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# Seventeenth Amsterdam Colloquium

December 16 – 18, 2009

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## Information, Program and Abstracts

Organizing Committee:

Maria Aloni, Harald Bastiaanse, Tikitū de Jager,  
Peter van Ormondt and Katrin Schulz

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ILLC/Department of Philosophy  
University of Amsterdam

## The Seventeenth Amsterdam Colloquium

The 2009 edition of the Amsterdam Colloquium is the seventeenth in a series which started in 1976. Originally an initiative of the Department of Philosophy, the colloquium is now organized by the Institute for Logic, Language and Computation (ILLC). This booklet provides information about the Colloquium, locations, program, and short summaries of the presentations.

### Program

At the Colloquium five plenary lectures are given by the invited speakers:

- Petra Hendriks (Rijksuniversiteit Groningen)
- Gerhard Jäger (Universität Tübingen)
- Maribel Romero (Universität Konstanz)
- Roger Schwarzschild (Rutgers University)
- Zoltán Szabó (Yale University)

The 2009 Beth/Vienna Circle Lecture is presented by:

- Peter Hagoort (Radbout Universiteit, Nijmegen)

on Thursday evening in the Euclides building.

The Colloquium also hosts three thematic workshops:

#### Workshop on Implicature and Grammar

- Invited Speaker: Chris Potts (Stanford University)
- Organizers: Maria Aloni and Katrin Schulz
- Programme Committee: Katrin Schulz (chair), Reinhard Blutner, Angelika Port, Chris Potts and Henk Zeevat

#### Workshop on Natural Logic

- Invited Speaker: Larry Moss (Indiana University)
- Organizer: Jan van Eijck

#### Workshop on Vagueness

- Invited Speaker: Fred Landman (Tel Aviv University)
- Organizers: Robert van Rooij and Frank Veltman

Abstracts submitted for the general program have been selected by a program committee consisting of internal members: Johan van Benthem, Robert van Rooij, and Frank Veltman (chair) and external members: the invited speakers, Reinhard Muskens (Tilburg University), Henriëtte de Swart (OTS, Utrecht University) and Ede Zimmermann (Johann Wolfgang Goethe Universität Frankfurt). We thank the members of the program committees for the very substantial work they did.

### Venue

The Colloquium takes place in the EUCLIDES-building of the Faculty of Science of the University of Amsterdam: Plantage Muidersgracht 24, 1018 TV, Amsterdam. In view of traffic jams, parking problems and parking police, we strongly advice

not to get there by car. The easiest way to reach the conference site is by means of public transport, bicycle, or ‘shanks’ mare’ (walking).

To reach the EUCLIDES building by public transport proceed as follows. Take tramline 9 (coming from the Central Station) or line 14 and get off at stop ‘Plantage Badlaan’ (you can ask the driver to announce that stop). Next turn right and walk through the ‘Plantage Lepellaan’ (100 meters). The white building at the end of the street is the EUCLIDES building.

Coming from the city center, you can also take tramline 10, and get off at stop Alexanderplein (near the Muiderpoort). Turn left (over the water), and then the first street left is the Plantage Muidergracht. EUCLIDES is the third building on your left.

### **Social Program**

On Wednesday, December 16, from 19:00 to 20:00 there will be a **welcome reception** in Café Kapitein Zeppos (see map) sponsored by the city of Amsterdam.

On Friday, December 18, there will be a one hour **boat trip** departing from the conference venue after the last plenary lecture.

### **Registration and Information**

All participants are requested to register on Wednesday morning at the registration desk in room P015B. In order to speed up processing, those who have registered beforehand on the website will be handled first.

During breaks in the academic program, an AC information desk will be open in room P015B.

### **Coffee, Lunches and Dinner**

Coffee and tea are served freely at the EUCLIDES building and lunches are provided in the nearby student’s restaurant ‘Agora’ (see map). Lunch tickets are included in the conference package. Restaurants are widely available around the conference venue and in the city center; they are too many to be listed here.

### **Acknowledgments**

For the organization of the Seventeenth Amsterdam Colloquium financial support is received from:

- the Royal Dutch Academy of Sciences (KNAW)
- the Institute for Logic, Language and Computation (ILLC)
- the NWO-funded project ‘Indefinites and Beyond: Evolutionary pragmatics and typological semantics’ (coordinator: Maria Aloni)
- the NWO-funded project ‘Vagueness – and how to be precise enough’ (coordinators: Robert van Rooij and Frank Veltman)
- the Municipality of Amsterdam

which are gratefully acknowledged. We would also like to thank Paul Dekker (external adviser), Angelika Port, Floris Roelofsen, Margaux Smets, Joel Uckelman (for helpful advice on the pre-proceedings) and Lucian Zagan.

### **Internet information**

There will be a free wireless network called **congres** with wep-key (password) **acce552a18**. If you have trouble accessing the wireless network please ask for our manual at the information desk (P015B).

9.00 – 9.50	Registration & coffee (room P0.15B)	
9.50 – 10.00	Opening by Paul Dekker and Martin Stokhof (room 2.27)	
	<i>Chair: Martin Stokhof (room 2.27)</i>	
10.00 – 11.00	<i>Zoltán Szabó</i> Specific, Yet Opaque	
<i>break</i>		
	<i>Chair: Gerhard Jäger (room 0.16)</i>	<i>Chair: Henk Zeevat (room 0.19)</i>
	<i>Michael Franke</i>	<i>Torgim Solstad</i>
11.15 – 11.45	Free Choice from Iterated Best Responses	Some new observations on ‘because (of)’
	<i>Jacques Jayez</i>	<i>Daniel Altshuler</i>
11.45 – 12.15	QUD and contrast for presuppositions and implicatures	Meaning of ‘now’ and other temporal location adverbs
<i>lunch</i>		
	<i>Chair: Katrin Schulz (room 2.27)</i>	
	<i>Chris Potts</i>	
13.45 – 14.45	Affective demonstratives and the division of pragmatic labor	
<i>break</i>		
	<b>Workshop: Implicature and Grammar</b>	
	<i>Chair: Katrin Schulz (room 0.16)</i>	<i>Chair: Henriëtte de Swart (room 0.19)</i>
	<i>Benjamin Spector &amp; Emmanuel Chemla</i>	<i>Walter Pedersen</i>
15.00 – 15.30	Experimental evidence for embedded scalar implicatures	Degree achievement predicates and <i>again</i> -ambiguities
	<i>Sophie Repp &amp; Andreas Haida</i>	<i>Lucas Champollion</i>
15.30 – 16.00	Local and global implicatures in <i>wh</i> -question disjunctions	Cumulative readings of <i>every</i> do not provide evidence for events and thematic roles
<i>break</i>		
	<i>Philippe Schlenker</i>	<i>Lucia M. Tovená</i>
16.15 – 16.45	Supplements within a Unidimensional Semantics	Pluractionality and the unity of the event
	<i>Henk Zeevat, Jeroen Groenendijk &amp; Chris Potts</i>	<i>K. Ferret &amp; E. Soare &amp; F. Villoing</i>
16.45 – 17.15	Commentary on the presented papers	Affixal rivalry between French <i>-age</i> and <i>-ée</i> : the role of grammatical aspect in nominalizations
<i>break</i>		
	<i>Chair: Paul Dekker (room 2.27)</i>	
	<i>Petra Hendriks</i>	
17.30 – 18.30	Empirical evidence for embodied semantics	
19.00 – 20.00	Welcome Reception at Kapitein Zeppos	

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 Chair: Jan van Eijck (room 2.27)

9.00 – 10.00

Larry Moss

Natural Logic and Semantics

break

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Workshop: Natural Logic

Chair: Roger Schwarzschild (room 0.16)

Chair: Jan van Eijck (room 0.19)

10.15 – 10.45

 Susan Rothstein  
 The Semantics of Count Nouns

 Robert van Rooij  
 Propositional logic as an extension of  
 syllogistic reasoning

10.45 – 11.15

 Adrian Brasoveanu  
 Modified Numerals as  
 Post-suppositions

 Crit Cremers  
 (From Dutch to Flat Logical Form)  
 and back

break

11.30 – 12.00

 Jakub Dotlacil  
 Beyond elementary reciprocal  
 sentences

 Reinhard Muskens  
 A Tableau System for Natural Logic

12.00 – 12.30

 J. Szymanik & M. Zajenkowski  
 Working Memory in Quantifier  
 Verification

 Nate Charlow  
 Restricting and Embedding  
 Imperatives

lunch

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 Chair: Robert van Rooij (room 2.27)

13.45 – 14.45

 Fred Landman  
 An almost (but not quite) naïve theory of comparatives

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Workshop: Vagueness

Chair: Robert van Rooij (room 0.16)

Chair: Ede Zimmermann (room 0.19)

15.00 – 15.30

 Galit W. Sassoon  
 Restricted quantification over tastes

 Magdalena Schwager  
 Modality and speech acts: troubled  
 by German 'ruhig'

15.30 – 16.00

 Joseph Frazee & David Beaver  
 Vagueness is Rational Under  
 Uncertainty

 Hedde Zeijlstra & Sabine Iatridou  
 On the scopal interaction of negation  
 and deontic modals

break

16.15 – 16.45

 Kees van Deemter  
 Vagueness Facilitates Search

 Rick Nouwen  
 Two puzzles about requirements

16.45 – 17.15

 Tim Fernando  
 Temporal propositions as vague  
 predicates

 Paul Dekker  
 There is Something about *Might*

20.00 – 21.00

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 Beth/Vienna Circle Lecture (room 2.27)

Peter Hagoort

The neurobiology of language: beyond the sentence given

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 Chair: Robert van Rooij (room 2.27)

9.00 – 10.00

Gerhard Jäger

Natural color categories are convex sets

break

Chair: Fred Landman (room 0.16)

Chair: Paul Dekker (room 0.19)

10.15 – 10.45

Jessica Rett

Equatives, measure phrases and NPIs

Gianluca Giorgolo

A formal semantics for iconic spatial gestures

Bernhard Schwarz

10.45 – 11.15

German *noch so*: Scalar Degree Operator and Negative Polarity Item

Philippe Schlenker

Donkey Anaphora in French Sign Language

break

11.30 – 12.00

Jenny Doetjes  
Incommensurability

Mingya Liu

Adverbs of Comment and Disagreement

12.00 – 12.30

Stephanie Solt  
*Much Support and More*Bart Geurts  
Co-optation

lunch

Chair: Jeroen Groenendijk (room 2.27)

13.45 – 14.45

Maribel Romero

Pluralities in Concealed Questions, Interrogative Clauses and Individuals

break

Chair: Frank Veltman (room 0.16)

Chair: Jeroen Groenendijk (room 0.19)

15.00 – 15.30

Dag Westerståhl & Denis Bonnay  
Logical consequence inside out

Ivano Ciardelli

A first-order inquisitive semantics

15.30 – 16.00

Regine Eckardt  
Easy Linking LogicFloris Roelofsen & Sam van Gool  
Disjunctive questions, Intonation, and Attention

break

Workshop: Natural Logic

16.15 – 16.45

Camilo Thorne & Diego Calvanese  
Data Complexity of Syllogistic Fragments of EnglishArndt Riester & Hans Kamp  
Squiggly Issues: Alternatives Sets, Complex DPs and Intensionality

break

Chair: Frank Veltman (room 2.27)

17.00 – 18.00

Roger Schwarzschild

Event semantical analysis of “inherently plural noun”

19.00 – 20.00

Boat trip

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# Abstracts

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## Invited Speakers

### **Empirical evidence for embodied semantics**

*Petra Hendriks*

In this talk I will address the question whether and under which conditions hearers take into account the perspective of the speaker, and vice versa. Distinguishing between speaker meaning and hearer meaning, empirical evidence from computational modeling, psycholinguistic experimentation and corpus research is presented which suggests that literal sentence meanings result from the hearers failure to calculate the speaker meaning. Similarly, non-recoverable forms may result from the speakers failure to calculate the hearer meaning.

### **Natural color categories are convex sets**

*Gerhard Jäger*

The talk presents a statistical evaluation of the typological data about color naming systems across the languages of the world that have been obtained by the World Color Survey. In a first step, I discuss a principal component analysis of the categorization data that leads to a small set of easily interpretable features dominant in color categorization. These features are used for a dimensionality reduction of the categorization data. Using the thus preprocessed categorization data, I proceed to show that available typological data support the hypothesis by Peter Gärdenfors that the extension of color category are convex sets in the CIELab space in all languages of the world.

### **Pluralities in Concealed Questions, Interrogative Clauses and Individuals**

*Maribel Romero*

Concealed questions NPs like the underlined NP in ‘John knows / guessed the capital of Italy’ have been analysed as contributing their intension –an individual concept– to the semantic computation (Heim 1979, Romero 2005, Aloni 2008). However, problems arise with concealed questions with quantifiers, which has lead researchers to deviate from the individual concept approach. This paper proposes a solution to the problem within the individual concept line. The key idea is that, in the same way that adverbials like *to some extent* and *for the most part* quantify over subquestions of an embedded question (Beck and Sharvit 2002), *some* and *most* can quantify over sub-individual concepts of a concealed question. Furthermore, it will be shown that certain constraints on determiner and adverbial quantification over concealed questions are parallel to those over (plain) plural individuals.

## **Event semantical analysis of “inherently plural noun”**

*Roger Schwarzschild*

There are predicates that I call “stubbornly distributive” based on what happens when they are combined with plural count noun phrases. I will use these stubbornly distributive predicates to identify and analyze “multi-participant nouns”. Multi-participant nouns form a subset of mass nouns. Traffic and rubble are multi-participant nouns but furniture and luggage turn out not to be. Importantly, ‘typical’ mass nouns like water pattern as multi-participant nouns. Their analysis in this context will be an occasion to take a fresh look at the semantics of the count/mass distinction.

## **Specific, Yet Opaque**

*Zoltán Szabó*

In her dissertation, Janet Fodor has argued that the quantificational force and the intensional status of certain quantifier phrases can be evaluated independently. The proposal was only halfway accepted: the existence of non-specific transparent readings is well-established today, but specific opaque readings are deemed illusory. I argue that they are real and outline a semantic framework that can generate them. The idea is to permit two types of quantifier raising: one that carries the restrictor of the determiner along and another that does not. When the second is applied, the restrictor can be stranded within the scope of an intensional operator as the quantificational determiner itself takes wider scope.

## **Beth/Vienna Circle Lecture**

### **The neurobiology of language: beyond the sentence given**

*Peter Hoogart*

A series of results from event-related brain potential recordings and fMRI research will be presented, suggesting that language processing does not obey strict compositionality, and, moreover immediately recruits extralinguistic information. It will also be shown that pragmatic inferences require contributions from TOM networks. This implies that an embodied account of semantics fails (under the somewhat strange assumption that the brain is not part of the body). I will put forward an embained perspective on language processing.

## **Workshop on Implicature and Grammar**

### **Affective demonstratives and the division of pragmatic labor**

*Chris Potts (invited speaker)*

Using large-scale corpus evidence, we begin to make a case for the idea that affective uses of demonstratives are a robust, cross-linguistically stable phenomenon.

We also address the question of where affective readings come from, arguing that they trace to Horn’s division of pragmatic labor: the morphosyntactically complex, relatively infrequent (marked) demonstratives associate with the emotionally deictic (marked) messages. In English, we argue that the definite article plays the unmarked role for form and meaning, and the Japanese data support nuanced oppositions within the demonstrative system.

### **Experimental evidence for embedded scalar implicatures**

*Emmanuel Chemla & Benjamin Spector*

Geurts and Pouscoulous (2009) provide experimental evidence which they interpret as showing that a sentence such as ‘Every student solved some of the problems’ cannot be interpreted as ‘Every student solved some but not all of the problems’ (let us call this putative reading the ‘strong reading’). On this basis, G&P argue against so-called ‘localist’ theories of scalar implicatures (SIs for short), according to which SIs can be computed in embedded positions. We will argue that G&P’s data do not warrant such a conclusion, by showing that the strong reading can in fact be detected by experimental means once certain limitations of their methodology are overcome. However, this finding is not sufficient to vindicate localist theories, because the ‘strong reading’ is predicted to be possible not only by localist theories, but also by most current formalized theories of Gricean reasoning (‘globalist’ theories, cf. Spector 2003 van Rooij & Schulz 2004). We will thus also investigate a case where localist theories and globalist theories are bound to make opposite predictions.

### **Local and global implicatures in *wh*-question disjunctions**

*Andreas Haida & Sophie Repp*

It has been observed (Szabolcsi 1997, Krifka 2001) that *wh*-questions cannot be joined disjunctively. According to Krifka (2001), they are deviant for pragmatic reasons: disjunction is not part of speech-act logic. Question disjunctions have also been argued to be semantically deviant. According to Groenendijk & Stokhof (1984), a question defines a partition of the logical space, and the union of two partitions (= the disjunction of two questions) is not again a partition because of overlapping cells in the resulting division. In this talk we argue that *wh*-question disjunctions do denote proper semantic questions but are pragmatically deviant outside specific contexts, which we identify as contexts that license polarity-sensitive items (PSIs). In these contexts the pragmatic inadequacy disappears due to a pragmatically induced recalibration of the implicature triggered by ‘or’ (as argued in Chierchia 2006): depending on certain pragmatic factors, implicatures can be computed locally or globally. Our proposal has far-reaching consequences for the analysis of the interplay of syntax and semantics/pragmatics in the licensing of PSIs.

## **Supplements within a Unidimensional Semantics**

*Philippe Schlenker*

Potts claims that Grice’s ‘conventional implicatures’ offer a powerful argument in favor of a multidimensional semantics, one in which certain expressions fail to interact scopally with various operators because their meaning is located in a separate dimension. Potts discusses in detail two classes of phenomena: ‘expressives’ and ‘supplements’, especially Non-Restrictive Relative Clauses (= NRRs). But the former have been re-analyzed in presuppositional terms by several researchers. Thus supplements arguably remain the best argument in favor of a separate dimension for conventional implicatures. Based on new evidence from French, we claim that (1) NRRs can be syntactically attached with matrix scope, despite their apparent presence in embedded positions; (2) NRRs can in some cases be syntactically attached within the scope of other operators, in which case they semantically interact with them; (3) NRRs are semantically conjoined with the rest of the sentence, but (4) they are subject to a pragmatic rule that requires that their content be relatively easy to accommodate hence some non-trivial projection facts when NRRs do not have matrix scope. (1), which is in full agreement with the ‘high attachment’ analysis of NRRs, shows that Potts’s semantic machinery is redundant: its effects follow from more conservative semantic assumptions once an adequate syntax is postulated. (2), which disagrees with most accounts of NRRs, shows that Potts’s machinery makes incorrect predictions when NRRs have a non-matrix attachment. (4) explains why NRRs sometimes display a projection behavior similar to presuppositions.

## **Workshop on Natural Logic**

### **Natural Logic and Semantics**

*Larry Moss (invited speaker)*

Two of the central motivations for logic and (model-theoretic) semantics overlap in the sense that both subjects are concerned with representing features of natural language meaning and inference. At the same time, the two subjects have other motivations and so are largely separate enterprises. This talk returns to the topic of language and logic. One leading idea is that the target logics for translations should have a decidable validity problem, ruling out full first-order logic. This is closely related to the project of reasoning with sentences close to their surface form. I also will present a fairly result based on comparative adjectives that suggests that in addition to ‘meaning postulates’ in semantics, we will also need to posit ‘proof principles’.

## **(From Dutch to Flat Logical Form) and Back**

*Crit Cremers*

The paper describes the semantic, logical and computational properties of an implemented natural language generator. It introduces a derived logical form that suits both parsing and generation. This logical form is basically a conjunction of small clauses, allowing for easy inference. The system as a whole may serve as a natural logic, accounting for the discrepancies between lexical-syntactic structure and propositional content.

## **A Tableau System for Natural Logic**

*Reinhard Muskens*

We develop a tableau system for natural language based on what we call Lambda Logical Forms, certain terms of the typed lambda calculus that are very close to linguistic representations, in particular to the Logical Forms of generative syntax. The tableau system can be thought of as representing the systematic search for verifying situations that Johnson-Laird and others deem crucial for natural reasoning and its rules are closely connected to properties of operators that have cropped up in the literature on natural language semantics. Implementation of the system was not tried but should be easy.

## **Data Complexity of Syllogistic Fragments of English**

*Camilo Thorne & Diego Calvanese*

We study the data complexity of (i) knowledge base satisfiability and (ii) question answering w.r.t. several (declarative and interrogative) fragments of English, viz., tree-shaped questions and syllogistic fragments of English. The data complexity is the computational complexity of decision problems (i) and (ii) when we consider ground facts as their only input, which is an important computational property in several practical scenarios (databases, ontology-based data access systems, etc.). We show that data complexity is tractable whenever relatives, transitive verbs and negation do not occur simultaneously in the fragments (pairwise combinations) and intractable when they do. If, in addition, we consider anaphora, then problems (i) and (ii) become undecidable.

## **Propositional logic as an extension of syllogistic reasoning**

*Robert van Rooij*

In this paper it is shown how syllogistic reasoning can be extended to account for propositional logic. In addition, an intensional semantics is (will be) provided.

## Workshop on Vagueness

### **An almost (but not quite) naïve theory of comparatives**

*Fred Landman (invited speaker)*

In this talk I will discuss the semantics of DP comparatives (as in a) and CP comparatives (as in b):

- a. John is taller than [<sub>DP</sub> Mary ]
- b. John is taller than [<sub>CP</sub> Mary is – ]

I will propose a framework which combines a ‘naïve’ ontology of degrees with a not so naïve semantics for DP comparatives and discuss the proper way of extending this to CP comparatives. I will discuss the following issues:

- Unpacking package-deals for degree ontology like vagueness/interval semantics, numerical degrees/tongue-in-cheek degrees, etc.
- The semantic differences between DP comparatives and CP comparatives (following Hoeksema against the tradition, including von Stechow, ...)
- The Proper Treatment of Quantification in Ordinary Comparatives (following Schwarzschild and Wilkinson against the tradition, including Hoeksema, von Stechow, Kennedy, Heim, ...)
- Downward entailing nounphrases in CP comparatives (following Hoeksema, Rullmann, von Stechow against Schwarzschild and Wilkinson)
- Polarity items in comparatives

### **Temporal propositions as vague predicates**

*Tim Fernando*

The present work explores the view that temporal propositions are vague predicates, with borderline cases which are problematic due to insensitivity to small changes (i.e. tolerance). To sidestep the Sorites paradox, we draw on Gaifman 2002 for a notion of time that “corresponds to actual usage” of vague predicates, coupled with a context-dependent model of time sketched in Landman 1991. Limitations in refining temporal contexts are symptomatic of higher-order vagueness, and point towards multiple granularities that need not converge to a single dense linear order.

### **Vagueness is Rational Under Uncertainty**

*Joseph Frazee & David Beaver*

We define probabilistic vagueness and present a strategic model of rational communication as exchange in an information channel. Using information theoretic results, we show that gradable adjectives with concrete measures are probabilistically vague. If communication is transmission in a noisy channel, then, for a fixed channel capacity, the optimal communication strategy trades on error and precision. The model can be seen as an adaption of Williamson’s (1992) model of vagueness, which avoids fuzzy boundary conditions by using epistemic uncertainty. By modeling vagueness as probabilistic vagueness, Williamson’s main

results follow without stipulation, and can be expressed as the statistical tendencies of precise measures.

### **Restricted quantification over tastes**

*Galit W. Sassoon*

One can deny an utterance like the cake is tasty without challenging the speakers opinion. Lasersohn (2005) analyses such faultless disagreements by relativizing semantic interpretation to a judge. This paper argues that the facts follow assuming that: (i) E.g., the cake is tasty is true in a context *c* iff it is true in the set of completions consistent with *c*, wherein tasty denotes contextually possible taste measures; (ii) Phrases like ‘to Dan’ restrict the set of completions to those with taste measures consistent with Dans taste, and (iii) Speakers accommodate or reject implicit restrictions of this sort. Thus, relativity doesnt enter the semantics, except through independently-motivated, pragmatic mechanisms.

### **Vagueness Facilitates Search**

*Kees van Deemter*

We address a question posed by B.Lipman, namely: Why is language vague? A novel answer to this question is proposed, which complements other answers suggested in the literature. Our answer centers around the claim that vagueness can facilitate search, particularly in quasi-continuous domains.

## **General Program**

### **Meaning of ‘now’ and other temporal location adverbs**

*Daniel Altshuler*

Kamp & Reyle (1993) proposed that *now* refers to a topical event i.e. the speech event if the tense is present or a previously mentioned discourse event if the tense is past. To explain *now*’s reluctance to co-occur with eventive VPs, K&R posit three past tenses, one of which is required only in the presence of *now*. I propose that the restrictions on *now* arise from the interaction of temporal location constraints imposed by VP with those imposed by *now*. The proposed analysis treats *now* on par with other location adverbs and accounts for its behavior without “postulating apparently spurious ambiguities” (K&R 1993: 599).

### **Logical consequence inside out**

*Denis Bonnay & Dag Westerståhl*

We study relationships between sets of logical constants and consequence relations. According to the Bolzano-Tarski definition, a consequence relation is determined when a particular set of symbols has been selected as constants, not to be reinterpreted when testing for truth preservation. In this perspective, constants

come first, and consequence is defined. We propose to add the reverse perspective: given a primitive consequence relation, which symbols should be regarded as constants? Here we develop the intuition that a symbol is a constant if replacing it would destroy the validity of some inference. Technically, we then have natural mappings from sets of constants (ordered by inclusion) to consequence relations (also ordered by inclusion), as well as natural mappings in the other direction, and we show that under suitable conditions, these constitute Galois connections, and, under further restrictions, even isomorphisms. Thus, our reverse perspective proves to be a natural ‘inverse’ to the usual one. The results contribute to the abstract study of consequence relations, as well as to the notorious issue of what makes a symbol ‘logical’.

### **Modified Numerals as Post-suppositions**

*Adrian Brasoveanu*

The goal of this paper is to provide a compositional account of cumulative readings with non-increasing modified numerals (aka van Benthem’s puzzle) – e.g., *Exactly three boys saw exactly five movies* – in terms of cardinality post-suppositions. We discuss only *exactly n* modified numerals, but the account generalizes to other non-increasing numerals (e.g., *at most n*). The reading of this sentence that we want to capture is the cumulative one, namely: consider the maximal number of boys that saw a movie and the maximal number of movies seen by a boy; there are three such boys and five such movies.

The main proposal is that modified numerals make two kinds of contributions to the meaning of sentences like (1). Their asserted / at-issue contribution is a maximization operator that introduces the maximal set of entities that satisfies their restrictor and nuclear scope. The second contribution is a post-supposition, i.e., a cardinality constraint (e.g., exactly three) that needs to be satisfied relative to the *context that results after* the at-issue meaning is evaluated. For our current purposes, contexts are sets of variable assignments relative to which quantificational expressions are interpreted – and which are updated as a result of the interpretation of such expressions. That is, we work with a simplified version of Dynamic Plural Logic (DPIL, van den Berg 1996). The fact that the cardinality constraints are post-suppositional also enables us to account for the fact that scalar implicatures are not normally associated with modified numerals, as opposed to unmodified numerals.

### **Cumulative readings of *every* do not provide evidence for events and thematic roles**

*Lucas Champollion*

This work refutes an argument by Schein (1993) and Kratzer (2000, ms. “The Event Argument”) in support of the existence of events and thematic roles in the logical representation. According to their claim, cumulative readings involving



the QNP “every N” can be adequately represented only in a framework in which at least the external argument is severed from the verb. The claim is based on the tacit assumption that “every N” is best represented as a generalized quantifier,  $\forall x.N(x) \rightarrow P(x)$ . But an alternative proposal for the semantics of “every N”, which separates exhaustivity from distributivity, has been advanced on independent grounds (Szabolcsi 1997, Beghelli 1997, Matthewson 2001). It allows the representation of cumulative readings, both with and without explicit use of event variables and thematic relations. Therefore, Schein and Kratzer’s data do not conclusively show that events and thematic roles are necessary ingredients of the logical form of natural language sentences.

### **Restricting and Embedding Imperatives**

*Nate Charlow*

We use imperatives to refute a naive analysis of update potentials (force-operators attaching to sentences), arguing for a dynamic analysis of imperative force as restrictable, directed, and embeddable. Specifically, we propose a dynamic, non-modal analysis of conditional imperatives (CIs, e.g., if you’re cold, shut the door), as a counterpoint to static, modal analyses (e.g., Schwager 2006). We retain Kratzer’s (1981) analysis of conditional antecedents as restrictors of some operator (with Schwager), but avoid typing it as a generalized quantifier over worlds (against her), instead as a dynamic force operator (cf. Portner 2004, 2008; Potts 2003). Arguments for a restrictor treatment (but against a quantificational treatment) are mustered, and we propose a novel analysis of update on CIs. Finally, we argue that imperative force is embeddable under an operation much like dynamic conjunction.

### **A first-order inquisitive semantics**

*Ivano Ciardelli*

So far, inquisitive semantics has only been studied for propositional languages. Much more pregnant for the linguistic applications is to develop the same ideas in a first-order context. This is a problematic task, since the infinitary character of first-order logic does not allow for a straightforward extension of the propositional implementation, and for this reason it has until now remained undone.

In this paper we show that the propositional semantics can be refined in such a way that it admits a natural generalization to the predicate case. We describe the features of the resulting system, showing that it gives a satisfactory treatment of issues and information, modelling phenomena such as who questions and inquisitive use of indefinites in the desired way.

### **There is Something about *Might***

*Paul Dekker*

In this paper we present an interpretation of *Might*  $\phi$ , which does not induce a consistency test on a common ground, as in Veltman 1996, but which tests

whether  $\phi$  is supported by some update of the common ground, as in Veltman 1984. The information space relative to which such claims are evaluated are taken to consist in the possible developments of a discourse in action. It is shown that this notion of *Might* not only behaves better logically and pragmatically speaking, but that it also allows for non-trivial attitude reports and questions about epistemic possibilities. Furthermore, these epistemic modal statements can be taken to guide or focus the inquisitive actions of the discourse participants.

### **Incommensurability**

*Jenny Doetjes*

This paper discusses subcomparatives with incommensurable adjectives (e.g. beautiful and intelligent), which have received very little attention in the literature. Moreover, only few examples are discussed. This is surprising, as the topic is of great importance for the current discussion with respect to the choice between a vague predicate analysis and degree-based approaches to gradability. This paper studies the properties of comparisons involving incommensurable adjectives on the basis of a new collection of (mostly attested) data. A confrontation of the data with both degree-based and non degree-based theories offers evidence for the latter, and more in particular for a more constrained version of Kleins (1980, 1982) analysis as presented in Doetjes, Constantinescu & Součková (to appear).

### **Beyond elementary reciprocal sentences**

*Jakub Dotlacil*

Most analyses of reciprocity studied elementary reciprocal sentences of type DP-V-each other. I focus on less studied cases, where (i) an extra DP is present in a reciprocal sentence or (ii) the verb is a collective predicate. The data from this domain suggest that contrary to standard accounts reciprocals do not distribute over the clausal relation (and neither does the antecedent of the reciprocal distribute over the entire clause). I develop a novel analysis of reciprocals using Landman's insight that there is another type of distributivity in which an argument distributes only over specific thematic roles. I show that when we modify his account we correctly deal with (i) and (ii).

### **Easy Linking Logic**

*Regine Eckardt*

In the paper, I will propose a version of type logic with lambda abstraction that is specifically designed to serve as a syntax-semantics interface. The resulting formalism is conservative in that its denotations of words and phrases closely resemble semantics in classical type logic. All quantifiers and modifiers can access "their" argument in situ. Verbs denote relations between entities (hence avoid relations between quantifiers, Montague 1973). Verbs can have an event argument,

which can likewise accessed at all points until quantified. The resulting syntax-semantics interface does not require syntactic movement and is hence compatible with syntactic frameworks that do not assume movement. Finally, it can be proved that ELL terms offer a perspicuous notation for for the linking structures that were proposed by Beaver + Condoravdi (AC, 2007).

### **Affixal rivalry between French *-age* and *-ée*: the role of grammatical aspect in nominalizations**

*Karen Ferret, Elena Soare & Florence Villoing*

In this presentation we will study deverbals in *-age* and *-ée* in French built on the same verbal base, a case of nominalization rivalry ignored in the literature. Looking only at event nominals (in a corpus of pairs built on 29 verbal bases, which we selected from the TLFi dictionary and completed with web occurrences), we will provide an account for the existence of such pairs in the language. The following questions immediately arise in front of such cases:

- Is there any linguistic reason for the existence of these pairs?
- Do these nominalizations have a distinctive contribution?

Looking at the interplay between event structure, Aktionsart and grammatical aspect, we will try to sketch an answer to these general questions, by proposing that the nominalizations at study differ in contributing specific grammatical aspect values.

### **Free Choice from Iterated Best Responses**

*Michael Franke*

Iterated Best Response (IBR) models of reasoning in games are alternative, epistemic approaches to game theoretic solution concepts that have a substantial empirical back-up and enjoy recent popularity in behavioral game theory. This talk applies a version of IBR reasoning to a linguistic concern, arguing that ‘free choice disjunctions’, as well as ‘simplifications of disjunctive antecedents’ can be explained rather straightforwardly in these step-by-step reasoning models: early steps of iteration establish exhaustive readings of alternatives, later steps of iteration can then use these exhaustive readings in pretty much standard scalar reasoning. Thus conceived, the present IBR approach explains —indeed rationalizes— Kratzer and Shimoyama’s (2002) ‘anti-exhaustivity principle’ without appeal to pragmatic operators in the syntax (contra Chierchia, Fox and associates).

### **Co-optation**

*Bart Geurts*

In order to explain so-called “framing effects” in psychology I propose a pragmatic principle, Co-optation, which connects scales in such a way that the contradiction between “It’s good that this ground beef is 75% lean” and “It’s good that this ground beef is 25% fat” is accounted for.

## **A formal semantics for iconic spatial gestures**

*Gianluca Giorgolo*

We present a formal semantics for iconic spatial gestures. The proposed semantics defines the criteria for determining the semantic “well-formedness” of an iconic gesture. We first show how a classical montagovian approach can be enriched to uniformly calculate the meaning of verbal language and gestures. We then show how the notion of iconicity can be made precise using notions from spatial logics. The semantics has been used to analyse examples from an annotated corpus of iconic gestures and it is now used in the development of a prototype conversational agent capable of generating sentence accompanied by appropriate gestures.

## **On the scopal interaction of negation and deontic modals**

*Sabine Iatridou & Hedde Zeijlstra*

In English deontic *must*, *ought* and *should* scope over negation. On the other hand, *have to*, *need to*, *may* and *can* scope under negation. In addition *need* (without *to*) is a Negative Polarity Item. Since NPIs surface in the domain of deontic modality, we also expect there to be Positive Polarity Items (PPIs) as any domain that has one of these classes also exhibits the other class. In this paper we argue that it is the presence or absence and the kind of polarity status that captures all scopal properties of deontic modals, not only in English but also in Dutch and German, in accordance with the independently motivated assumption that modals, also in English, are interpreted in their VP base-position. *Must*, being a PPI, then outscopes negation, whereas *need* always scopes under negation. ‘Neutral’ modals, such as *can* or *have to*, take scope from their base-position, which entails that they always scope under negative markers and negative subjects, but that they can scope both under and above negative objects, a prediction that is borne out.

## **QUD and contrast for presuppositions and implicatures**

*Jacques Jayez*

It has been recently argued by (Roberts et al. 2009) that presuppositions, conventional implicatures and (at least) some conversational implicatures share the property of conveying non-at-issue content. Whereas at-issue content is interpreted as addressing the Question Under Discussion (QUD), that is, the current discourse issue, this is not the case for non-at-issue-content. This difference accounts for linking restrictions noted in the literature at various points, for instance the fact that it is notoriously difficult to link to a presupposition. I show that the QUD hypothesis is massively supported by experimental behavioural data. However, some contrastive structures seem to cast doubt on the hypothesis. Borrowing Umbach’s (2005) analysis for these structures, I propose that they induce a special attachment configuration which is perfectly compatible with the QUD hypothesis.

## **Adverbs of Comment and Disagreement**

*Mingya Liu*

Adverbs of Comment (AOCs) such as *sadly* raise a question of subjective meaning, much like epistemic modality, predicates of personal taste, namely, to whom the speaker attributes the emotion/evaluation when she uses an AOC e.g. ‘Sadly, Peter married Sue’. I propose that there is a syntactically silent but semantically obligatory argument called JUDGE in the Lasersohnian sense, as this argument can be made linguistically explicit, e.g. ‘Sadly for Kate, Peter married Sue’. In other words, a sentence with an AOC but with no overt argument of JUDGE is propositionally incomplete and thus semantically ambiguous. In this case, the hearer can express her disagreement by e.g. ‘Ok, but this is not sad’, which however involves either the hearer’s mis- or incomprehension of the intended judge by the speaker and her adoption of a different judge or her real disagreement on the same proposition with the intended judge correctly resolved.

## **Two puzzles about requirements**

*Rick Nouwen*

Modal verbs/auxiliaries like *need to*, *have to*, *require*, etc. are normally considered to be universal quantifiers over possible worlds. In this paper, I argue that this is untenable for cases in which these expressions are used for goal-oriented modality. In particular, I argue that such modals can express existential modal force. The argument mainly centers around the interaction of scalar operators and modality. I show that on a universal quantifier interpretation of requirement, one would predict the existence of a notion of maximal requirement, while one would expect minimal requirement to be a nonsensical concept.

## **Degree achievement predicates and ‘again’-ambiguities**

*Walter Pedersen*

This paper examines the internal structure of achievement predicates, in particular that of Degree Achievements (DAs). It is argued that sentences containing a DA predicate and the modifier *again* provide valuable evidence that the internal structure of DAs differs from that of Result State (RS) predicates. While *again* triggers an ambiguity both in sentences containing DAa and those containing RSs, in the latter there is an entailment between readings whereas in the former there is not. The traditional analysis which decomposes RSs into a BECOME operator and a small clause can readily capture the entailment for RS sentences, but when applied to DA predicts a non-existent entailment between readings. Rather than containing BECOME and a small clause, I argue that DAs are decomposable into comparative structures, with the two readings resulting from the scope of *again* with respect to a complex Degree Phrase.

## **Equatives, measure phrases and NPIs**

*Jessica Rett*

The goal of this paper is to establish a compositional semantic analysis of the equative morpheme that accounts for a variety of empirical facts: 1) that equatives are typically ambiguous; 2) that NPIs are licensed in their subordinate clauses; and 3) that measure phrase (‘MP’) equatives are interpreted differently than clausal equatives. While standard theories of the equative can account for (1), I present a new approach that additionally addresses (2) and (3).

## **Squiggly Issues: Alternative Sets, Complex DPs and Intensionality**

*Arndt Rieger & Hans Kamp*

In this paper, we investigate a number of long-standing issues in connection with (i) focus interpretation and its interrelation with complex definite descriptions, and (ii) the intensional properties of sentences with focus constituents. We revitalize the use of Rooth’s (1992)  $\sim$  operator, clarify its definition as an anaphoric operator, discuss the principles that govern its placement in logical forms and show how it can be successfully employed to replace the notion of Krifka’s (2006) focus phrases. Finally we argue that a proper view of the intensional dimension of retrieving the antecedent sets required by the operator can account for problems relating to the intensionality of sentences with focus sensitive operators that are discussed by Beaver & Clark (2008).

## **Disjunctive Questions, Intonation, and Attention**

*Floris Roelofsen & Sam van Gool*

This paper presents a case-study in the semantics of intonation. In particular, it examines how intonation affects the interpretation of disjunctive questions. A crucial aspect of the analysis is that it is two-dimensional: a sentence is not just taken to propose one or (in the case of a question) several possible updates of the common ground, it may also draw particular attention to some of these possible updates.

## **The Semantics of Count Nouns**

*Susan Rothstein*

This paper offer an account of the semantics of count nouns based on the observation that for some count nouns e.g. *fence*, *wall*, the set of atoms in the denotation of the singular predicate is contextually determined. Singular count noun denotation are derived relative to a context  $k$ , where  $k$  is a set of entities which count as atoms in a particular context. An operation  $\text{COUNT}_k$  applies to the mass noun denotation  $N_{mass}$  and derives the count meaning: a set of ordered pairs  $\langle d, k \rangle$  where  $d$  is a member of  $N \cap k$  and  $k$  is the context relative to which  $d$  counts as one. Count nouns and mass nouns are thus typically distinct and the grammatical

differences between them follow from this. We can then distinguish between naturally atomic predicates, which denote sets of inherently individuable entities or boolean algebras generated from such sets, and semantically atomic predicates, which denote sets which are atomic relative to a particular context  $k$ . The distinction between semantic and natural atomicity is shown to be grammatically relevant but orthogonal to the mass count distinction.

### **Donkey Anaphora in French Sign Language (LSF)**

*Philippe Schlenker*

There are two main approaches to the problem of donkey anaphora (e.g. ‘John owns a donkey. He beats it’). Proponents of DRT revise quantification so as to allow an existential quantifier to be co-indexed with a pronoun that is not within its syntactic scope. Proponents of the E-type approach take the pronoun to go proxy for the definite description ‘the donkey’, or ‘the donkey that he owns’, without formal co-indexing. When the antecedent is a negative quantifier (e.g. ‘John owns less than 5 donkeys. He beats them’), standard DRT follows E-type approaches in giving the pronoun the semantics of a definite description. While in spoken languages co-indexing relations are not morphologically realized, they are in sign languages, through pointing. Based on French Sign Language data, we argue that in simple cases the co-indexing relations posited by DRT, and denied by E-type approaches, are morphologically realized. When the antecedent is a negative quantifier, the same co-indexing relation is found, which argues against both approaches and in favor of more recent dynamic analyses in which all quantificational expressions (not just existential ones) introduce discourse referents (e.g. van der Berg 1996).

### **Modality and speech acts: troubled by German ‘ruhig’**

*Magdalena Schwager*

I provide an account for the distribution of the German modal particle ‘ruhig’ which seems tightly linked to possibility modals. I argue against a previous solution in terms of modal concord and propose to derive the restrictions at the speech act level. Essentially, ‘ruhig’ can only appear in speech acts that widen the sphere of possible actions for the addressee. I argue that this can be achieved by possibility modalized sentences, certain unmodalized declaratives, and some but not all expressions of necessity (‘soll’, imperative vs. ‘muss’).

### **German ‘noch so’: Scalar Degree Operator and Negative Polarity**

**Item**

*Bernhard Schwarz*

This paper analyzes German *noch so*, a degree operator and negative polarity item with a meaning component similar to the interpretation of scalar *even*. The analysis offered, which exploits an ‘at least’ semantics for gradable adjectives,

assumes that *noch so* scopes over its downward entailing licenser. *Noch so* is taken to trigger the ‘scalar presupposition that the degree property in its scope is downward monotone, in the sense of mapping higher degrees to (contextually) stronger propositions than lower degrees. The analysis suggests a new possible source for polarity sensitivity, excluding *noch so* from upward entailing contexts by requiring that the containing adjective phrase make a non-trivial semantic contribution.

### **Some new observations on ‘because (of)’**

*Torggrim Solstad*

The factive-causal prepositions ‘because (of)’ is analysed in a DRT framework. ‘Because of’ phrases are ambiguous, being interpreted either as plain causes or as reasons. This ambiguity is treated without assuming an ambiguity in ‘because of’ itself, claiming that the interpretational variance is due to differences in the entities which enter a causal relation with the fact introduced by ‘because of’. Finally, comparing ‘because of’ to ‘because’, a difference in terms of scope relative to deontic and epistemic modal operators is observed.

### ***Much Support and More***

*Stephanie Solt*

This paper examines the semantics of *much* when it occurs as a dummy element, in so-called *much* support (*Fred is diligent; in fact he is too much so*) and *more* comparatives (*more intelligent*, where *more* = *much* + *-er*). It is shown that far from being anomalies, *much* support and *more* comparatives provide a clue to the correct analysis of *much* in general: *much* is essentially contentless, serving only as a carrier of degree morphology. In short, *much* always acts as *much* support. These findings provide evidence towards a theory of quantity adjectives (*many*, *few*, *much* and *little*) as predicates of scalar intervals, with the remainder of the content traditionally ascribed to them contributed instead by null syntactic elements and operations. The vacuous nature of *much* itself is also shown to account for its infelicity in unmodified form in most contexts (e.g. ?? *We bought much rice*).

### **Working Memory in Quantifier Verification**

*Jakub Szymanik & Marcin Zajenkowski*

We compare 4 types of quantifiers: parity quantifiers, proportional quantifiers, numerical quantifiers of relatively small and high rank. We measure reaction time and working memory load of subjects judging the truth-value of statements with those quantifiers. Our results reveal that the difficulty of quantifiers increase as follows: numerical quantifiers of small rank, parity and numerical quantifiers of high rank, and proportional quantifiers. The results agree with the predictions drawn from a computational model proposed by van Benthem (1986).



## **Pluractionality and the unity of the event**

*Lucia M. Tovená*

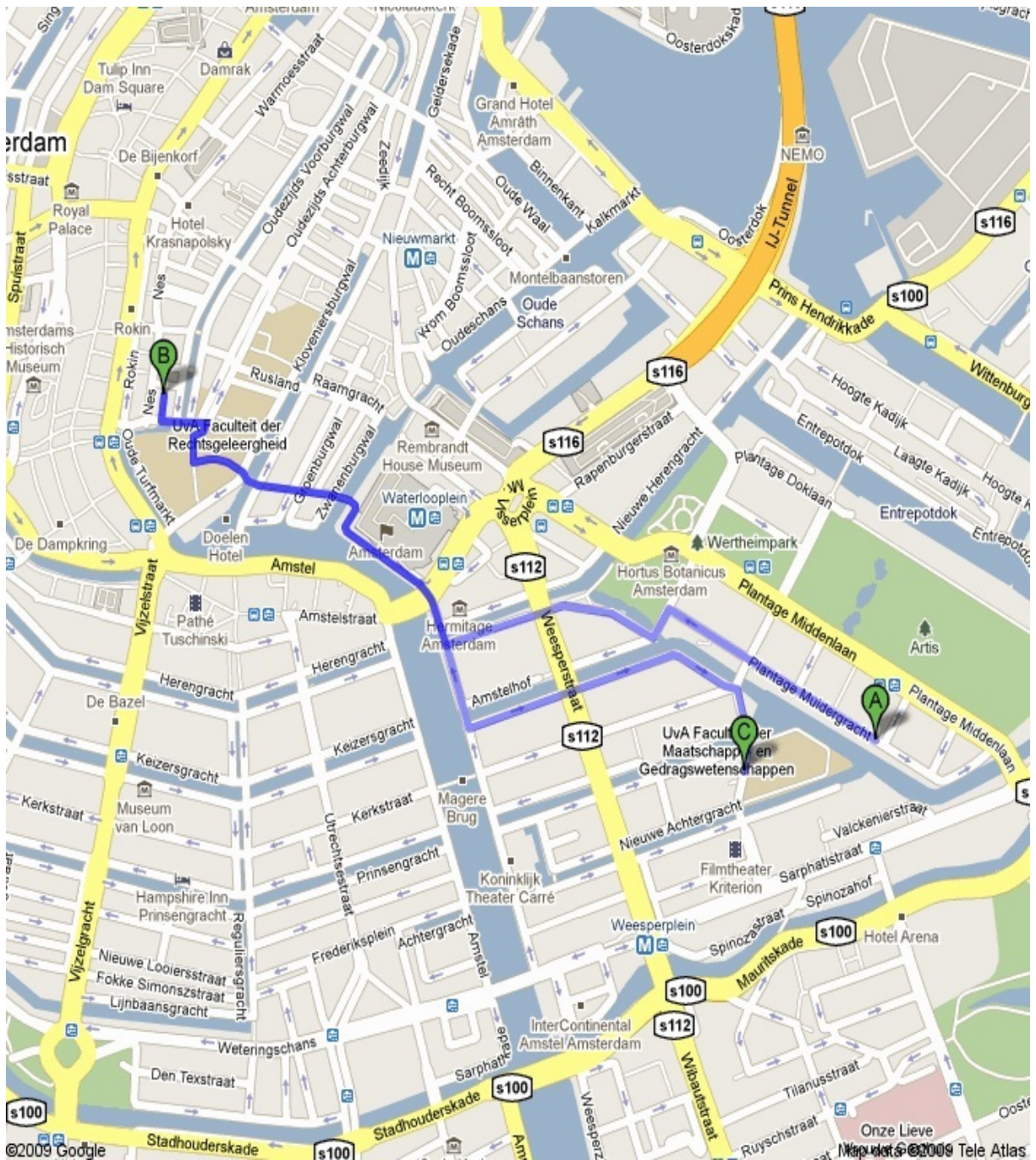
This paper exposes shortcomings of an analysis to single event plural verbs (Cusic's event-internal plural verbs) based on temporal discontinuity. It proposes an approach based on the violation of the property of Mapping-to-SubObject on a theta role. The proposal extends to other cases when we assume that the semantic contribution of pluractional morphology in these verbs is more generally to break correspondences between mereological relations between participants in predications.

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## Map



- A. Euclide building (conference venue) – Plantage Muijdergracht 24, Amsterdam
- B. Café Restaurant Kapitein Zeppos (welcome reception) – Gebed Zonder End 5, Amsterdam
- C. Restaurant Agora (lunch) – Roetersstraat 11, Amsterdam