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REGULATIONS ON USE

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Background
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Event Representation and Event Complexity

General Introduction

Jürgen Bohnemeyer

Background. The stimuli and tasks described in this part of the manual are meant to elicit data for the new project on event representation (working title **Event X**) that is currently developing as a subproject of Argument Structure and that is thought of as potentially providing a new research focus for the L&C group as well. Languages differ strikingly in the complexity and scope of the scenes they allow to express as single events (i.e. **macro-events**, or, say, in very rough approximation, by single *clauses*, or by particular types of complex sentences). This is henceforth referred to as **event integration** here. A slightly more formal characterization is given below; cf. also Bohnemeyer (ms). One of the research strands of the Event-X project will be to investigate language-particular constraints on event integration, the acquisition of such constraints in children, the principled parameters of cross-linguistic variation of (constraints on) event integration, and the degree to which language-particular constraints on linguistic event integration align with culture-specific constraints on cognitive event integration.

Guiding assumptions. The basic question to be pursued in this part of the 1999 field research is the question as to what extent, and along which parameters, languages show systematic variation in their *preferred* strategies for coding complex events and in the *constraints* they impose on the coding of complex events. The guiding assumptions are that an event expression is complex to the extent that it entails the occurrence of multiple *subevents* all of which can be coded separately in the language in question, and that the subevents entailed by an event expression constitute a *macro-event* to the extent that they together behave like one primitive event representation in the language under examination. The degree to which the subevents of a semantically complex event expression are *integrated* as parts of an overall macro-event is hypothesized to depend on the semantic relations entailed or implicated by the complex event expression to obtain among the subevents. Among the candidates for event-integrating relations are in particular *part-whole* relations (e.g. the event of Joan's cooking pasta is arguably a part of the event of my watching Joan cooking pasta in *I watched Joan cooking pasta*), *spatial* and *temporal* relations (e.g. it has been argued that although *kill* and *cause to die* entail the same subevents - a dying event and an unspecified other event causing it - they differ in that *kill*, but not *cause to die*, entails that the two subevents are spatially and temporally contiguous), and *causal* relations (e.g. *I broke the cup* and *I dropped the cup and it broke* both entail an activity involving the speaker and a state change involving a cup, but only *I broke the cup* entails a causal relation obtaining between the two events).

For an illustration, consider clip B5 of the ECOM (Event COMplexity) video stimulus (diagrams F1 and F2 of the section on ECOM below illustrate the first and the last frame of this clip). In this particular film, a red circle rolls *from a blue square along a yellow bar past a brown house-shaped thing to a green triangle*. Suppose this scene is to be described such that location change with respect to each of the four ground objects is made explicit. English allows one to do this in just one clause, whereas Yukatek Maya and many other languages require the describer to use four clauses minimum (yielding something more or

less like 'The red circle leaves the blue square, follows the yellow bar, passes the brown house-shaped thing, and arrives at the green triangle'). However, clausehood as such doesn't necessarily reflect macro-eventhood. In order to ascertain that the contrast between the monoclausal English expression and the multiclausal Yukatek description is indeed indicative of a difference in semantic event construal, one has to apply *semantic tests* that are comparable across the two languages. For example, each of the four clauses of the Yukatek-style description may contain a separate time-locational adverbial, whereas the English-style monoclausal construction allows for just one specification of temporal location. This argues for segmentation into multiple macro-events in the case of the Yukatek-style response and for integration into just one macro-event with the English-style response, because localizability in time is itself a criterion of eventhood. Of course, given the temporal adjacency of the subevents, and their short duration (the whole clip is just about two seconds long), the clauses in the Yukatek response are not exactly likely to occur with separate time-locational adverbials. The point here is rather that the *same* construction that a Yukatek speaker would have to use to describe B5, *could* also be used to describe a scenario in which the four subevents were neither temporally nor spatially adjacent, and it is this property of the *construction* used that is really assessed by the criterion of time-adverbial modification. Some semantic tests that may prove useful in assessing the event construal in the responses you collect are suggested below.

Research on the representation of event complexity is at this stage focused on three basic types of scenarios, which recur throughout the various materials and tasks. These are:

- (caused or spontaneous) motion, defined as location change with respect to paths of varying complexity, with or without integration of various kinds of activity components ('manners')
- state changes embedded in causal chains of varying complexity and strength (i.e., in a broad manner of speaking, 'directness' of causation)
- transfer (i.e. change of possession) events embedded into complex motions and state changes

Stimuli and tasks of this module. There is one new stimulus in the 1999 field kit that has been specifically designed for research on event integration, namely the ECOM animation clips (ECOM is short for Event COMplexity). In addition, there is a questionnaire on event integration. This questionnaire is not itself meant as an elicitation stimulus, but rather as a check list, to make sure that every researcher has all the data at his or her disposal that are necessary to assess the principled constraints on event integration that the language (s)he works on operates on. For getting the Event-X project started, the ECOM clips and the Event Integration questionnaire are of almost equal priority, and therefore should both be attended to. In case the field worker has to make a choice, (s)he should consider the fact that it will be most desirable for the new project to have first-hand data from a variety of languages elicited with identical stimuli and tasks. This gives ECOM the edge over the questionnaire. On the other hand, however, if (s)he for reasons of lack of time or technical problems is not able to complete an ECOM study, (s)he should by all means make sure to have descriptions of all the scenes in the Event Integration questionnaire.

A number of older stimuli and tasks are also considered to provide relevant data for Event X. Every researcher with an interest in Event-X issues should make sure to have collected the following data or to collect it now:

- *Frog Story* narratives (with the picture book *Frog where are you?*, following the methodology outlined in Berman & Slobin 1994: 20-28)
- Table Top Route Descriptions (from the 1993 and 1996 field kits)
- Motion descriptions with David Wilkins's Questionnaire on motion lexicalization in Australian languages (known as the *OZ Motion Questionnaire*)

Updated versions of the Route Descriptions manual and the OZ Motion Questionnaire are included later in the manual (§§10&11).

In principle, all stimuli that represent complex events may provide useful data for event integration research. In particular the following materials may be considered to add to the Event-X data base:

- Eric Pederson's Event Realization Questionnaire
- Jürgen Bohnemeyer's TEMPEST films (TEMPorality Elicitation Stimulus, from Bohnemeyer 1998)
- Steve Levinson's Questionnaire on Logical Connectives in Natural Languages
- Sotaro Kita's *Maus* films
- The Heider & Simmel films (from Heider & Simmel 1944)
- The *Pear Story* film
- The Tweedy Bird film (*Canary Row*)

Tests for macro-eventhood. For every construction that figures in the ECOM descriptions, or as a representation of one of the scenes of the Event Integration Questionnaire, or in the response collected with some of the other materials listed above, the constraints this construction imposes on the integration of the subevents referred to has to be assessed. Clausehood may be a very first and rough measure. How is clausehood itself assessed? Assume that a clause is a structural unit that is constituted by a predication, then the crucial criterion of clausehood is polarity, i.e. the capacity of allowing for negation. For example, *I broke the vase* comprises only one clause, as it allows for only one negation (*I didn't break the vase*), whereas *I caused the vase to break* is a biclausal construction, as it consists of two units that can be negated separately (*I didn't cause the vase to break* vs. *I caused the vase not to break*).

However, it's not clausehood *per se* what we're after, but rather macro-eventhood. Note that it is one of the *hypotheses* Event X is setting out to validate that there *is* indeed a cross-linguistic tendency towards alignment of clausehood and macro-eventhood! Now, it was said above that the meaning of a complex event expression may be considered a macro-event representation to the extent that it behaves like the meaning of a simple event expression. The perhaps most important way in which this can be tested is in terms of the behavior of the event expression vis-à-vis time-locational adverbials. The property of allowing for localization in time is one of the defining properties of semantic event representations. Consider example (1):

(1) a. I broke the vase on Monday.
b. ??On Monday, I caused the vase to break on Tuesday.
c. (?)My kicking it on Monday caused the vase to break on Tuesday.
d. (?)By kicking it on Monday, I caused the vase to break on Tuesday.
e. Because I kicked it on Monday, the vase broke on Tuesday.

(1a) allows for only one time-locational adverbial. Thus, the breaking of the vase and whatever I did to cause it are represented as parts of one macro-event. The syntactic causative construction in (1b) is a borderline case. The constructions in (1c-e), however, refer to two subevents which clearly can be located in time separately, and which therefore have to be accorded macro-event status. In principle, a similar point can be made with respect to locative adverbials.

In Bohnemeyer (ms.), it has been proposed that another criterion of macro-eventhood may be the extent to which the complex event can be assigned a single overall event structure (in terms of telicity, durativity, etc.). Compare:

(2) a. The red circle started pushing the blue square across the stage.
b. The red circle pushed the blue square across the stage in five seconds.
c. ?The red circle started to cause the blue square to move across the stage.
d. ?The red circle caused the blue square to move across the stage in five seconds.

(2a) and (b) show that the subevents entailed by *push across* constitute a macro-event with a single durative (2a) and telic (2b) event structure. It is not clear that the same also hold for *cause to move across* in (2c) and (d). The red circle may in fact start the activity causing the blue square's motion with the latter lagging behind (2c), and the adverbial *in five seconds* in (2d) may refer to the motion of the blue square only.

The criteria that have been considered so far assess to what extent a complex event description behaves like a simple one. Another approach to assessing the macro-eventhood of a description is in terms of the tightness of the (spatial, temporal, causal, etc.) semantic relations that are entailed or implicated by the construction to obtain among the subevents. Thus, the description may *entail* a particular order among the subevents, or it may only *implicate* such an order:

(3) a. The red circle launched the blue square off the stage.
b. The green triangle rolled the red circle up the ramp.
(4) a. The red circle hit the blue square, and the blue square went/moved off the stage.
b. The green triangle made the red circle roll, pushing it up the ramp.

In (3a), the contact of the red circle with the blue square is entailed to precede the motion of the blue square, whereas in (4a), the sequential order is only implicated. Similarly, in (3b), simultaneity of the rolling activity and the motion up the ramp is entailed, whereas in (4b), this simultaneous relation is defeasible. Something similar holds for the causal integration of the subevents: in (3a), the red circle hitting it is entailed to cause the blue square to move (or at least to

change location), whereas in (4a), this causal impact is only implicated. And in (3b), it is entailed that it is the green triangle's rolling it that causes the red circle to ascend the ramp, whereas in (4b), again this causal relation is defeasible.

Finally, to the extent that there is more than one construction in the language that may be used in describing a particular scene, such that these constructions differ clearly in their formal complexity, then selection among these constructions tends to convey a 'manner implicature' (Levinson to appear). The best-known such case is that of the distinction between *direct* and *indirect causation*. If you use *I caused the vase to break* rather than *I broke the vase*, you invite an inference to the effect that you didn't just grab the vase and smashed it to pieces, but that the causal chain leading from your activity to the breaking of the vase was rather more complex than that, and/or that whatever you did you didn't do *intending* the vase to break.

References.

Berman, R.A. & Slobin, D.I. (Eds.) (1994). *Relating events in narrative: a cross-linguistic developmental study*. Hove: Erlbaum.

Bohnemeyer, J. (1998). *Time Relations in Discourse. Evidence From a Comparative Approach to Yukatek Maya*. Doctoral dissertation. Tilburg: Katholieke Universiteit Brabant.

Bohnemeyer, J. (ms.) *Event X. Some Primordial Soup for the Evolution of a New Institute's Project*. Nijmegen: MPI for Psycholinguistics.

Heider, F. & Simmel, M. (1944). An experimental study of apparent behavior. *American Journal of Psychology* 57: 243-259.

Levinson, S.C. (to appear). *Presumptive Meanings: The Theory of Generalized Conversational Implicatures*. Cambridge etc.: Cambridge University Press.