

Anton Benz, Berlin

Coordination, Interpretation and Dialogue Games

One of the most influential dialogue models is the one developed by H.H. Clark (1996). Central to him is the role of coordination of communicative acts and the interaction of interlocutors. He analysed dialogue predominantly in terms of joined projects, i.e. every contribution of the speaker is seen as part of an activity where he and the addressee must work together towards a joined goal. Non-linguistic examples for joined projects are playing a piano duet, or paddling a canoe. In both cases, the participants have to coordinate their actions with those of the other participant, or else they may fail to reach their goal. One of the central tasks for dialogue participants is to make sure that they both interpret dialogue contributions in the same way, or else misunderstandings will arise. An example where this becomes especially clear is the use of referential expressions like definite descriptions. The speaker has to choose a description, and the addressee's part is to interpret it. The joined goal is to select the same object as referent. I am especially interested in the effects of the coordination task for defective communicative acts.

Applications: Donellan's examples for definites, lies, definition of common ground. I will define ideal dialogue games by semantics plus pragmatic constraints of rational choice and interaction. Then I derive from them systematically non-ideal dialogue games by general principles. I will introduce a model for dialogue games with coordination constraint. The formalism will build up on the theory of multi-agent systems (Fagi, Halpern, Moses, Vardi 1995).

Balder ten Cate, University of Amsterdam

Partition semantics of questions -- the syntactic side of the story

An elegant account of the semantics of questions from a logical and mathematical perspective, is the one of Groenendijk and Stokhof (1984). They formulate their theory of questions and answers in purely semantic terms, viz. in terms of partitions of a set of possible worlds. For various reasons, it is useful to investigate the (logico-) syntactic side of their theory. In particular, an interesting question is: is there a simple syntactical characterization of answerhood?

As it turns out, this question can be answered positively. I will present a simple syntactic characterization of answerhood and discuss a number of consequences and applications related to linguistic, logical and computational aspects.

The presentation is based on joint work with Chung-chieh Shan (Harvard University).

Cornelia Endriss & Gerhard Jäger
University of Potsdam and ZAS, Berlin

Specific indefinites: *in situ* interpretation and partiality

In this talk we are going to present a neo-Heimian analysis of the semantics of indefinites. The liberal scope taking behavior of specific indefinites is accounted for by means of long-distance existential closure. The so-called "Donald Duck problem" of the DRT account is sidestepped by taking resort to partial interpretation functions. The descriptive content of an indefinite description is analyzed as a definedness condition rather than an ordinary conjunct.

In the second part of the talk we will extend this approach to plural indefinites. We will discuss both the double scope problem and the restriction of specificity to cardinal quantifiers.

Hans-Martin Gärtner, ZAS Berlin

Optimality Theory and "Unambiguous Encoding"

Icelandic encodes the difference between weak and strong readings of indefinites in terms of (non-) application of object-shift. Tagalog encodes the difference between indefinite and definite themes in terms of "ng-" vs. "ang-"marking. These facts can be taken to observe the principle of "Unambiguous Encoding" (UE), arguably a grammar-internal variant of Gricean "Avoid Ambiguity." However, UE holds in the unmarked case only. Syntactic principles that block object-shift lead to a weak/strong ambiguity of in situ indefinites. Likewise, agent-relativization in Tagalog blocks "ang-"marking of themes, which results in an indefinite/definite ambiguity of "ng-"marked themes. It will be argued that introducing UE as an explicit rankable constraint into standard OT handles these cases in a general way. This suggests that UE may be another instance of the "emergence of the unmarked." At the same time, it seems that bidirectional OT although conceptually superior in deriving effects like "Avoid Ambiguity" from the competition model, fails to predict the Icelandic/ Tagalog facts. The remainder of the talk will be devoted to discussing objections to the UE-approach and possible ways out for bidirectionality.

Blocking in SDRT

Isabel Gómez Txurruka, University of Amsterdam

In the Gricean tradition, the semantics of the conjunction 'and' is equivalent to that of the logical conjunction (that is, with Grice, the semantics of 'and' is that 'p and q' is true iff 'p' is true and 'q' is true). This view, however, does not account for several meaning variations in the presence of 'and' such as in (2) versus (1):

- (1) a. Max fell; he broke his arm.
- b. Max fell and he broke his arm.

- (2) a. Max fell; he slipped on a banana peel.
- b. Max fell, and he slipped on a banana peel.

While sentence juxtaposition might be interpreted either as discourse coordination or subordination, 'and' indicates coordination. We defend that the semantics of 'and' includes a notion of coordination expressed as the requirement of a common discourse topic that equally generalizes over the so-linked representations. This meaning characterizes a class of discourse relations, among which Narration or Result. Moreover, this meaning is incompatible with Subordinators such as Explanation. This view can directly account for (1) and (2) above. We use SDRT to formalize these ideas (cf. Lascarides and Asher 1993, Asher 1993). SDRT already includes notions of coordinating and subordinating discourse relations and the meaning of 'and' is related to this distinction. Similar distinctions playing a crucial role in anaphora resolution have also appeared in AI---cf. Scha and Polanyi 1988, or Webber 1991. However, this discourse-structure-based distinction has not been well defined yet, and our approach could provide independent motivation for it.

A second blocking phenomenon are the anaphoric occurrences of the particle "same" when they interact with discourse structure as in the following examples:

- (3) a. Paul had a car accident on July 2nd, 1993. He spent 3 months in hospital that year.
- b. Paul had a car accident on July 2nd, 1993. He spent 3 months in hospital that same year.

- (4) a. Paul had a car accident on July 2nd, 1993. He died that year.

b. Paul had a car accident on July 2nd, 1993. He died that same year.

(3a) is a resultative discourse, while (3b) is not. Both (4a) and (4b) are resultative discourses. Thus, the question is, what can be the meaning of 'same' as to be able to cancel the resultative discourse relation in (3b) but not in (4b)? (These examples are originally due to Ana Alves)

Kay Grosskop

Three-dimensional OT

Optimality theoretic evaluation traditionally consists of inducing a preference ordering in a set of input/output pairs. The *bidirectional* approach of Blutner (JoS, vol.17) complicates the process of evaluation by explicitly incorporating blocking mechanisms into the very architecture of the evaluation. But this doesn't change the idea that the focus of the evaluation is ideally to map an expression to an interpretation or vice versa. But Blutner subscribes to a view on meaning as *context change potentials* and hence the question of what the input and output consist of is a little less straightforward. He chooses to take (for the comprehension point of view) context change potentials as inputs and the resulting context as output, but has to make the set Gen and hence the preference ordering relative to a certain initial context. Though probably not incorrect, this may be seen as a rather covert way to incorporate the dependence on the context into the optimality theoretic framework. In fact Zeevat (JoS, vol.17) tries to demonstrate the failure of this framework for the *rat/rad* ambiguity which does not take into account this dependency on the context. I will show, that the *rat/rad* problem could be elegantly dissolved when explicit reference is made to the context of utterance during the evaluation. Stated very briefly, Zeevat interprets Blutner's bidirectionality to state that the pair (/rat/,rat) is preferred from (/rat/, rad) and should consequently erase the latter combination over time according to the framework. But this ignores, that the preference can strictly only be stated wh.r.t an initial context. Assuming the existence of a quite natural and highly ranked constraint Coherency should be enough to favor the other pair in the relevant contexts which defeats Zeevat's analysis.

I conclude with some technical considerations: Zeevat (personal communication) proposed to maintain the two-dimensional framework, but (e.g. for the case of generation) to conceptualize the input as a *task*, i.e. a pair $\langle c_{ini}; c_{res} \rangle$ of *initial* and *resulting* context that have to be realized by the expression. Hence Gen generates pairs of the form: $(\langle c_{ini}; c_{res} \rangle; form)$ This is not totally satisfying however, since it may be intuitive for the generation case, but seems much less natural in the case of comprehension. The latter looks for *res* whereas he knows the expression and *ini*. The most natural choice turns out to be evaluation over a triple: $(c_{ini}; c_{res}; form)$ An attempt is then made to reformulate Blutner's superoptimality with these triples.

Maja Lubańska, University of Wrocław, Poland

Multiple Wh-Fronting in Polish

Polish multiple *wh*-movement has been analysed in many publications such as Lasnik and Saito (1984), Rudin (1988) and Dornisch (1995). In the analyses advocated by Lasnik and Saito (1984) and Rudin (1988), in Polish multiple *wh*-questions only the first fronted *wh*-phrase moves into the [Spec, CP] position. All the remaining fronted *wh*-phrases adjoin to IP. Dornisch (1995), on the other hand, argues in favour of movement into the Spec of CP, which may be multiply filled.

One of the objectives of my talk will be to discuss the position of fronted *wh*-phrases in Polish. I will follow Bošković (1997a, 1997b, 1998), who showed that Superiority effects may be taken as a diagnostic for *wh*-movement in multiple *wh*-questions, i.e. movement of a *wh*-phrase to [Spec, CP], if one adopts the minimalist framework of Chomsky (1995). In this framework, movement is subject to derivational economy, realized in conditions such as Minimal Link. In the talk, I would like to argue that if Bošković is correct, then *wh*-movement in the traditional sense does not take place in Polish, a Slavic language where all *wh*-phrases must be fronted in overt syntax. Elaborating on the proposal by Bošković (1997a, 1997b, 1998) and Stepanov (1998), I will argue that fronting of Polish *wh*-words is an instance of focus – movement.

Next, I will attempt to accommodate these insights into OT framework. I would like to show that the variation among languages in the formation of multiple *wh*-questions can be explained by re-ranking of universal constraints, under Optimality Theory as proposed in Prince and Smolensky (1993). I will attempt to provide an OT analysis of *wh*-question formation in Polish, which would account for focus-movement of *wh*-phrases. As re-ranking constraints derives all possible patterns across languages, my goal is to establish their hierarchy not only in Polish, but also in other Slavic languages.

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- Rudin, Catherine. 1988. 'On Multiple *Wh*-questions and Multiple *Wh*-fronting'. *NLLT*6: 445-501.
- Stepanov, Arthur. 1998. 'On *Wh*-fronting in Russian'. In *Proceedings of the North Eastern Linguistic Society* 28. University of Massachusetts, Amherst. 453-467.

Jason Mattausch, Humboldt University, Berlin

Optimality Theory and Binding Phenomena

The difficulty which phenomena such as long-distance reflexivization pose to the binding principles of Chomsky (1980, 1981, 1982) has prompted Burzio (1989, 1996, 1998) to examine the prospect of accounting for binding phenomena in a framework of violable constraints. Burzio's analysis encounters serious difficulty when data (cited by Lasnik (1989)) from languages such as Thai and Vietnamese -- languages which permit locally bound R-expressions -- are considered.

Our aim is to develop an alternative constraint-based analysis which avoids these difficulties. We claim that the important notion of a referential economy hierarchy may be retained, and that, in the spirit of the Q (hearer oriented) and I (speaker oriented) principles advocated by Atlas & Levinson (1981) and by Horn (1984), a mirror image of such a hierarchy (i.e., a Q-oriented scale) may be thought to compete directly with the a referential economy (I-oriented) hierarchy. The result is a system which reflects very obviously the direct conflict between markedness and faithfulness that is inherent to traditional OT analyses and one in which binding phenomena in Thai, Vietnamese, and other recalcitrant cases may be captured.

Anna Pilatova, University of Amsterdam

Identity statements

The goal of my presentation will be to show that some statements traditionally interpreted as statements of identity (e.g. statements containing two occurrences of proper names or definite descriptions), and therefore necessarily true, have readings on which they are either intuitively false or are hard to interpret at all. I try to explain why these readings arise, and why, in a real discourse, the readings on which these statements are not necessarily true tend to win out. (I shall limit myself to natural language, and refrain from saying anything on the use of necessary identity statements in science.)

At the core of the problem is the assumption of direct referentiality of proper names and referential reading of definite descriptions, where the content of the description or the descriptions commonly associated with the proper name are not supposed to be a part of the semantic value of the expression in question. I show that some kinds of contexts trigger readings where a Gricean demand of informativeness (which I define using the notion of relevance) overrides other important conversational maxims and influence the semantic value of the allegedly directly referential term. An analysis of several kinds of statements involving proper names and definite descriptions leads to a conclusion that informative readings are preferred even in cases where such reading makes a statement false while a less informative reading would make it true.

Towards the Pragmatics of Secondary Predication

From the perspective of pragmatics the interpretation of secondary predication can be seen as an inferential task: Given an event e described by the matrix clause and a secondary predicate P , infer the entity x which participates in e and of which P is predicated and infer the relation that holds between e , P and x .

- (1) a. John met Mary drunk
b. John painted the house red

(1a) illustrates the *depictive predicate*. Its subject-oriented reading can be described as $\text{Agent}(e)=x$ and $P(x)$, its object-oriented reading as $\text{Theme}(e)=x$ and $P(x)$. Depictive secondary predicates are not selected by the verb which describes e . (1b) illustrates a *resultative predicate*, which can be rendered as $\text{Theme}(e)=x$ and $\text{result}(e, P(x))$. Resultative secondary predicates seem to be selected by the verb, with which a result should at least be typically conceivable. Secondary predication is subject to a number of restrictions, both lexical and sentential, which arise from interacting factors such as word-ordering, intonation, definiteness, verb semantics, and world knowledge. The explanation of these restrictions calls for an optimality-theoretic treatment of the complex interplay of the different factors.

Two restrictions will be considered in detail. The first one concerns constraints on adjectives in resultatives in German and English.

- (2) a. John wiped the table clean / dry
b. ?John wiped the table dirty / wet

What are the general principles which predict this difference in acceptability? There is a long history of debates on this subject, starting with Green (1972). Recently, Wechsler (to appear) proposed to take the distinction between open-scale and closed-scale gradable adjectives noted by Kennedy and McNally (to appear) as a starting point. Adjectives like *clean*, *dry*, and *flat* are closed-scale adjectives exhibiting a *maximal* endpoint on the scale, designated by the adjective itself. Adjectives like *wet*, *damp*, and *dirty* are *de facto* open-scale adjectives because their minimal “endpoint” is so low that a contextual standard generally prevails. The crucial idea is this: the complex resultative predicate *wipe the table + Adjective* may only be telic if the result is determined by a closed-scale adjective with a maximal endpoint on the scale, but cannot be telic if built on an open-scale adjective, viz. *wipe the table clean* vs. *wipe the table dirty*. If the telicity of the complex predicate is assumed to license the resultative reading, the pattern illustrated in (2) follows naturally.

However, numerous counterexamples show that the thesis of open-scale adjectives being unable to form complex telic predicates is too strong.

- (3) a. John knetet den Kitt weich.
b. Fritz schlägt die Sahne schaumig

c. Hans biegt den Draht krumm.

In all these cases an open-scale adjective is involved, establishing a contextually determined standard. Even so, the complex predicate is telic! It seems that the distinction between open-scale and closed-scale adjectives is not the one which could explain the pattern in (3). If so, what can? We will argue that this factor is the speaker/hearer's presumptions about the expected/intended results of *wiping*, *beating* and *bending* which are crucial in explaining the distribution facts. A straightforward analysis in probabilistic terms can be naturally given in the framework of optimality-theoretic pragmatics.

The second puzzle we want to discuss concerns the depictive readings of secondary predication in Russian. Subject-oriented adjectival depictives may occur in the instrumental or in the nominative case (congruent case).

- (4) a. Dunja vyÓla iz spal ni grustnaja
Dunja out.went from bedroom sad.NOM
“Dunja left the bedroom sad”
- b. Dunja vyÓla iz spal ni grustnoj
Dunja out.went from bedroom sad.INST
“Dunja left the bedroom when she was sad”

Filip (2001) observed that there is an interesting difference between the two case forms. Usually, only (4a) but not (4b) carries the implicature that Dunja was sad some time before she left the bedroom. We add two more observations: absolutive constructions are much better with the congruent case, cf. (5):

- (5) a. grustnaja, ona vyÓla iz spal ni
sad.NOM, she out.went of bedroom
“when she was sad she left the bedroom”
- b. ??grustnoj, ona vyÓla iz spal ni
??sad.INST, she out.went of bedroom

But the preference ranking is reverse for temporal restrictors in (6):

- (6) a. ??grustnaja, ona vyxodila iz spal ni
??sad.NOM, she out.went of bedroom
- b. grustnoj, ona vyxodila iz spal ni
sad.INST, she out.went of bedroom
“When she was sad she used to go out of the bedroom”

We propose that a comprehensive motivation for these differences between INST and NOM (AGR) can be provided if we assume that INST-marked predicates, but not AGR-marked ones signalise that the corresponding expression should be processed early. As a consequence, the difference between (4a) and (4b) follows from distinct logical orderings of processing: In (4a) the running time of the event described by the matrix clause is identified first and then Dunja's sadness is

predicated with respect to this time; in (4b) a time point for Dunja's sadness is identified first and then used for anchoring the matrix clause. In order to identify a time point for Dunja's sadness, a good strategy is to accommodate a *state change* such that we have a unique time point where Dunja became sad. further, we argue that the pattern described in (5) and (6) are natural consequences of bidirection.

Anna Mlynarczyk

Aspect in Polish: its contribution to the structure discourse

This paper is a stepping stone on the way to my ultimate goal of understanding and giving a formal representation of aspectual system in Polish. I think that an adequate analysis should make clear how aspectual information is built up and what effect does the result of the composition have on structuring of discourse. The real challenge lies in capturing the connection between the sub and super sentential level. At the lower level, a large number of aspectual distinctions has been recognized to play a role. At the discourse level, however, it is common to capture the effect of Slavic aspect in terms of moving the reference time forward (in case of a perfective verb form) and providing background information (the imperfective form).

To capture the rules governing composition of aspectual information, I adopt very down-to-earth strategy. First, I try to assign to each relevant syntactic element exactly that piece of aspectually relevant information that the element contributes. Then I look at the way the selected aspectual 'building stones' combine with each other, and try to work out what the patterns of their combination are, if any.

In my view, the Polish aspectual system, being characterized by the existence of aspectual pairs, requires as a preliminary condition an application of Frege's Principle of Compositionality even below the level of the complex verb. (That this step is justified and might turn out to be fruitful, can be seen from [2, 3, 4]). I treat the perfective and imperfective operators in terms of a function on the basic verb, and not as an operator on the VP (which is the common approach in analyses of Slavic aspect [e.g. 1, 5]). This has two welcome effects. First, the locality constraint of the strict version of the Fregean Principle is not violated. Second, simply from the definition of 'function', follows the empirical fact that the meaning of the complex verb depends on the information the aspectual operator gets as input. To determine the aspectual information supplied by the basic verb, I analyse the way verbs behave under the application of perfective and imperfective operators (prefixes, suffixes). It appears that verbs follow certain patterns. On the basis of these patterns they can be classified into classes. I categorize Polish verbs in terms of strictly verbal categories (I call them S, P and E), reflecting the higher level aspectual classification into States, Processes and Events (these higher level classifications being determined by the information in the verbal arguments). Each one of the three verb classes is divided into two subcategories, called 1 and 2. There is a striking parallelism between the 1/2-distinction in each of the three verbal categories: in all three cases 2 is different from 1 in an analogous fashion. What constitutes the aspectual property which makes a verb belong to a particular class? At a pre-theoretical level it is expressed

by means of three verbal features: 'extendedness in time' (S1 'love'), 'duration' (S2 'sit', P1 'walk', P2 'knock') and 'development' (E1 'write', E2 'buy'). The relation between the features is implicative: 'development' implies 'duration' which in turn implies 'extendedness in time'. Each of the three main classes goes with a specific kind of prefix/suffix. This allows a classification of aspectual operators according to the way they modify the basic verb. As a result one obtains three classes of aspectual operators, whose identity can also be captured in terms of features: 'limitation from one side' (yielding ingressives), 'limitation from both sides' (yielding delimitatives) and 'completion'. The ordering of these features is analogous to the ordering of the verbal features. The features are just an informal way of naming the aspectually relevant properties of verbs and aspectual operators. By defining a mapping relation between the two hierarchies, one can capture the patterns of prefixation and predict what happens if the mapping relation is not preserved.

The broad outline of this system was presented in a talk at a recent conference on aspect (Perspectives on Aspect, Utrecht, December 2001). In the present paper I am going to show that the distinctions established in a compositional way play a role at higher levels. I will do that by demonstrating that in interaction with temporal conjunctions (e.g. 'before', 'after', 'during', 'until') and temporal adverbials, the sortal distinctions imposed on perfectivity and imperfectivity determine relations between intervals in a crucial way.

Selected references:

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BIAS

BIAS is an interpretation principle similar to an interpretation principle proposed by Mattausch (2000) under the name CONSISTENT. It is there as a way of lumping together principles like Lascarides and Asher's push-fall law: if a pushing and a falling are connected and the theme of the pushing is the theme of the falling then normally the pushing causes the falling. It explains the following contrast:

- (1) a. John fell. Bill pushed him.
- b. ?John fell. Bill coughed.
- c. ?John fell. Because Bill pushed him.
- d. John fell. Because Bill coughed.
- e. John fell. But not because Bill pushed him.
- f. ?John fell. But not because Bill coughed.

In a, but not in b we infer that the pushing caused the falling. That is why in c the particle because seems superfluous, while in d it is necessary, to obtain the interpretation we require, and in e the three particles are necessary to prevent a wrong inference, whereas in (f) they are superfluous (omitting them gives a slightly different reading, the intended one is obtained by using the past perfect.)

We assume a statistical interpretation: the law holds because there are more cases in our experience of properly connected pushings and fallings where there is the causal link, than cases where they are causally unconnected. (A precise formulation requires precision about the connection, validation a statistical investigation of pushings and fallings as they naturally occur).

BIAS radicalises this to the interpretation process in general. If an expression α (we can in principle allow for contextual features and include those in our individuation of expressions α predominantly means X over actual language experience, it will mean X in the current utterance as well. (This principle of disambiguation is adopted in Bod 2000, but with a non standard definition of expression and meaning.) Zeevat & Jaeger show that this pattern can be applied to differential object and subject marking and especially to optional marking. In fact the explanation is identical to

the one given above. For obtaining obligatory marking patterns, they have to take recourse to grammaticalisation processes.

A new application is the explanation of the following universal (?): Emotional propositional attitudes are factives, from the nature of lexical presuppositions together with (an assumed) resolution pattern for these factives. This explains the contrast between:

- (2) a. John believes it rained and he regretted that it rained. (no presupposition)
- b. John regretted that it rained. (presupposition)
- c. John believes that it rains and he knows that it rains. (presupposition)
- d. John knows that it rains. (presupposition)}

Exactly the same mechanism is invoked as for obligatory subject and object marking. The statistical predominance of resolution to the common ground itself (and not to beliefs of the subject represented therein) forces a reinterpretation of the presupposition "subject believes that p" (an inherent lexical property of an emotional attitude that can be resolved to the common ground if it plausible that the subject shares in the common ground with respect to p). This makes that the presupposition "p" is then conventionally learnt as a lexical property of the emotional attitude itself.