relative to the 'Donostia' thread, but false relative to the other two subnetworks. Which subnetwork is at issue depends on the purposes of the conversation, in particular whether we are interested in Ivan's attitudes as evidence for where the bus is heading or as an explanation of his own speech and action. I will explain the concept of a name-notion network, contrast two conceptions of the attitudes, and use the theory to explain a number of examples, including Kripke's famous puzzle about Pierre.

On Anchoring Sentences in Actions

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Prominent logical accounts of actions are, in their instruments of analysis, limited to propositional logic (e.g. STIT-logic (Belnap 2001) or BDI-logic (Rao and Georgeff 1991)). But an adequate logic for the formal semantics of natural language sentences pertaining to actions requires at least a logical framework of predicate logic. The consequent question is then how to formally connect logical accounts of action theory with formal natural language semantics. This paper presents an action-theoretic semantics (based on the BDI-interpretation of CTL* (Emerson 1990) put forward in (Singh 1994)) for the semantic representation of action sentences in the framework of Discourse Representation Theory (DRT, (Kamp and Reyle 1993)). The connection between semantic representations of natural language and actions is established with the help of temporal anchors (Self-Reference1), an extension of the concept of anchors for non-temporal discourse referents in DRT proposed by (Kamp 1990; Asher 1993) that preserves the original conception of DRT as a formalism of dynamic semantics that is able to capture a wide range of natural language phenomena. From a philosophical point of view, temporal anchors represent explanations according to which action is constituted from the temporal variation of objects. Technically, temporal anchors provide specifications („relations of acquaintance“) of action sentences in terms of branching sequences of actions enriched with BDI-attitudes

that constitute an alternative to the Davidsonian analysis of events as basic ontological units. Temporal anchoring avoids well known-problems of Davidson's account such as dim identity conditions with respect to the mapping of events to times, the imperfective paradox or the subatomic structure of atomic model-theoretic entities (such as Davidsonian events are). In their design as links between semantic representations of natural language sentences and action-theoretic models, temporal anchors provide a means to transfer information between the linguistic and the action-theoretic level of the analysis of action sentences (e.g. quantification, tense and aspect resp. intentions, obligations) and thus allow to capture the reciprocal dependency of actions and sentences that describe actions along insights from artificial intelligence (Schank and Abelson 1977), psychology (Zacks and Tversky 2001) and linguistics (Moens and Steedman 1988). Finally, the paper delineates the consequences for an appropriate model theory that is able to deal with the impact of actions concerning the future on model structures with the discussion of dynamic models (A. Baltag 1998; Self-Reference2).

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Attitude Ascription: Algorithmic or Artistic?

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Some say that when it comes to meaning, no man is an island: for the most part the meanings of our words and concepts are determinate; for the most part they are shared. Others say we are all Crusoes: for the most part word and concept meanings are indeterminate; for the most part what one person means with her words is not what others do.

Naturally associated with these views are quite different pictures of what we are doing when we ascribe attitudes. The *algorithmic* picture has it that attitude ascription involves content matching: to say what she said, I find some words of mine that have the content of hers. On the *artistic* picture, saying what she thinks typically requires the sort of compromise and creativity required in translation or depiction. Presumably when it comes to meaning neither of the extreme views are correct. Arguably there is enormous indeterminacy in our words and concepts; there is, however, a good deal of overlap across speakers about what is and what isn't determinate in meaning. There is often difference in what our words mean, but it is often a marginal difference.

What, then, should we make of attitude ascription: is it more a matter of algorithm, matching content to content, or a matter of artistry, making choices to illuminate? Or is it, as this paper argues, a little of both?

Implicit Belief Reports

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Jennifer Saul (2007) has observed that the following kinds of statement appear to differ in truth-value, despite having co-referential names:

- (1) Superman regularly flies.
- (2) Clark Kent regularly flies.

Yet the names in these 'simple sentences' do not occur in contexts traditionally regarded as opaque. In particular, they do not appear in belief-contexts.

I respond that every assertion implies a belief, namely that of the speaker. If opacity can be found in explicit belief reports, it's only to be expected that it can be found as well in the implicit belief reports that are provided by simple sentences.

To pursue the nature of opacity, I develop a theory of truth that applies to implicit belief reports. My work, rooted in the cognitive semantics of Fauconnier, Lakoff, and Jackendoff, shares Saul's psychologistic turn but reaches very different conclusions. Whereas Saul regards (2) as semantically true, and some of her opponents regard it as semantically false, I regard it as both true *and* false.

The Communicative Role of Propositional Attitude Reports

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One of the main tasks in analyzing reports of propositional attitude consists in characterizing predicates used in the reports. In this paper, we shall focus on a belief predicate, namely “*A* believes that *S*” and compare two semantic interpretations of it which I call relational and adverbial views. The provisional goal of this paper is to demonstrate that the latter is a better alternative if we think about the communicative nature of attitude reports.

The relational view is a more classic interpretation, according to which the belief predicates express a 1st-order relations between a believer and the content of a complement clause ‘that *S*’ which she believes. This view claims that contents of complement clauses, which are called propositions, are abstract and structured objects distinct from truth-values.

An assumption of the relational view is to interpret the complement clauses as singular terms referring to this kind of abstract objects. This interpretation implies that the sentential complements of belief predicates are NP-complements. However, Huddleston (2002) points out some evidence from the English language according to which the complement clauses behave syntactically different from NPs and he argues that the content clauses have to be treated as an independent

syntactic category. This argument undermines a major assumption of it even though it does not falsify the relational view by itself.

One possible analysis to treat the complement clause categorically distinct from NP to analyze the belief predicates as cross-order relations. Theorists like Recanati (2000) introduced so-called adverbial view, according to which the predicates like ‘A believes that’ are interpreted as a sentential operator which takes sentences as complement. For example, according to Recanati’s analysis, an attitude report “*A* believes that *S*” is true in a context *c* iff. *A*’s epistemic state contains the content expressed by *S* in *c*, or less formally, *S* is true in *A*’s epistemic state. This proposal circumvents the NP-interpretation of complement clauses.

Recanati’s interpretation consists in making sense of “true-in-someone’s-epistemic state”. However, if the notion of epistemic state is taken at face value, this characterization is not consistent with the communicative nature of belief reports. Recall there are two contexts involved in each attitude report: One is a context of apprehending *A* and the other is a context of report, namely *c*. The evaluation of the belief reports are done in the latter context. *A*’s epistemic state is not accessible for the participants of *c* if *A* does not participate himself to *c*.

The epistemic state of *A* itself is also irrelevant for the truth-value evaluations of belief reports. To demonstrate this, we shall examine an example of discursive opacity. Namely, there are cases in which substitutions of genuine singular terms change its truth-value of a belief report, e.g. due to ignorance of the addressee of the report. If we take *A*’s epistemic state as determining the domain of evaluation, this sort of opacity is not

analyzed. This case implies that the referential domain is determined in *c* rather than by the epistemic state of *A*.

These points are avoidable if we reinterpret the epistemic state as something the participants of the discursive context *c* postulate. The basic idea is that any utterance or behavioral evidence which speaks against the discursive presuppositions force *c*’s participants modify them. A class of modified discursive presuppositions is a proper entity. Accordingly, an attitude report “*A* believes that *S*” is true in a context *c* iff. there is an epistemic state of *A* postulated in *c* from which *S* is part of. Our interpretation verdicts that the epistemic state of someone is not directly relevant for the evaluations of belief reports but it nevertheless captures our folk intuition that a belief sentence is true just in case someone believes a content.

Do Indicative Conditionals have Truth-Values? Challenging Bennett’s Four Routes to ‘No Truth Values’

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Representations of conditionals are a cornerstone in any semantics that strives for a close connection with human reasoning and ascriptions of beliefs. Bennett (2003, pp. 102-106, pp. 78-93) presents four arguments that are purported to show that indicative conditionals (e.g. “if Oswald did not shoot

Kennedy in Dallas, then no one else did”) in general do not have truth-conditions (NTV, “No Truth Value”), but only degrees of subjective acceptability. This, however, would imply that not only the classical extensional semantics of the material implication is inappropriate for indicative conditionals, but also possible worlds semantics (short: PWS) in line with Stalnaker (1968) and Lewis (1973). Here I address the issue how decisive two of Bennett’s four arguments are against Stalnaker-Lewis type PWS, namely (i) his argument based on Lewis’ (1976) triviality result and (ii) his Gibbardian stand-off argument (cf. Gibbard, 1980).

Bennett bases (i) on Lewis’ triviality result, which shows that a probability function is trivial, that is $P(A \rightarrow B)$ equals $P(B)$ for $P(A) > 0$, given we allow in the language conditionals to be conjuncts and we accept the Stalnaker thesis, namely that the probability of a conditional $P(A \rightarrow B)$ equals its conditional probability $P(B|A)$. One can avoid triviality while retaining the Stalnaker thesis, when one does not allow for arbitrary 640olean combinations of conditionals in one’s language, as for example Adams (1975) does. Bennett (2003) takes it, then, that Lewis’ triviality result shows that conditionals are no propositions and have, hence, in general no truth value (p. 103). Bennett’s conclusion is only plausible if we (a) accept a probabilistic semantics, (b) endorse the Stalnaker thesis and (c) presuppose that only those things are proposition, to which we can non-trivially assign probabilities. Proponents of a PWS for indicative conditionals, however, need not accept either one of (a)-(c). Furthermore, PWS is – unlike probability semantics – intensional. So, a direct transfer of Lewis’ triviality result to PWS is not possible.

For (ii) Bennett focuses on situations, in which there is no reason to believe $A \rightarrow B$ (e.g. “if Pete called, he won”), but not $A \rightarrow \neg B$ (“if Pete called, he lost”), and vice versa. Bennett (2003, p. 84), furthermore, assumes that

$\neg((A \rightarrow B) \wedge (A \rightarrow \neg B))$ (CNC) is valid in any PWS. Bennett concludes that one cannot represent this type of situation by means of truth-value-based semantics, which also take all available evidence into account. As Gibbardian stand-offs are according to Bennett quite frequent, he takes (ii) to be a strong argument against PWS.

Argument (ii) is, however, not plausible for the following reasons: (1) PWS, such as Stalnaker’s and Lewis’ semantics, can legitimately be interpreted in taking only partial evidence into account. (2) CNC contradicts $A \rightarrow A$, which is in standard probabilistic semantics (e.g. Adams, 1975) and PWS for conditionals (Stalnaker’s and Lewis’ PWS) valid. (3) A weaker form of CNC, in which A is required to be consistent, is only valid in Adams’ (1975) probabilistic semantics, but not – contrary to what also Gibbard (1980, p. 231) argues – in Stalnaker’s and Lewis’ PWS. We conclude that neither (i) nor (ii) has any direct bearing on PWS.

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How to Build Events from Actions and Facts from Events

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As indicated in the title, the leading idea of this presentation is that any event presupposes an action, and that any fact rests on an accomplished action (or on an effective situation, but the stative properties and the corresponding situations, or states of affairs, are passed over here).

The aim of the work is to bring to light some part of what is called “natural ontology,” that is, the ontology that the author considers to be deeply implied in the everyday use of any natural language with respect to the notions of action, event and fact.

In the first part, dedicated to action, the first conclusion, which is derived from the analysis of certain French quotational

structures, is that the aforementioned ontology does contain the concept of an abstract, general dynamic property called “action” in a broad sense of the term (including any kind of process, be it agentive or not). Next, by examining the nominalizations that refer to particularized actions, we discover that they display a triple ambiguity between an action reading, an event reading and a factual reading. Finally, we attempt to determine what kinds of contexts can point to an action reading and what kinds of contexts can point to an event reading.

A comparison between these two kinds of contexts shows that the main difference between a particularized action and an event is a matter of point of view or aspect: while a particularized action is viewed “from inside,” the event is the same action, but viewed “from outside.” This conclusion is the starting point of the second part of the work, dedicated to events, which appear to be (or at least appear to be conceived as) punctual, whatever the actual duration of the actions they rest on may be. In addition to the aspectual properties of existential-eventverbs, arguments in favor of this thesis are drawn from the datation of events, leading to the conclusion that both spatial and temporal localization are essential to events.

The final part deals with the concept of fact. Though the task of digging that concept out of everyday linguistic use proves particularly difficult, we can at least arrive at some conclusion on the basis of a confrontation between facts and events. As can be demonstrated again on the basis of some quotational structures, facts can be referred to only by complete tensed sentences (or nominalizations of such sentences). And since they contain in themselves a temporal localization, they cannot

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receive it, as events do. Thus, while events display properties, in particular the ability to be directly located in space and time, through which they appear to be very similar to substances, facts are quite the opposite: outside of space and time – a conclusion that accords with the views of certain, but surely not all philosophers on this matter.

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The Restrictionist and the Opportunist

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[6.54] Meine Sätze erläutern dadurch, dass sie der, welcher mich versteht, am Ende als unsinnig erkennt, wenn er durch sie -- auf ihnen -- über sie hinausgestiegen ist.

(6.54) is one of the 'Sätze' of Wittgenstein's *Tractatus*. Thus, what Wittgenstein is 'saying' in (6.54) is not only that all he 'said' before is meaningless, but that (6.54) itself is meaningless as well. Let's forget about what he said before and concentrate only on (6.54). This can then be reduced to:

(1) This sentence is not meaningful.

What is the status of this sentence? It is either meaningless or meaningful, and in the latter case it is either true or false. Suppose it is not meaningful. In that case, what the sentence says is true. But only meaningful sentences can be true. Thus, (1) is meaningful after all, contradiction. Thus, (1) must be meaningful.

Suppose (1) is meaningful and true. Because of the meaning of (1) it follows that (1) is not meaningful, contradiction. Thus (1) cannot be meaningful and true.

The only alternative that is left is to assume that (1) is meaningful and false. And indeed, this doesn't give rise to contradiction. But it could hardly have been Wittgenstein

intention to ‘show’ false things. For this reason, we will call (1) the **nonsense paradox**.

The most natural conclusion is to assume that we made an error in our ‘proof’ that (1) is meaningful and false. Perhaps we should say that all sentences are meaningful, but that some are neither true nor false? It doesn’t help, for now (1) is still counted as false, because meaningful. In fact, it seems more natural to say that meaningless sentences are simply false, but that some meaningless sentences can still be true as well. This will be the case with (1). We will show that this doesn’t lead to triviality.

According to Wittgenstein, if something cannot be expressed, it cannot be true or false. Thus, he assumes that if something is true, it can be expressed, and thus truly expressed. Let’s denote by $E\phi$ that ϕ is truly expressed (expressed and true). Wittgenstein would be committed to the following expressibility thesis: $\phi \rightarrow \Diamond E\phi$, for any ϕ , if he allowed for ‘ \Diamond ’ and ‘ E ’. It seems natural to assume that the following rules are valid: (i) $E\phi \rightarrow \phi$ and (ii) $E(\phi \wedge \psi) \rightarrow (E\phi \wedge E\psi)$. Unfortunately, the combination of these natural postulates is highly problematic, at least if one also can express that something can, or cannot, be expressed (which Wittgenstein denied, of course, but perhaps for no very good reasons). First, one can easily prove that from (i) and (ii) it follows that $E(\phi \wedge \neg E\phi) \rightarrow (E\phi \wedge \neg E\phi)$, from which it follows that $E(\phi \wedge \neg E\phi)$ must be false, and thus cannot be true: $\neg \Diamond E\phi \wedge \neg E\phi$.

Second, one can hardly deny that there is at least one truth that is in fact not truly expressed. Let ϕ be one of those truths. Then it is another truth that ϕ is not truly expressed: $\phi \wedge \neg E\phi$. But by expressibility it follows that this latter truth can be truly

expressed: $\Diamond E(\phi \wedge \neg E\phi)$. But this is in contradiction with what we have proven before. Thus we have to give up our assumption that there is a truth that is not truly expressed:

$\neg(\phi \wedge \neg E\phi)$, which is equivalent to $\phi \rightarrow E\phi$. Only those things are true that are truly expressed: **lingualism**.

In the talk it will be shown that we need not be committed to lingualism when we weaken the standard consequence relation in a way for which independent evidence exists from the analysis of vagueness, truth, and some other semantical paradoxes.

Some Remarks on Knowability and Agency

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This paper deals with the relation between knowability and agency. The discussion focuses on solutions to the notorious Paradox of Knowability, the Fitch/Church Paradox. First, I discuss the standard understanding of knowability and suggest an analysis of knowability ascriptions in branching-time structures that are used in the modal logic of agency, see [1]. The neat way of analyzing ‘it is knowable that p ’ as $\Diamond Kp$ does not fully reveal the standard reading of ‘it is knowable that p ’ that can be found in the literature, which seems to be the following: *it is possible that it is known by someone at some*

time that p , cf. [2]. With this reading, the knowledge operator occurs within the scope of an existential quantification over agents and moments of time and has narrow scope with respect to p .

The standard demonstration showing that a Fitch-conjunction is non-Cartesian makes use of the fact that the K -operator is factive and distributes over conjunction:

$K(q \wedge \neg Kq)$ logically implies Kq and $K\neg Kq$, and $K\neg Kq$ logically implies $\neg Kq$.

Usually, it is assumed that there exists at least one true Fitch-conjunction. If the anti-realist thesis is true and is instantiated by a true Fitch-conjunction ($q \wedge \neg Kq$), one obtains $\Diamond K(q \wedge Kq)$, which is, however, unsatisfiable.

If it is the anti-realist thesis one is concerned about in the first place, the Fitch-Church -style derivation of a contradiction can be avoided if one unburdens the K -operator from part of its intuitive reading and internalizes the implicit quantification over moments of time into the object language. Quantification over epistemic subjects may still be suppressed in the surface grammar and be relegated to the semantics.

Let $\Diamond p$ express that p is true at some moment of time. The standard reading of ‘it is knowable that p ’ can then be translated into the language of modal epistemic temporal logic as $\Diamond \Diamond Kp$. My proposal is to rearrange the formal explication of ‘it is knowable that p ’ as $\Diamond K \Diamond p$. In other words, it is suggested to read ‘it is knowable that p ’ as *it is possible that it is known by someone that at some time p* .

The formula $\Diamond K \Diamond (q \wedge \neg Kq)$, the result of substituting the Fitch-conjunction ($q \wedge \neg Kq$) for p in $\Diamond K \Diamond p$, is satisfiable.

Note that I *do not* suggest to understand ‘it is known that p ’ as ‘it is known that at some time p ’. What I *do* claim, however, is that it is neither unreasonable nor implausible to understand ‘every truth is knowable’ as $\forall p (p \rightarrow \Diamond K \Diamond p)$. If this claim is correct, the anti-realist could adopt $\forall p (p \rightarrow \Diamond K \Diamond p)$ as the formal expression of verificationism. In the presence of both \Diamond and \Diamond , another paradox-free rearrangement of the standard reading of ‘it is knowable that p ’ is, of course, available: $\Diamond K \Diamond p$. As a result, we obtain the four readings of ‘it is knowable that p ’ listed in Figure 1.

| reading | variant of the Fitch-Church Paradox | epistemic accessibility |
|-------------------------|-------------------------------------|-------------------------|
| $\Diamond \Diamond Kp$ | \checkmark | strong sense |
| $\Diamond \Diamond Kp$ | \checkmark | strong sense |
| $\Diamond K \Diamond p$ | — | weak sense |
| $\Diamond K \Diamond p$ | — | weak sense |

Figure 1: Four readings of ‘it is knowable that p ’.

Second, I discuss a more direct relation between agency and knowability. Sometimes knowability is expressed in an agentive way as saying that if a proposition p is true, then it is possible *to find out that p* . The idea is to understand the

possibility of finding out that p as the possibility to see to it that one knows that p .

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Propositional Attitudes and Mixed Quotation

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In the paper a Russellian and compositional analysis of linguistic propositional attitude contexts (PACs) is developed that preserves the semantic intuitions of de-dicto-readings.

It has long been noticed that propositional attitude contexts challenge some general semantic principles because they lead to a number of substitutability problems:

- (i) In a PCA co-referential expressions apparently cannot be substituted for each other without sometimes changing the truth-value of the PCA. This would suffice to challenge a Russellian analysis.
- (ii) Not even co-referential rigid designators seem to be immune against truth-value shifts when substituted for each other in a PCA. This alone would challenge the possible/*de-se*-worlds analysis of propositions.
- (iii) Even (strictly) synonymous expressions, so it seems, cannot always be substituted for each other in a PCA without risking a truth-value shift, as in:

(1) *Hans believes that his father is going to the tooth doctor.*

(2) *Hans believes that his father is going to the dentist.*

This would outright contradict compositionality.

In the first part of the paper Fregean analyses – broadly construed – are criticized, which either introduce senses, modes of presentations, or mental files into the semantic analysis of PCAs. These Fregean values, regarded as the objects of propositional attitudes, are either too coarse-grained to account for all substitutability problems or too fine-grained to be shared by a linguistic community and so to enable compositional comprehension by a hearer.

In the second part a compositional and purely denotational analysis of mixed quotation in the context of indirect speech is developed.

(3) *Jefferson proclaimed that 'all men are created equal'.*

is semantically analyzed (roughly) as:

- (4) PROCLAIMED(JEFFERSON, x) & x = REF(y) &
 y=REF('A'-'L'-'L'- 'M'-'E'-'N'- 'A'-'R'-'E'-
 '-C'-'R'-'E'-'A'-'T'-'E'-'D'- '-E'-'Q'-'U'-'A'-'L').

The first occurrence of REF maps a sentence to a Russellian proposition, the second occurrence of REF maps a complex term for a phonological sequence to that very sentence. To show that this analysis is compositional and referentially transparent, we have to assume that (3) does not contain the sentence *'All men are created equal'* as a syntactic part, but only a complex term referring to a phonological sequence.

In the last part, this analysis is transferred to de-dicto interpretations of PCAs with some modifications. It is argued that they are in fact hidden mixed quotations:

- (5) *Hans believes that his father is going to the 'tooth doctor'.*
 (6) *Hans believes that his father is going to the 'dentist'.*

Given our analysis, (5) and (6) may differ in truth-conditions, even though 'tooth doctor' and 'dentist' are synonyms and compositionality prevails. Given that quotations do not always require quotation marks, the semantic values of (1) and (2) may be identified with those of (5) and (6). In our analysis all syntactic parts of the sentences (5) and (6) refer to their ordinary referents, however dentists are only indirectly referred to, via a description of the referring nouns 'tooth doctor' and, respectively, 'dentist'.

Making Quotation Transparent

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Quotation is traditionally regarded as an opaque context. This claim is often illustrated by the observation that, within quotation marks, two synonymous expressions cannot be substituted for each other without changing the semantic value of the quotation and its embedding context. Since the substitutability of synonyms *salva significatione* is logically equivalent to the principle of compositionality, the view that quotation is opaque is tightly linked to the claim that it constitutes an irrevocable exception to the principle of compositionality. This principle demands that the semantic value of a syntactically complex expression be a syntax-dependent function of the semantic values of its parts.

However, aside from the general postulate that any semantic analysis of natural language constructions should abide by the principle of compositionality, there are a number of linguistic phenomena that challenge the view that quotation is non-compositional:

- (i) One can anaphorically refer into a quotation from outside:
 (1) *The journalist wrote, 'Obama won't be reelected'.
 But I believe, he will.*

-
- (ii) Likewise, in same-saying scenarios one can refer to the proposition denoted by the quoted sentence:
 - (2) *The Bible says, 'Love your next like yourself'.*
 - Hinduism says the same but with other words.*
 - (iii) In mixed quotation the semantic value of the quoted expression contributes to the semantic value of the embedding context:
 - (3) *Quine said that quotation has an 'anomalous feature'.*
 - (iv) Somehow the inference from a direct (4) to an indirect quotation (5) must be explained:
 - (4) Donald said, 'Snow is white.'
 - (5) Donald said that snow is white.

We will see that any compositionality-friendly analysis of quotation faces a dilemma: In order to be compositional, any analysis of quotation, on the one hand, must avoid that the quoted expression be a syntactic part of the quotation. Only thus one can escape the substitutability objection. On the other hand, in order for the semantic value of the quoted expression to contribute to the semantic value of the greater linguistic context as in (i)-(iv), the quoted expression must be a syntactic part of the greater linguistic context.

In the paper a solution to this dilemma and a fully compositional analysis of quotation will be developed. The solution covers both the obviously opaque and the apparently transparent aspects of quotation. The analysis stays fully in the realm of semantics and does neither appeal to any pragmatic use-mention shifts nor to extra-linguistic context parameters.

Quotation and Compositionality

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Abstracts – Poster Session

The Restrictionist and the Opportunist

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Restrictionists (Notably Weinberg, Nichols, and Stich 2001; Alexander and Weinberg 2007; Alexander, Mallon, and Weinberg 2010) argue “the results of experimental philosophy should figure into a radical restriction of the deployment of intuitions as evidence” (Alexander and Weinberg 2007). The restrictionist uses two types of empirically supported premises: those relating to interpersonal effects (including gender, socio-economic status, and ethnicity effects) and intrapersonal effects (including order, framing and environmental effects). My argument concerns the challenge only insofar as it works with the former.

I argue a semantic opportunist (to borrow an expression from Cappelen and LePore’s 2005), can avoid the challenge. I draw on the literature on faultless disagreement (FD), particularly Kölbel (2002, 2004), Lasersohn (2005) and Shafer(2011). I show there’s a promising isomorphism between the quest to account for FD and the quest to avoid restrictionism. Each debate involves discussion of disagreement. The exchange between Stich (2009), the restrictionist, and Sosa (2009, 2010) illustrates this amply. Stich thinks it’s problematic to members of different demographic groups don’t really disagree, but

notes, if one says this, it seems one must say one group has made a mistake, also thought problematic. It seems hard to say both they disagree and not attribute fault. However, various philosophers think they’ve found a way to say both concerning predicates of personal taste. (This isomorphism isn’t perfect. I discuss why the differences are without consequence for my strategy in the paper).

Philosophers have tried to account for FD in two main ways. The first is truth relativisation (Kölbel and Lasersohn). The second is an absolutist account (Shafer). I explain how each purports to account for FD. I discuss the objections that neither can accommodate (i) faultlessness (Cappelen and Hawthorne 2009), and (ii) disagreement (Ponte 2011; Stojanovic 2007; Stanley 2005). I argue the extent to which each can accommodate both is sufficient to avoid the restrictionists’ challenge, even if insufficient for true FD.

Finally, mentioning Spicer (2010), Jenkins (2008) and Prinz (2007), I sketch what a theory of knowledge that took these semantic opportunities might look like.

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The semantics of Inconsistent Representation

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In this talk we propose an intensional semantics including so-called *non-normal* worlds to model the behaviour of some *de dicto* mental state ascriptions: those recorded by such slippery natural language expressions as ‘*x* conceives that *A*’, or ‘*x* represents that *A*’, where the conceived or represented *A* can be an inconsistency or a broadly logical impossibility: inconsistent fiction, counterpossible conjectures, etc.

Such intentional contexts notoriously make many classically valid logical inferences fail. In particular, that a cognitive agent mentally represents the impossible intuitively does not entail that everything holds in the represented situation. The chosen approach, therefore, is naturally enough that of relevant logic. Relevant logics make ‘*Ex contradictione quodlibet*’ (ECQ), the principle that an inconsistency entails everything, fail. Their most popular semantics include precisely non-normal or impossible worlds, interpreted as situations where the truth conditions of logical operators are different ([Mares 1997],

[Restall 1996]). Non-normal world semantics provide counterexamples to ECQ and ‘irrelevant’ entailments like $A \rightarrow (B \vee \neg B)$, $A \rightarrow (B \rightarrow B)$. Since its formulation in [Routley & Meyer 1973], world semantics for relevant logic has been the subject of controversy as to its intuitive philosophical interpretation. One promising approach takes worlds as information states or conduits thereof (see e.g. [Mares 2004]). We submit that non-normal worlds can also be thought of as modeling the aforementioned inconsistent representational states of the mind.

Section 1 introduces a first-order intensional language L including a representation operator, ρ_x , whose intuitive reading is ‘ x represents that’, or ‘ x conceives that’.

In section 2, we present a model-theoretic semantics for L combining techniques of many-valued and modal logics, including non-normal worlds, but with a standard definition of logical consequence (truth preservation at all possible worlds in all interpretations), along the lines of [Priest 2005]. Non-normal worlds perform two tasks. First, they can be locally inconsistent and incomplete, allowing truth-value gluts and gaps (so we have a four-valued semantics). Second, at them structured formulas can behave anarchically: their truth values are not determined recursively, but directly assigned by the interpretation function, as in the [Rantala 1982] frames for epistemic logic.

The semantics for ρ_x is phrased via a binary accessibility relation on the set of worlds, R , called representational accessibility. The content of a representational mental state is the set of worlds where things are as they are mentally represented to be. ‘ wRw_1 ’ intuitively means that at w_1 things

are as they are represented (by x) to be at w : it is represented that A (at w) just in case A is true at all w_1 where things are as they are represented. This is like an ordinary accessibility relation, except for the broader set of situations: mental representations can access impossibilities.

In section 3 it is shown that, by having world quantifiers range on non-normal worlds, the semantic clauses for L ’s conditional make of it a fully relevant one: if $A \rightarrow B$ is valid, then A and B share some predicate or propositional parameter. The semantics, thus, invalidates the fallacies of relevance and, in particular, ECQ.

Section 4 explains how the semantics for ρ_x invalidates (the formulations in terms of it of) typical unwelcome inferences of epistemic logic gathered under the rubric of “logical omniscience”: closure under entailment, $A \rightarrow B$, $\rho_x A \models \rho_x B$; validity-omniscience, $\models A \Rightarrow \models \rho_x A$; and consistency, $\neg(\rho_x A \wedge \rho_x \neg A)$.

Finally, some open questions are raised in section 5 on the best strategies to regiment ρ_x in order for it to express specific, more vertebrate kinds of representational mental states; these should be closed under some (albeit weaker-than-classical) logical consequence relation.

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Is the problem of the *de se* just Frege's Puzzle?

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Many philosophers over the last half-century or so have been convinced that there is a special problem posed by thought and talk which is essentially concerned with who, when, and where

one is. The nature of the problem, which I will refer to in this paper as the problem of the *de se*, is usually illustrated by means of thought experiments which attempt to show that an agent can have objective knowledge of what the world is like, whilst apparently lacking knowledge of who he is, or when or where he is located. Consider Perry’s famous case Rudolf Lingens, the amnesiac lost in Stanford Library. We are invited to imagine Lingens reading a biography of himself, and thus building up a stock of objective knowledge about some fellow called “Lingens”, yet still failing to realize who he is. Suppose that at time t_1 Lingens is still in a state of confusion about his identity, but at time t_2 he has a *eureka* moment in which he realizes who he is. At time t_1 , Lingens is willing to assert sentence (1) but is unwilling to assert (2). At time t_2 , however, Lingens is perfectly willing to assert (2):

- (1) Lingens is Lingens.
- (2) I am Lingens.

On a plausible and well-motivated semantics for proper names and indexicals, sentences (1) and (2) have the same semantic content, relative to Lingens as speaker. But if that is the case, how is it that at t_1 Lingens is willing to assert one but not the other? And what is the nature of Lingens’s state of mind at t_2 when he has his *eureka* moment and becomes willing to assert (2)? Similar questions arise for sentences containing other indexicals such as “now”, “here”, and so on.

As I have framed the problem thus far, it should be apparent that it bears a striking resemblance to Frege’s Puzzle about proper names. Many speakers, for instance, would be perfectly

inclined to assent to sentence (3) whilst dissenting from (4):

(3) Ray Charles recorded the hit single “Georgia On My Mind.”

(4) Ray Robinson recorded the hit single “Georgia On My Mind.”

The challenge posed by this instance of Frege’s Puzzle appears to be quite similar to the Lingens case. On a plausible and well-motivated semantics for proper names, sentences (3) and (4) have the same semantic content. But how is it that competent speakers could be willing to assent to (3) but not (4)? The surface similarities ought to give us pause. We don’t typically think that instantiations of Frege’s Puzzle with certain proper names count as new puzzles. There is, unfortunately, no problem of the *de Ray*. So why think that a problem which appears to be nothing more than Frege’s Puzzle with indexicals should be any different?

My goal in this paper is to explore the relationship between Frege’s Puzzle and the *de se* in detail. I argue that the most plausible way of drawing the distinction is to hold that the *de se* poses a special threat to dyadic propositionalism – the view that belief is a dyadic relation between agents and propositions – which is not posed by Frege’s Puzzle. I go on to explore two strategies for undermining the distinction. The first is to argue that Frege’s Puzzle also poses a threat to dyadic propositionalism; the second is to argue that neither puzzle poses a threat to dyadic propositionalism. My tentative conclusion is that the claim that the *de se* is just Frege’s Puzzle has yet to satisfactorily rebutted.

The Pragmatics Underlying Imperative Inference

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The investigation of imperative inference is usually based on semantics only. It's standard to propose that knowing the meaning of an imperative is knowing under what circumstances the imperative is obeyed, which is parallel to the meaning of the corresponding indicative sentences, then an imperative inference is valid iff the conclusion is also obeyed once all premises are obeyed. However, this approach inevitably suffers from Ross's paradox: it can't account for the invalidity of inferring “Post the mail or burn it!” from “Post the mail!” [2]. Stit theory [1] succeeds in avoiding the Ross's paradox by setting a clause X which regulates the possibility of violating the imperative. However, X also makes it hard to explain the validity of inferring “Do φ !” from “Do φ and ψ !”. Contrarily, if X is eliminated, Stit theory would fail to avoid Ross's paradox. Moreover, Stit theory can't account for free choice permission.

A promising strategy is to combine pragmatic elements into the investigation of imperative inference. By the utterance of “Do φ or ψ !”, the speaker not only tells the listener under what circumstances this imperative is obeyed, but also tells him that he can obey the disjunctive imperative by getting either of the disjuncts done, which is not contained in the utterance of “Do φ !”.

I propose that the picture underlying the speaker's mind when

uttering an imperative is a plan which is composed of some to-do lists. A to-do list is defined as a consistent set of pairs $\langle p, i \rangle$, where p is an atomic formula and $i \in \{0, 1\}$ (Veltman's lecture note 2011). A plan is a set of optional routes to an objective. The speaker wants to get the plan executed, i.e. making one of the to-do lists fulfilled, and he should also give the listener as much freedom as possible, so he can use an imperative only if it is universally supported in the plan. For instance, the speaker can use the imperative 'Get up!' only if getting up is contained in every to-do list.

There are two exclusive relations between a plan and a basic formula: 'require' (universally support; notation: \models) and 'forbid' (notation: \models). Most clauses within the definition of these two relations are similar to those in the usual three-valued logics, while the clauses for the requirement of disjunction and the prohibition of conjunction are special:

$$P \models_I \varphi \vee \psi \text{ iff } \exists P_1 : \exists P_2 : \emptyset \not\subseteq P_1, P_2 \subseteq P \ \& \ P_1 \cup P_2 = P \ \& \ P_1 \models_I \varphi \ \& \ P_2 \models_I \psi$$

$$P \models_I \varphi \wedge \psi \text{ iff } \exists P_1 : \exists P_2 : \emptyset \not\subseteq P_1, P_2 \subseteq P \ \& \ P_1 \cup P_2 = P \ \& \ P_1 \not\models_I \varphi \ \& \ P_2 \not\models_I \psi$$

The stipulation that P_1 and P_2 are non-empty reflects the implicature of the utterance "Do φ or ψ !": both φ and ψ are proper ways to obey the disjunctive imperative. A similar case holds for the prohibition of conjunctive imperative.

It should be noted that "Do φ or ψ !" doesn't implicate the option of doing both φ and ψ , since the following two imperatives are compatible:

- (1) Eat the burger or drink the milk!
- (2) Don't eat the burger and drink the milk!

Usability of an imperative "Do φ !" in a plan P (notation: $P \models \varphi!$): $P \models \varphi!$ iff $P \models_I \varphi$

Permission is defined in terms of plan extension. P' extends P (formally, $P \subseteq P'$) iff

$$(\forall T \in P : \exists T' \in P' : T \subseteq T') \ \& \ (\forall T' \in P' : \exists T \in P : T \subseteq T')$$

φ is permitted in a plan P (formally, $P \models \text{may}\varphi$) iff

$$\exists P' : \exists P'' : P' \subseteq P \ \& \ P' \subseteq P'' \ \& \ P'' \models_I \varphi$$

Since the definition of 'require' covers all options of obeying an imperative, the validity of free choice permission is no longer a problem.

Under this new framework, the logical results accord with the intuitions better: Ross's paradox is avoided and the validity of the disintegration of conjunction is explained. By the comparison between the new approach and those classical ones, it can be concluded that the analysis of imperative inference also involves pragmatic elements rather than semantics only.

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A Problem of Control

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Talk of control plays an important role in contemporary philosophy of mind and action. It is used e.g. to analyse the notion of an agent's doing what he wants to do in terms of his ability to control his bodily movements. It can also be put to use to arrive at an elegantly unified view according to which freedom of action is control of one's bodily movements and freedom of will control of one's desires (Frankfurt 1971, 25; 1978, 73).

In claiming control to be an essential feature of actions, proponents of this view do want to make use of a substantial notion. It is a notion intended to give room to the idea of a person's responding to (minor) obstacles in the course of executing bodily movements, his interfering with the world, his actively exerting his abilities. So the view is committed to the assumption that every action has at least certain duration. Thus,

as actions are thought of as being or incorporating events and reports of actions are thought of admitting of temporal questions, it is to be asked whether this bears on the notion of control employed in the unified view.

In the ontology of time and events there are both extensions and points. Time admits of durations as well as of instants. So, arguably, there are both extended events as well as point-events. Also, the semantics of achievement verbs suggests that some achievements are instantaneous. If we assume that among point-events and instantaneous achievements some are actions, the notion of control comes into doubt. This is also seen from at least some members of the class of speech-acts like taking a woman to be one's lawful wedded wife (by saying "I will" in the course of a marriage ceremony) making a bet (by saying "I bet you sixpence it will rain tomorrow"). These speech acts (like all others) are paradigm cases of actions: They involve a doing of a person, they are intentional under at least some description, and they can be accounted for by giving reasons rather than just citing causes why the person did what she did. Yet, the assumption that they have temporal extension over and above their temporal position seems odd: "How long have you been taking Mary to be your lawful wedded wife?" and "How long have you been betting John sixpence it will rain tomorrow?" are as unintelligible as "How long have you been finding your keys?" is. Hence we are drawn to conclude that if actions are events, actions of the type presented are events without temporal extension: they are instantaneous.

Thus it becomes dubious to assume that the notion of control can provide for what it is intended to. It was meant as a

reductive replacement of talk of wanting (that p). However, I can only be said to be in control of my doing – when it is a point-action – if it is true of me to say that I want that p. With point-actions there is no room for the idea that control could consist in a person’s responding to obstacles in the course of executing bodily movements etc. Instead, minimalism in the theory of action emerges as an alternative.

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An Algebraic Perspective on Duality in Logic and Language

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The aim of this poster is to present an algebraic (group-theoretical) perspective on duality phenomena in logic and natural language. Typical examples of pairs of dual operators in logic are conjunction/disjunction and universal/existential quantification; typical examples in natural language are ‘already’/‘still’ [2] and concessives/causatives [1]. Duality has even been suggested to be a semantic universal [3]. (Of course, the natural language cases are a matter of empirical discovery, and have led to substantial discussions; still, the point remains that duality is an important conceptual tool in formal semantics.) Duality is analyzed in terms of internal and external negation, and gives rise to the well-known ‘duality squares’ (an example involving the traditional quantifiers: \forall , $\forall\neg$, $\neg\forall$ and $\neg\forall\neg$). It is received wisdom amongst formal semanticists that such duality squares are ‘governed by’ the Klein four-group \mathbb{V}_4 . I will show that this initial link can be developed into a full group-theoretical account of duality. It is an easy mathematical result that \mathbb{V}_4 is isomorphic to the direct product of \mathbb{Z}_2 (the cyclic group of order 2) with itself ($\mathbb{V}_4 \cong \mathbb{Z}_2 \otimes \mathbb{Z}_2$). This has an immediate semantic interpretation: each copy of \mathbb{Z}_2 can be seen as governing the behavior of ‘a’ negation (the external one and the internal one), and hence the algebraic behavior of duality is composed of the independent behaviors

of each of these negations. Furthermore, this algebraic perspective also sheds new light on the degenerate cases of operators which are their own duals or their own internal negations. Further results can be obtained by considering composed operators, i.e. operators of the form $O_2 \circ O_1$. (This notation might be unfamiliar, because several operators are often used with infix notation; for example, I will write $\square (p \wedge q)$ as $(\square \circ \wedge) (p, q)$.) First of all, the duals and internal/external negations of the composed operators can easily be expressed in terms of the duals and internal/external negations of their components. More importantly, however, I will show that the full duality behavior of such a composed operator is ‘governed by’ the group $\mathbb{Z}_2 \otimes \mathbb{Z}_2 \otimes \mathbb{Z}_2$. This shouldn’t be surprising: each copy of \mathbb{Z}_2 governs the behavior of ‘a’ negation, and for the composed operator $O_2 \circ O_1$, there are three relevant negations: external ($\neg O_2 O_1$), internal ($O_2 O_1 \neg$), and intermediate ($O_2 \neg O_1$). Visually speaking, this means that the duality behavior of the composed operator $O_2 \circ O_1$ shouldn’t be represented in a square, but rather in a cube. Using results on the subgroup lattice of $\mathbb{Z}_2 \otimes \mathbb{Z}_2 \otimes \mathbb{Z}_2$, I will show that exactly 14 duality squares can be embedded into this cube. Based on joint work with Hans Smessaert, I’ll point out that there is a clear hierarchy in the ‘visual recognizability’ of these squares (expressed in the mathematical complexity of their embeddings), and connect this with work in cognitive science on 3D perception.

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The Many-Relations Problem for Adverbialism

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One of the prominent accounts of the semantics of mental state ascriptions is adverbialism. According to this view, sentences such as (S) “Peter has an impression of red” must not be analyzed relationally but adverbially: (S) does not describe a relation between Peter and a red object. Rather, it ascribes to Peter a property that is further qualified by the term “of red.” The logical form of this

sentence is not “There is an object that has the properties of being red and being an impression and that is had by Peter.” Rather, the sentence must be regimented along the lines of “Peter has the property of having an impression and he has that impression in a red way.” In my contribution, I present a new argument against adverbialism.

Early advocates of adverbialism (such as Chisholm 1957) propose to analyze (S) roughly as “Peter impressions red-ly.” These proposals have rightly been criticized, most notably in Jackson 1977, for not being able to account for sentences putatively ascribing more than one property to the impression. What is the correct analysis of (S') “Peter has an impression of a red square”? One proposal would be “Peter impressions red-ly and square-ly.” Given that proposal, however, it is impossible to distinguish this sentence from (S'') “Peter has an impression of red and (at the same time) and impression of a square.” For the only natural adverbial analysis of this sentence also seems to be “Peter impressions red-ly and square-ly.”

In response to this problem Michael Tye (in Tye 1989) elaborates an adverbially inspired formal framework for the analysis of sentences such as (S') and (S''). First, he introduces operators that can be attached to predicates to yield sentences such as “O[Fp].” These operators already suffice to regiment (S): the proposed analysis is “R[Ip]” where “I” stand for the property of having an impression and “R” for a function that maps this property onto the

property of having an impression of red. In order to account for (S') Tye then introduces an operator-operator, Con, that can be used to concatenate other operators. Given this operator, (S') can be represented formally as “RConS[Ip]” and (S'') as “R[Ip] and S[Ip].” Thus in his framework, the difference between these sentences can be preserved.

I take this response to the so-called “many-property problem” to be satisfactory. However, I argue that a similar problem arises at the level of relations for which no solution is in sight. I call it “the many-relations problem.” Consider first a sentence such as “Peter has two impressions of red such that the first is brighter than the second.” This sentence cannot be transformed directly to Tye's formalism. It is clear, however, how to amend his theory. Simply introduce an operator-operator such as Con that expresses the brighter-relation, say Bri. We can then formalize the sentence in question as “RBriR[Ip].” It might also be possible to expand the formalism in such a way that it allows for the correct analysis of sentences involving more than one relation between two impressions by introducing a concatenation operator for relations. What seems clearly impossible though is to find an acceptable account of sentences putatively about three impression such that one impression bears different relations to different objects. Suppose, for example, Peter was looking at a row of three small, bright, and colored light bulbs. He would then have three impressions such that, say, the first is to the left of the second and to the right

of the third. It seems impossible to analyze such sentences within the adverbial framework. Therefore, it has to be rejected.

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"I Believe". Speech-act-theoretical Ambiguity and the Transparency of Belief

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I will present a general speech-act-theoretical argumentation to the effect that first-person (present tense indicative active) ascriptions of mental states, i.e. ascriptions of the form "I ψ ...", where " ψ " is a verb referring to a psychological state (e.g. "I wish ...", "I hope ...", "I believe ..."), are ambiguous between a *reflexive-assertive* and an *explicitly manifestative* speech act.

Usually, "I ψ that p " is an *expression* or *manifestation* of ψ -ing that p . In special circumstances, it is a reflexive *assertion* whose the utterance is used for *stating that* one is ψ -ing that p . Thus I propose a compromise between Ryle's (1949) and Wittgenstein's (1953) position, which (over-)emphasizes the explicitly manifestative usage, and a philosophical tradition which almost completely ignores that type of use. I hold that much of the epistemic peculiarity in connection with first-person conscious states derives from the manifestative use of first-person ascriptions of mental states: epistemic peculiarity accrues to explicit manifestatives not in virtue of their being assertions of a special kind (namely, assertions about mental states), but in virtue of their not being assertions at all.

It will be proposed that "I believe ..." presents a special case of explicit manifestatives in that it is *truth-directed*. Beliefs have, like all truth-attitudes and unlike wishes and hopes, a word-to-world direction of fit. If somebody expresses the belief that it is raining, he holds it true that it is raining. As a consequence, "I believe that p " in its manifestative use functions like a caged or hesitant assertion of p ; it is an *assertive* manifestative. I will argue that these findings are corroborated by recent developments in linguistics (e.g. Benveniste 1977, Giorgi & Pianesi 2005). "I believe that p " is therefore systematically ambiguous in that it can express two different truth-attitudes: it can be used as a (hesitant) assertion of p (and therefore as an expression of the belief that p) and as an assertion of the proposition that the speaker believes that p (and, since an assertion always expresses a belief, as an expression of a higher-order belief, the belief that one believes that p).

I will, finally, address Gareth Evans' famous claim that knowledge of one's doxastic mental states about p is not (necessarily) a matter of reflecting upon one's mind, but of investigating into p . "[I]n making a self-ascription of belief, one's eyes are, so to speak, or occasionally literally, directed outward—upon the world. If someone asks me 'Do you think there is going to be a third world war?', I must attend, in answering him, to precisely the same outward phenomena as I would attend to if I were answering the question 'Will there be a third world war?' "(Evans 1982, 225). Self-knowledge, knowledge concerning a proposition of the form "I think/believe that p ", is obtained by considering not one's subjective states, but the objective world, namely p itself. Recently there has been a lot of discussion about Evans' position, in particular with respect to the question of whether the *transparency* of belief is able to explain privileged self-knowledge, first-person knowledge of mental states (Byrne 2005, Gertler 2011, Williams 2004). I will argue against Evans and the subsequent tradition and claim that Evans' reasoning does not demonstrate that belief is transparent: Evans' reasoning is shown to rest on mistaking the assertive-manifestative use of "I believe ..." with its reflexive-assertive use.

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Semantic Ascriptions and Semantic Facts

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Standardly, when we ascribe some property to something, there is some fact – independent of this ascription and other ascriptions of its kind - that makes this ascription true, if it is. This is not the case with content ascriptions. Such ascriptions are not judgments about what there is in a reality that is independent of content ascriptions, and it is not such a reality in

itself that makes content ascriptions true. Cases of disagreements of semantic "intuitions" can illustrate the point: suppose that there is a disagreement regarding whether a certain content ascription – e.g., "She believes that Einstein has worked for the Federal Office for Intellectual Property", said about a woman who takes Einstein to be the developer of the atomic bomb – is true. If there is a way to settle such a disagreement, it is by considering whether the judgment conforms to the practice of content ascriptions; given that woman relation to Einstein, there are no other facts whose discovery would reveal to us whether that woman "really" refers to Einstein.

There are other dimensions to the issue of the truth of mental states ascriptions. According to one view (of, e.g., Dennett), there can be no determinate answer to the question of whether such ascriptions are true or not – indeterminacies characterize not only the epistemology but also the metaphysics of mental states ascriptions. But one may reject such a view and endorse another kind of indeterminacy regarding such ascriptions, for the truth of a content ascription does not settle the question of which item of reality the subject refers to. Quine's claim for the indeterminacy of "rabbit" – that it is indeterminate whether it refers to rabbits or to some parts or aspects thereof, and Putnam's claim that it is indeterminate (within the framework of metaphysical realism) whether a word refers to some item or to its permutation, are examples of such indeterminacy theses. While accepting that ascriptions of content (generally) enjoy determinate truth-conditions, I will argue that there is a "deep" indeterminacy regarding the intentional objects of semantic ascriptions of both speech acts and intentional mental states. My argument starts from the well-known claim that there is a

manifold of thought-world and language-world relations. I try to show that no sense can be given to the natural reply to this claim that one of these relations simply is the intentional relation. This idea of singling out one relation is, in essence, the idea that the supposed privileged relation is singled out by our content ascriptions, which can only single it out in the sense of referring to it, and then the manifold of relations strikes again. Appearance to the contrary notwithstanding, this does not mean that the very idea of theories of content and reference – theories that are supposed to specify the relations that connect us to our intentional objects - has to be dismissed altogether. I suggest that theories of content should be construed as theories of second-order linguistic behavior (or "mental behavior") – theories that systemize the regularities that govern our ascriptions of content. A true theory of content is one that entails correct descriptions of our use of such ascriptions; and what makes a certain content ascription true is the fact that it conforms to the practice of content ascriptions, not that it correctly depicts how any world item (or relation) is captured by any linguistic or mental entity.

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Korean evidential -te- and *de se* reading

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Korean evidential marker -te-, which indicates that the speaker's assertion is based on direct perceptual observation or inference from direct perceptual observation, introduces *de se* reading with respect to the long-distance anaphor *caki*, as exemplified in (1), where *caki* can be bound by the attitude holder only when the speaker has knowledge about the relation between the bounded anaphor and the attitude holder:

(1) (Bill and John are close friends, and their children go to the same school. Once Bill and John were invited to the school. In the school, when both Bill and John were looking at one class in a distance, Bill found one kid was making troubles during a class. After that class, Bill came to Tom, the teacher, and told him to scold the kid who was making troubles in the class. However, John found that, unbeknownst to Bill, the kid was actually Bill's Son. Later John said...)

a. #Bill_i-i Tom-eykey *caki* atul-ul honnay-lako malha-ess-ta.
 Bill-Nom Tom-Dat self son-Acc scold-Comp say-Past-Decl

b. Bill_i-i Tom-eykey *caki* atul-ul honnay-lako malha-te-la.
 Bill-Nom Tom-Dat self son-Acc scold-Comp say-*te*-Decl

(intended) 'Bill_i-i told Tom to scold self_i's son'

Note that, at first sight, this *de se* reading of *caki* with -te- seems different from what has been discussed in the literature (such as Anand 2006): here the speaker (that is John), but *not* the attitude holder himself (that is Bill), has the *de se* ascription.

However, note further that the same pattern can also be found in PRO in Korean, which is generally known as *de se* anaphor (Anand 2006, Chierchia 1989):

(2) (Bill is hosting a party. He hears that a certain waiter named Tom is being a nuisance. He told the nearest waiter, "Tom has to go." John, looking at all the situations, found that, unbeknownst to Bill, Bill was actually talking to Tom. Later John said...)

a. #Bill_i-i Tom_j-eykey Pro_j ttena-lako malha-ess-ta.
 Bill-Nom Tom-Dat leave-Comp say-Past-Decl

b. Bill_i-i Tom-eykey Pro_j ttena-lako malha-te-la.
 Bill-Nom Tom-Dat leave-Comp say-*te*-Decl

(intended) 'Bill_i-i told Tom to leave'

(Adopted from Anand 2006: 16, ex. 25)

Based on the fact like (2), in this paper, we try to account for this specific kind of *de se* reading as a specific kind of regular *de se* meaning, by assuming the following lexical entry for *-te-*:

(3) For any utterance context c^* , and any world of evaluation w , $[[\text{-te-}]]^{c^*,w} = \lambda p.\lambda c:\exists t < t^* [\text{there is a salient time } t \text{ in } c \text{ such that } t < t^*, \text{ and } s^c \text{ infers } p \text{ from her direct evidence acquired at } t. p \text{ (} c \text{ is a triple including the world, the time, and the speaker of the utterance: } \langle w, t, s \rangle \text{) .}$

With (3), (1) and (2) can be accounted for in terms of the operator over contexts in the lexical entry for *-te-*, with the assumption that *caki* (as well as PRO) can be used as a logophor when there is a context where a speaker has *de se* knowledge ascribed to the attitude holder. In (b) examples, this context is provided by the operator in *-te-*, but there is no such context in (a) examples, resulting in the infelicitous assertion.

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Distributed assertion

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There are times when one wants to use a word or phrase as someone else would mean it. For example, one could say

The ruling party has proposed "common sense tax reform".

By this you do not mean that what they have proposed really is common sense tax reform-that would be to use the quotation-mark-flagged words, in the regular way. Nor do you mean to quote those words-for there is nothing you are saying about the words, which is what we use quotation to do. What is going on is that you're doing the next best thing to dragging some guy from the ruling party into the room to complete your sentence for you. Sometimes in making an assertion, one has reason to flag some words for interpretation as if uttered by another. It is an error to try to pigeonhole this either as using the flagged words or as quoting them. In this talk I consider this phenomenon, which I call distributed assertion. A speaker makes a distributed assertion when she indicates (typically

using quotation marks) that some of her words are to be interpreted as if produced by another speaker.

First I explain how current theory already allows for the interpretation of distributed assertions. Part of the story is intra-assertional context shift, which I explain in terms of Kaplan's (1977) semantic apparatus. Just as the feature of context that sets the value of "now" can change while an assertion is being uttered, so too, Kaplan's theory can handle an intra-assertional change in who the speaker is. Another part of the story (noted by Recanati (2001)) is shift in language (which shift in speaker often demands). To treat part of an assertion as made in a different language from another part, one shifts which interpretative theory one is using. Applying different interpretative theories to different parts of a sentence sometimes gives results that admit of combination. Distributed assertions are ones whose interpretation involves intra-assertional shift in speaker (and other) contextual parameters and, often, shift in interpretative theories, to handle idioms of the different speakers. From the point of view of formal semantics, then, there is nothing troubling or controversial in the idea that there are distributed assertions.

Next I suggest reasons one might have for making a distributed assertion, describing two kinds of deferral in play. One has reason to engage in semantic deferral when one knows that someone else has a term for something but lacks the

understanding required to use it oneself, and wants to use it anyway (lacking a simple co-extensive term oneself). One has reason to engage in justificatory deferral when one wants to put onto another the obligation to defend some commitment that attaches to some term one wishes one's assertion to contain.

Cases of scare-quoting are often cases of distributed assertion in the sense I describe. I compare the proposal with theories of scare-quoting. It differs from accounts on which scare-quotes do semantic work (Brandom 1994; Benbaji 2004), and from accounts on which they do post-semantic, Gricean work (Gutzmann and Stei 2011). While the approach incorporates a claim made by Recanati, it survives Cappelen's and Lepore's (2007) objections to his account.

The possibility, and actuality, of distributed assertion puts in question some claims about the nature of assertion. While some philosophers (Searle 1969) have conceived of assertion in a way that allows for distributed assertions, others (Brandom 1994) have not; I close with some reflections on how to reconcile the latter sort of conception to the phenomena of distributed assertions.

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Does Relativism Rest on a Mistake?

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Recent philosophical debate over semantic relativism, the view that the notion of truth appropriate to semantic theorising should be relativised to some or other parameter (times, standards of taste, moral sensibilities etc.), has been intense, but the issues and problems raised by Gareth Evans' attack on tense logic-mounted in his paper, 'Does Tense Logic Rest on a Mistake?' (1985)-concerning the relationship between a relativised and an absolute notion of truth have been largely neglected. My contention is that reflection on Evans' attack places it within the context of foundational issues concerning the distinction between what Michael Dummett has called assertoric and ingredient content (Dummett 1981, 1991)-between, on the one hand, the objects of assertion, and, on the other, the values assigned to sentences in context by an empirically adequate semantic theory.

While the significance for semantics of this distinction has been widely recognized, particularly since Jason Stanley's work on rigidity (Stanley 1997a,b), understanding of it has been dominated by a conception associated with the work of David Lewis (1980). On this conception, the relationship between

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assertoric content and ingredient content is comparatively loose: in one direction, if the semantic values of sentences in context vary with respect to a given parameter, it does not follow that the objects of assertion vary in truth value with respect to that same parameter; in the other, as shown recently by (Ninan 2010), if the objects of assertion vary in truth value with respect to a given parameter, it does not follow that the semantic values of sentences in context vary with respect to that same parameter.

The differences between Lewis's conception and that of Dummett's own, together with their significance, have been under-appreciated. On Dummett's conception, which can be traced back to the discussion of whether the notion of presupposition is as fundamental as that of assertion in his seminal paper 'Truth' (1959), the relationship between assertoric content and ingredient content is tighter, constrained by both the broadly pragmatic conditions under which we confront the world and communicate with each other—considerations pertaining to the correctness of our mental and linguistic acts—and the extent to which we grasp the totality of possibilities which bear on the truth of thoughts and assertions. I argue that it is within the context of the debate between these rival conceptions that Evans' attack, together with issues it raises for relativism more generally, press most forcefully.

According to Evans, tense logic rests on a mistaken analogy between the notion of truth at a time, 'truet', employed in its semantic analysis of tenses and temporal adverbs, and the notion of truth at a possible world, 'truew', familiar from modal logic's semantic analysis of the box and diamond operators. In the background of Evans' argument is the demand that a semantic theory for a language be capable of serving as a theory of sense, articulating principles knowledge of which would enable one to speak and understand the language, and in particular to assess assertoric utterances of sentences of the language for correctness. He considers three interpretations of the connection between 'truet' and the assessment of an utterance as correct. In each case, Evans argues the analogy with 'truew' cannot be sustained. The crucial cases are those of the first interpretation, on which the correctness of a particular utterance may vary in a way that Evans thinks is problematic in the temporal but not the modal case, and the third, which incurs a commitment to a form of realism that Evans takes to be problematic in the modal but not the temporal case. In each case, the key to Evans' argument is a presupposed contrast between the temporal and the modal.

After laying out the arguments in more detail, and responding to some minor objections, I show how Evans' argument relates to the debate concerning assertoric and ingredient content, showing that the presupposed contrast raises the two central

issues that distinguish Lewis's and Dummett's positions: first, the extent to which we grasp the totality of possibilities which bear on the truth of thoughts and assertions; second, the extent to which semantic facts are autonomous from the conditions under which we confront the world and communicate with each other.

Describing the Causative Propagation of Motions over the Body-Parts in Modal Predicate Logic

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Capturing the motion planning of a human action as a collection of causations of one joint or endpoint to move by another joint on a simplified skeleton, we are enabled to represent the meaning of a bodily action as a collection of micro-causations of movements over body-parts in logical expressions. In modal logic, we describe, as the meaning of a bodily action verb, how its causative motions propagate over a skeleton. Real human joints are subcategorized into five groups or more by their modes of rotation (Zatsiorsky 1997, Köpf-Maier 1997). We simplified the variety of rotations into three kinds of "rotation": *rotation*, *turn* and *turn'*. An action is

decomposed into the collection in terms of a joint's causations of another vertex to "move", by accommodating the causative analysis by Lakoff (1970) and Jackendoff (1992, 1992, 1993) onto a lower level. We define Rotation Function as: $\pm R^i(\langle c_j, \sigma/\mu \rangle, c_k) = \sigma/\mu$, where c_j directly supports c_k . The polarity "+/-" distinguishes the counterclockwise(+) turn and the clockwise (-) turn as are seen forward, downward and from center.

Having c_j as the axis of rotation in its staying (σ) or moving (μ) state, the rotation function returns " μ " if c_k is moving and " σ " if it is not, during interval " i ". We define *Turn Function* and *Turn' Function* as: $\pm T^i(\langle \langle c_j, \sigma/\mu \rangle, \langle c_k, \sigma/\mu \rangle \rangle, c_l) = \sigma/\mu$. This function, with the edge $\langle c_j, c_k \rangle$, each of whose member is in the state σ or μ , as the axis of *turn*, takes c_k as its input and returns μ , if it has moved during the interval i , or returns σ , if it hasn't, as its output.

In modal predicate logic, as in Gamut II (1991) and Hughs & Cresswell (1996), very often the same formulas are multiply valued in various domain. In our model, each joint acting as a rotation center or one of the turn axis vertices is a world, which has its own domain all the joints and endpoints directly and indirectly supported by the joint co-indexed to that world. For each joint defined as a world, the exhaustiveness of the vertices, in that world, it directly causes to move is quantified by " $\forall x: C(x) \rightarrow \text{MOVE}(x)$ " and/or its existential equivalent. If and only if a rotation function with the causer joint j returns μ , as its output, for all the input content vertices from its domain, the universal movement formula is valued as true in the relevant world.

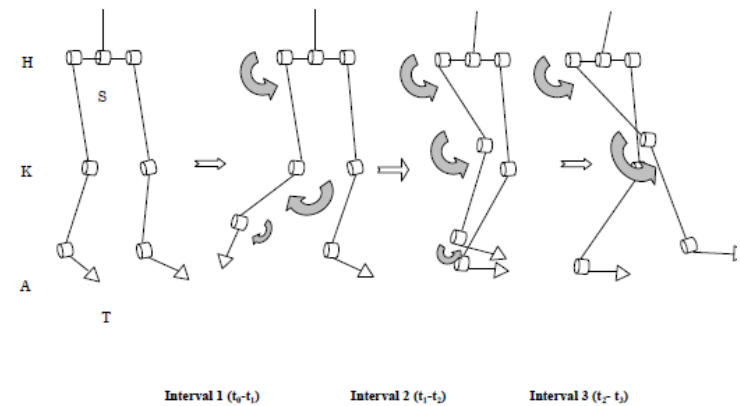
Otherwise, the formula is valued as false: $V_{w_j}(\forall x: C(x) \rightarrow \text{MOVE}(x)) = 1$ iff for all $c \in D_j$: $\pm R^i(\langle c_j, \sigma/\mu \rangle, c) = \mu$, otherwise

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$V_{wj} (\forall x: C(x) \rightarrow MOVE(x)) = 0$. For the existential quantification, $V_{wj}(\exists x: C(x) \ \& \ MOVE(x)) = 1$ iff for some $c \in D_j$: $\pm R^i \langle c_j, \sigma/\mu \rangle, c = \mu$, otherwise $V_{wj} (\exists x: C(x) \ \& \ MOVE(x)) = 0$. In the cases of turn function, likewise valuations are defined.

Levin (1993) defined the class of verbs of assuming a position based on three diagnoses: compatibility with a PP, incompatibility with *there*-insertion, and incompatibility with locative inversion. Among these “throw verbs” are included: *flick, hit, hurl, kick, ...*. In this type, the meanings of the verbs are guided by the body-parts as their objects, and their motions are the default motions equipped with these bodyparts. See the figure, below, of kicking with the right side leg and foot.

At interval 1, its worlds are $\{w_H, w_K, w_A\}$. At interval 2, we get the same set of formulae at interval 1, except the reverse rotations at K and A. At interval 3, its worlds are $\{w_H, w_K\}$, and its accessibility $\langle w_H, w_K \rangle$. In each of the worlds involved in “kicking”, we valued the existential (E) and universal (U) formulas w. r. t. its relevant rotation/turn function(s). N and P are necessity and possibility operators. M’ is counterclockwise.



| | Interval 1 | Interval 2 | Interval 3 |
|-------|--------------------------------------|----------------------------|-----------------|
| w_H | E NE' PU' NNE' PNE' NNU' PNU' | E NE PU NNE PNE NNU PNU | E NE NNE NNU |
| w_K | E' NE' NU' NNE' PNE' NNU' PNU' | E NE NU NNE PNE NNU PNU | E NE NU |
| w_A | E' U' NE' NU' | E U NE NU | |

From a cognitive viewpoint, *move*-predicate is compatible with “semantic primitive *GO* in Jackendoff (1983). Rotation/turn function plays a decisive role in propagating causation on the skeleton:

[_{Event} CAUSE ([_{Thing} an active joint], [_{Event} GO ([_{Thing} another vertex],
 (Agent) (Theme)
 [_{Path} FROM a place point TO another place point]]))]

(Source) (Goal)

Perspectival Modes of Metarepresentation in Deep Disagreement

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How do thinkers conceptualize minds, their own and others, in the course of deep, intractable, and trenchant disagreement ('deep disagreement')? I argue that the conceptualizations involved in deep disagreement show the existence of multiple *de re* modes of metarepresentation in which the multiplicity of the modes is constituted by the distinction between first- and third- person perspectives.

Section 1, 'Deep, Intractable, Trenchant Disagreement' explains what deep disagreement consists in. It is deep in being traceable to disagreement about fundamental epistemic resources. It is intractable in that what is under reciprocal challenge are the resources on the basis of which opinion is formed and this seems to leave no room for non-question-begging argument and ultimately makes the extent and nature of intersubjective engagement opaque. It is

trenchant in that disagreement does not lead to conciliation but remains uncompromising and committed, and can be, or can be expected to be, longstanding.

Section 2, 'Conceptualizing Mindedness in Deep Disagreement' explains what is involved in parties to deep disagreement conceptualizing their own and the other minds. I assume a broadly Fregean background for concepts in which concepts are epistemically individuated.

Conceptualizing mindedness in deep disagreements requires concepts of thinkers, of propositional attitudes, of propositions or thoughts, and of the evidence, as evidence, for the disputed thought. Conceptualization also involves an active and evaluative component. The intrasubjective precursor to the conceptualizations of mindedness in deep disagreement is in critical reflective thinking: thinking aimed at the improvement of one's epistemic status under conditions of fixed evidence through clarification and precision about exactly which thought it is that one's evidence is evidence for. This requires a thinker to conceptualize and evaluate the normative relations between evidence and attitude, and ultimately to critically reflectively justify one's attitude by actively setting one's attitude and its content in the tightest possible alignment with one's evidence and the normative relation between evidence and attitude.

But the distinction between one's own and another's conflicting perspective makes for a difference in conceptualizing the mindedness of another in deep disagreement.

Section 3, 'Perspectival Metarepresentation' outlines and interprets a thought experiment in which a thinker tries to reconstruct in detail another's conflicting perspective in the course of thinking through the deep disagreement that exists

between them. The thought experiment emphasizes how the project of reconstruction involves taking the conflicting perspective to pose a genuine challenge, but it also emphasizes how the project of reconstruction has limits.

In reconstructing another's conflicting perspective one conceptualizes *de re* the thoughts the other is thinking to be such as to make for certain epistemic possibilities that, upon critical reflection and thinking with the clearest and most precise understanding one can manage, one thinks that they do not make for. One cannot both think about the shared subject matter of the dispute with the greatest clarity and precision that one can manage and from another's conflicting perspective because thinking with the greatest clarity and precision one can manage is matter of critically reflectively justifying one's attitudes. This implies, for another's perspective, that one can either completely reconstruct it but not in a way that involves one's clearest and most precise understanding of the thoughts that it involves or at best only incompletely reconstruct but it in a way that involves the clearest and most precise understanding that one can manage. This is reflected in deep disagreement by the opacity of intersubjective engagement, which includes a standing reflective suspicion of equivocation, even when there is no equivocation. By contrast, one's own perspective can be completely reconstructed with the clearest and most precise understanding that one can manage. This is a difference in *de re* concepts of thoughts that is constituted by whether the *de re* concepts of thoughts are concepts of thoughts in one's own attitudes or in the attitudes of another. These *de re* concepts are perspectival modes of metarepresentation.

Low Cost *De Se* Attitudes

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De se attitudes are generally regarded as special cases of *de re* attitudes (see e.g. Maier 2009). That may be satisfying from a semantic point of view, but it is obviously not the case not an ontological point of view. Philosophy can provide arguments in favor of a more or less substantial subject, and actually many philosophers did so. But the fact that semantics alone would force us to consider "I" as a referring expression is at least questionable.

According to the usual semantics it is not possible to combine the requirement of rigid designation for the first person pronoun, with an eliminative of fictionalist conception of the subject: if "I" refers to the same individual in all possible worlds, then "I" refers to this individual in the actual world. Moreover it is generally considered that if "I" did not designate any existing individual in the actual world, then it would be impossible to have a focused thought on a corresponding non-existent individual: *de se* thoughts would then be impossible.

In this talk I will propose a semantics of "I" that avoids this alternative. My proposal relies on the semantics of phenomenological objects proposed by Rebuschi & Tulenheimo (2011). The account elaborates on Hintikka's (2003) idea of an extension of first-order modal epistemic logic with independent quantifiers. With a formula of the form: A

$(\exists x/A) \varphi[x]$, where A is an attitude operator (like “Mary believes that...” or “John wishes that...”) and φ a predicate, we can express reports for attitudes focused on non-existent individuals.

However this is not sufficient. The problem is now that such attitudes, labeled *de objecto*, can only focus on nonexistents if they are non-factive: *de objecto* attitudes are reduced to mere *de re* attitudes in the case of, e.g., perception or knowledge. The main challenge for a semantics of *de se* attitudes in this framework is then to account for the possibility of self-knowledge, and not just (delusional) beliefs about oneself. The question can be reformulated as follows: can we make sense of the idea of knowledge about oneself, while endorsing an eliminativist or fictionalist conception of the self? To answer this question, we rely in particular on the approach advocated by Castañeda (1968). If no identity, a relationship between the self and the body is required that allows the subject to claim truthfully physical predicates of herself, while considering that the subject does not strictly speaking belong to the actual world.

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Intersubjective Normativity of Meaning and Triangulation

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Intersubjective normativity of meaning, unlike semantic normativity of meaning, does not claim that meaning something by an expression, by itself, forces certain obligations on the speaker to use that expression in a certain way. Rather it claims that the obligations in question lie in the intersubjective linguistic communications which hold among the members of a linguistic community. According to intersubjectivist, the hearer feels required to ascribe certain meanings to the words expressed by the speaker only if the speaker respects certain assertability conditions in using those words, i.e. only if the speaker uses those words sufficiently enough like others in that linguistic community. On the other hand, the speaker herself, to be so ascribed by others in that linguistic community, feels

required to respect those assertability conditions in using her words. But if so, meaning obligations hold conditionally if the related linguistic communications hold. In this situation, intersubjective normativity of meaning provides a genuine account of the normativity of meaning only if (1) linguistic communication becomes a constitutive part of language, i.e. without which no language and thereby no meaning exists; and (2) in linguistic communication, the hearer cannot appeal to the speaker's thoughts, for if she can, no speaker seems to be obligated to use her words according to certain assertability conditions to mean something by them and hence no intersubjective meaning obligations hold at all. In this lecture, I want to show that (1) is the immediate result of accepting Davidson's triangulation thesis and (2) is needed to rescue Davidson's triangulation thesis from a circularity objection raised in literature. So, Davidson's triangulation thesis and intersubjective account of the normativity of meaning seems to help each other to look more plausible.

Davidson's triangulation thesis [Davidson, D. 1992, 1994, 1997, 2001] is this idea that no person can determine the content of her thought in isolation, but she needs at least another person, namely the second person, to stand in a triangular relation with her and the stimulus that has caused her thought. The second person plays two roles here: firstly, she recognizes the similar reactions of the first person in presence of the stimulus, similar; secondly, she recognizes that the similar reactions of the first person are reactions to that particular stimulus. To play his second role, or better to say, to know what the first person is thinking of in that triangular situation, the second person, Davidson suggests, must linguistically

communicate with her. So, linguistic communication is necessary for one's content of thought to be determined. In other words, linguistic communication is required for the individuation of thought and thereby, assuming Davidson's no priority thesis according to which if there is no thought there is no language and vice versa, linguistic communication is a constitutive part of language and hence of meaning (thus (1) is the immediate result of accepting Davidson's triangulation thesis). Davidson's triangulation thesis, however, seems to be circular [Gluer, K. 2006]: the second person to know what the first person is thinking of must linguistically communicate with her. On the other hand, Davidson believes that what is required for a successful communication, regarding a specific utterance, is just that the hearer assigns the meanings that the speaker intended, to her terms. [Davidson, D. 1984]. So, the second person to know what the first person is thinking of, requires to know what the first person intends to mean by her words, i.e. what she is thinking of while uttering her words. To escape from this circle, appealing to the speaker's thoughts in linguistic communication with her should be disallowed (thus (2) is needed to rescue Davidson's triangulation thesis from circularity). But if so, how a successful communication can be established? By holding intersubjective normativity of meaning, I think. If intersubjective normativity of meaning holds, meanings are ascribed between linguistic communicators by appealing to assertability conditions instead of thoughts. Having said so far, it is concluded that Davidson's triangulation thesis and intersubjective normativity of meaning help each other to look more plausible.

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φ-ing severally and φ-ing jointly

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When agents φ severally we cannot in general infer either that they (then and there) φ jointly, or that they do not. And when agents φ jointly we cannot in general infer either that they (then and there) φ severally, or that they do not. We cannot, then, take one of 'severally' and 'jointly' as primitive and define the other via it. They are, however, plausibly defined in terms of act-type *instances*, thus:

$$(S) \square (\forall X) (\forall \phi) (X \phi \text{ severally} \leftrightarrow ((\forall x) x \text{ is one of } X \rightarrow ((\exists y) y \text{ is an instance of } \phi \ \& \ y \text{ is } x\text{'s } \phi\text{-ing})))$$

$$(J) \square (\forall X) (\forall \phi) (X \phi \text{ jointly} \leftrightarrow ((\exists y) y \text{ is an instance of } \phi \ \& \ y \text{ is } X\text{'s } \phi\text{-ing}))$$

where '($\forall X$)' is a *plural universal quantifier*. Hence, you and I dance severally just if there is an instance of dancing that is *my* dancing, and an instance that is *yours*; we dance jointly just if there is an instance of dancing that is *our* dancing.

(J)'s definition of *adverbial* 'jointly' cannot be extended to *sentential* uses.

For consider:

(T_{adv}) Löwenheim and Skolem proved the theorem jointly (collectively).

(T_{sen}) jointly (collectively), Löwenheim and Skolem proved the theorem.

Suppose that Löwenheim and Skolem collaborated on a proof. Then both (T_{adv}) and (T_{sen}) are true. Now suppose that they worked in isolation, ignorant of each other's existence, that Löwenheim proved a lemma of the theorem, and that Skolem deduced the theorem from it. Then (T_{adv}) is false but (T_{sen}) true. For whilst, in the first case, some action of Löwenheim and Skolem's is their instance of *proving the theorem*, in the second case, no action, indeed, no thing of any sort, is their instance of this act-type. What is, however, true in the second case is that a *plurality* of actions – Löwenheim's proving of the lemma and Skolem's conditional proof from that lemma – *are* their instance of this type. That, I argue suggests that 'Jointly, $X \phi$ ' has a weaker truth-condition than ' $X \phi$ jointly', *viz.*:

$$(J^{Wk}) \square (\forall X) (\forall \phi) (\text{Jointly, } X \phi \leftrightarrow ((\exists Y) Y \text{ is/are an instance of } \phi \ \& \ Y \text{ is/are } X\text{'s } \phi\text{-ing}))$$

where ' $(\exists A)$ ' is a *plural existential quantifier*. A corollary is that whilst, no doubt, every action is an instance of an act-type, the converse is not true – an instance of an act-type may be a *plurality* of actions. I argue that this raises no problems: after all, instances of *substance* types (or *sortals*) are sometimes likewise numerically many: my boots are an

instance of *pair*, and my parents an instance of *couple*.

I sketch an extension of these definitions to non-agential 'severally' and 'jointly'. A corollary is that whilst 'joint', like its near synonyms 'shared' and 'together', can connote contiguity, composition, cooperation and coordination, these are, at most, occasional and inessential features of jointness. The result is of significance for researchers in the growing field of joint / shared / collective agency.

Finally, I concede that the proffered definitions are circular, in the sense that, whilst no cognate of 'jointly' occurs on the right-hand side of (J) and (J^{Wk}), since it is built into a proper understanding of *possession* that to possess some one or more concreta is to exclude their concurrent possession by anything else, a full understanding of these right-hand sides requires a grasp of the *jointness* concept. This, I argue, impugns neither the truth nor the informativeness of the definitions.

Semantics for Three Notions of Assent

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From epistemic (subjective) worlds we discern reality-worlds (objective worlds). For them the following principles hold:

(cons) $v(G, w) = t \Rightarrow \neg v(\sim G, w) = t$ und

(comp) $\neg v(G, w) = t \Rightarrow v(\sim G, w) = t$

Neither (cons) nor (comp) apply to the determination of epistemic semantics (criteria (a)). With the objective of the maximal enclosure of the epistemic semantics under the classical semantics one can demand that from the addition of principles (cons) and (comp) to the epistemic semantics the classical semantic results (criteria (b)). Additionally it is assumed that in the rules for the epistemic semantics no other logical constants of the object-language occur than those constants, which stand for the to be determined functions (criteria (c)). From the criteria (a), (b), and (c) the following interpretation rules for a quasi-classical semantics result:

Semantics S0:

$$\text{IR01. } v(\sim\sim G, w) = t \Leftrightarrow v(G, w) = t$$

$$\text{IR02. } v(G \wedge H, w) = t \Leftrightarrow v(G, w) = t \ \& \ v(H, w) = t$$

$$\text{IR03. } v(G \vee H, w) = t \Leftrightarrow v(G, w) = t \ \vee \ v(H, w) = t$$

$$\text{IR04. } v(G \supset H, w) = t \Leftrightarrow v(G, w) = t \Rightarrow v(H, w) = t$$

If we suppose the replacement rules

$$(G \vee H) \Leftrightarrow \sim(\sim G \wedge \sim H)$$

$$(G \wedge H) \Leftrightarrow \sim(\sim G \vee \sim H)$$

$$(G \supset H) \Leftrightarrow (\sim G \vee H),$$

this semantics turns out to be an adequate semantics for the system of tautological entailments. We demonstrate this by comparing S0 with the semantics for tautological entailment given by Levesque. It is easy to demonstrate, that all the principles of S0 are sound principles of Levesque's semantics for tautological entailment. To show the other direction it could

be confusing, that we don't have a value f in S0, but several principles in Levesque's system concerning the value f . However, in Levesque's system holds $v(\sim G, w) = t \Leftrightarrow v(G, w) = f$, which means that the use of the value f is dispensable, it is an unneeded complication. Replacing all expressions of kind " $v(G, w) = f$ " by " $v(\sim G, w) = t$ ", all the principles for tautological entailment formulated by Levesque can be obtained in S0 with the given replacement rules. So, all what we state about the system S0 also concerns the system of Levesque. In the following, the principles formulated in the semantics S0 for tautological entailments are examined under epistemic aspects, where criteria (c) can be violated, while (a) and (b) are fully adopted. For this purpose we formulate general criteria which hold for meta-language implications between valuations in epistemic worlds:

P1. The semantic principles for the relations between valuations in epistemic worlds have to be sound semantic principles of classical logic.

P2. It is assumed that from the fact that a sentence is not contained in an epistemic world it cannot be entailed that another sentence is contained in this world.

P3. The occurrence of a sentence or a set of sentences in an epistemic world does not exclude the occurrence of other sentences in this epistemic world.

P4. From no classically consistent set of premises is entailed that arbitrary sentences are true in an epistemic world.

P5. The appropriate semantic systems for epistemic worlds are transformed into semantic systems adequate for classical logic if (contrary to P2 and P3) the principles (cons) and (comp) are

applied.

The semantic system S0 (and Levesque's system) fulfils besides the condition P1 also the conditions P4 and P5. However P0 does not fulfill the conditions P2 and P3, even though neither (cons) nor (comp) are sound principles in S0. The aim to have semantic systems which fulfill all the conditions P1 through P5 leads to the systems S1 and S2. S1 has the following principles:

$$\text{IR10. } w \in K \Rightarrow (v(G, w)=t \Leftrightarrow \sim v(\sim G, w)=t)$$

$$\text{IR11. } v(\sim\sim G, w)=t \Leftrightarrow v(G, w)=t$$

$$\text{IR12. } v(G \wedge H, w)=t \Leftrightarrow v(G, w)=t \ \& \ v(H, w)=t$$

$$\text{IR13. } v(G, w)=t \ \vee \ v(H, w)=t \Rightarrow v(G \vee H, w)=t$$

$$\text{IR14. } v(G \vee H, w)=t \ \& \ v(\sim G, w)=t \ \& \ \sim v(G, w)=t \Rightarrow v(H, w)=t$$

$$\text{IR15. } v(G \vee G, w)=t \Leftrightarrow v(G, w)=t$$

$$\text{IR16. } v(G \vee H, w)=t \Rightarrow v(H \vee G, w)=t$$

$$\text{IR17. } v(G \supset H, w)=t \Leftrightarrow v(\sim G \vee H, w)=t$$

while in S2 the principles IR13 and IR14 are replaced by

$$\text{IR23. } v(G, w)=t \ \& \ \sim v(\sim G, w)=t \Rightarrow v(G \vee H, w)=t \ \text{and}$$

$$\text{IR24. } v(G \vee H, w)=t \ \& \ v(\sim G, w)=t \Rightarrow v(H, w)=t.$$

Accordingly, we have two epistemic revisions of the semantics for tautological entailments, where the first revision (system S1) revises the principle of splitting a disjunction into a disjunction of its parts and the second revision (system S2) revises the principle of disjunction introduction. Systems S1 and S2 provide a basis for the explication of implicit notions of assent confined by S1 or S2. These confinements of the

implicitness are caused by the adoption of limitations of epistemic resources expressed by P2, P3, and P4.

Processing sentences with negated predicates.

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We present work in progress concerning models of processing sentences with negated predicates, e.g. "This door is not open". We discuss whether there are differences in the processing with respect to the sort of predicate used in the sentence.

While all predicates in NL have *negatives*, thus can be negated ("short" and "not short", "honest" and "not honest"), not for all of them there are *opposites*, that is counterpart predicates expressing contrary properties. For instance "short" is an opposite to "long", "big" is opposite to "small", but properties such as colors ("red") or shapes ("triangle") seem to lack clear, single, opposites. There are many alternative predicates for "red": "blue", "yellow", "green", but there is no clear opposite. We refer to *two-step simulation hypothesis of negation processing* proposed by Kaup et al. (2006), (2008). The hypothesis predicts that negation is integrated into sentence meaning on the later stage of sentence processing, which involves also that a comprehender of the sentence simulates the corresponding actual state of affairs. We suggest that, if the hypothesis is true, in the case of those predicates for which one

can find in the language clear opposites, such a simulation is facilitated via identifying the negative of a given predicate with its opposite. In the case of predicates such as “red”, that lack of a clear opposite should make processing of the negative sentence more effortful, due to the defective character of the representation of “not red”. (It is hard to represent an object as deprived of color and there are many alternative colors that are not red.)

Furthermore, we refer to experimental results that employed functional magnetic imaging and suggest that negation is connected with the reduced access to mental representation of the negated information. (Tettamanti et al., 2008) We propose, as the alternative to the two-step simulation hypothesis, that perhaps no simulation of the so-called actual state of affairs is needed. In that case no difference should be observed in processing of negative sentences with predicates that have or lack clear opposites. We further propose how the predictions concerning predicates with and without opposites could help experimentally support one of the presented alternative models.

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Quoting the Common Ground

Douglas Wulf

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Non-factual interpretations have been intrinsically linked with various constructions in English. One is ‘before’ (Beaver & Condoravdi, 2003), as in ‘John died before he saw his grandchildren’. Despite the affirmative clause ‘he saw his grandchildren’, this can felicitously be stated in a situation where John dies and never sees his grandchildren. Also, we would not say *‘John died before he didn’t see his grandchildren’. It appears that ‘before’ does not solely express temporal sequencing, but also has a modal semantics. An analysis of ‘before’ could thus involve selecting a well-defined set of possible worlds in which John counterfactually sees his grandchildren. Such a modal approach has been tried (e.g., Beaver & Condoravdi, 2003), but has been challenged with counter-evidence (Kaufmann, 2009). However, there is another option besides attributing modality to ‘before’ itself. We make utte-

rances against the context of the common ground of the discourse (Stalnaker, 2002), as it happens to be constituted at the time of utterance. The common ground is often portrayed as a set of propositions, and a proposition can be regarded as a set of possible worlds. The common ground contains, in part, propositions that represent knowledge and beliefs shared among discourse participants, but can also contain propositions representing suppositions that discourse participants temporarily share (Stalnaker, 2002). The common ground changes over time, and one reason for this is that which suppositions are in the common ground changes over time. Suppositions need not be factual and may even be physical or mathematical impossibilities (e.g., ‘Suppose gravity does not exist’; ‘Suppose $3 > 7$ ’). Despite this permissiveness, some suppositions would still be ruled out due to other pragmatic considerations, such as being irrelevant. However, one relevant use of suppositions can be to portray the unknown future. Although discourse participants have no knowledge of the future, they may establish shared suppositions about the future in the common ground. These suppositions are later either realized factually or shown to be counterfactual depending upon how the future unfolds. If John is planning a trip to see his grandchildren, discourse participants may entertain the supposition that John sees his grandchildren in the future. If so, it is then felicitous to make such statements as ‘Before John sees his grandchildren, he will buy them gifts’. Note that this ‘before’-clause is presuppositional (i.e., this sentence presupposes that John sees his grandchildren in the future, which is itself a supposition). If John then dies and never sees his grandchildren as previously supposed, it is infelicitous to

assert factually ‘John saw his grandchildren’. However, as a ‘before’-clause, its appearance can be understood as analogous to indirect quotation. If John says, “A whale is a type of fish,” Mary can indirectly quote John by saying, “John said that a whale was a fish!” Mary’s indirect quotation does not portray John’s exact words, but rather the proposition he expressed. The present tense of John’s statement can be shifted to past tense in Mary’s indirect quotation. Similarly, the past-tense clause ‘John saw his grandchildren’ can be regarded as a tense-shifted variant that indirectly quotes (so to speak) the supposition ‘John sees his grandchildren’, found earlier in the common ground of the discourse. By contrast, we can understand why *‘John died before he visited Saturn’ could be infelicitous. Although John neither saw his grandchildren nor visited Saturn, it was plausibly not a supposition in the earlier common ground that John visits Saturn. Thus, this infelicitous sentence misquotes the common ground and would therefore be disallowed.

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**The Motor Theory of Action Sentence Semantics:
Radial Motion, Illocution, Polarity**

| | |
|--|-------------------------------|
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Understanding action sentences requires understanding two actions at the same time: The speech act that involves describing an action and the described action. We use the case of body movement towards and away from the speaker to investigate the effect of illocution type and polarity on the understanding of these simultaneous actions.

Following Austin (1950) we propose that propositional contents are mentally represented by pairs of representations of a situation token and a situation type: In positive declaratives the token fits the type and in negative declaratives a token that fits the negated type is replaced by one that fits the negating type. The question of truth arises in the form of a match between the represented situation token of the propositional content and another representation of the same situation that comes from a different source. The propositional content of interrogatives differs in that the question of truth does not arise: In positive interrogatives the representation of the token that fits

the type is only a hypothetical one, and in negative interrogatives a token that fits the negated type is only hypothetically replaced by one that fits the negating type. Therefore the question of truth is replaced by the question of a match between the hypothetically represented (or hypothetically replaced) situation token of the propositional content and a definite representation of the same situation, which if it exists provides a positive, else a negative answer. This approach is related to proposals made e.g. by Ginzburg & Sag (2000), Truckenbrodt (2004), Zaefferer (2004) and differs strongly from Hamblin (1958), who models propositions as sets of possible worlds, their negations as complementary (modulo presuppositions) sets of possible worlds, and the content of interrogatives as sets of propositions, which for polar interrogatives are the pair sets of a proposition and its negation.

In order to test our assumptions we joined the family of research programs called *grounded cognition* (Barsalou 2008), *simulation semantics* (Bergen ms) and *embodied leaning* (Glenberg & Kaschak 2002) and adapted the latter's experimental design that demonstrated a kind of motor simulation called action-sentence compatibility effect (ACE) to our purposes. ACE is the influence of the action described in the sentence subjects are processing in the experiment on the motor response they have to perform: If described and performed action are motions with matching directions facilitation is observed (match advantage), whereas mismatching directions lead to inhibition.

We investigated the modulation of the ACE by different sentence moods (declarative and interrogative) and polarities (positive and negative). Participants heard sentences in the four conditions (which were the target of interspersed control questions) and simultaneously responded to visual stimuli by pressing a key either close to or away from them. Our results are compatible with our assumptions and at variance with the Hamblin view: With positive declaratives we found a match advantage, replicating thus the findings by Glenberg, Kaschak and others, whereas in positive interrogatives this effect turned into its opposite, a mismatch advantage, the difference being highly significant. Another highly significant contrast was found between positive and negative interrogatives, pace Hamblin, with the latter patterning like positive declaratives. In addition, the negation of declaratives made the match advantage disappear.

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Some entailments in the context of intensionality

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Entailments (corresponding to presupposition and assertion of factives) to which give rise complex sentences with verbs of propositional attitude are "explained". The notion of the intensionality preserving negation plays an essential role in this proposal.

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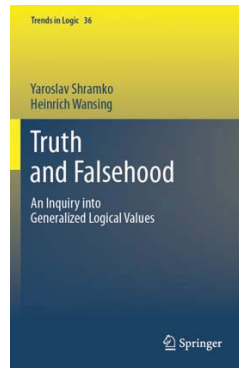
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Knowledge and Representation

Edited by
Albert Newen, Andreas Bartels & Eva-Maria Jung



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Yaroslav Shramko & Heinrich Wansing

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This book is an exceptional contribution to philosophical logic; no one who thinks about truth values should miss it. Taking Truth and Falsehood as objects in Frege's way, the authors serve up a compelling combination of (1) authoritative, encyclopedic, and philosophically sensitive history, (2) a careful and persuasive presentation of their beautiful and super-useful theory of sixteen (not just algebraic but really logical) truth values structured as a trilattice, and (3) a dazzling array of related conceptually motivated formal developments that bring the reader to the forefront of current research.

Prof. Nuel D. Belnap

Truth and Falsehood, two values. What could be simpler? We can all count to 2. Professors Shramko and Wansing in this book build on earlier work of themselves and others (including Nuel Belnap's and my "four valued logic") to show that 2 truth values is barely enough to get started. They consider 4 and especially 16 element truth values, and do not even stop there. Paraphrasing George Gamow, "Two Four Sixteen Infinity." This book is thoughtful and bold, philosophical and mathematical, and very well-written.

Prof. J. Michael Dunn

Could something be both true and false, and neither true nor false? 'That way,' claimed Bob Meyer, 'lies madness'. But if this be madness, yet there is method isn't, as Shramko and Wansing show, unearthing a rich and beautiful family of logical structures.

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Albert Newen is professor of philosophy (Institut für Philosophie II) at the Ruhr-Universität Bochum. **Andreas Bartels** is professor of philosophy at the Universität Bonn. **Eva-Maria Jung** is lecturer in philosophy and executive manager of the center of philosophy at the Universität Münster.

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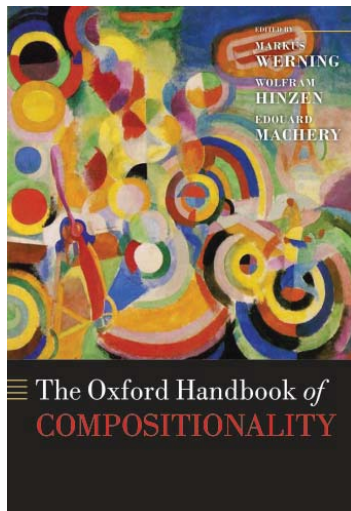
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