

The Influence of Conceptual Prototypes on Linguistic Judgments of Tense & Aspect

This paper will revisit the aspectual under-extension found in children's production data, in which children preferentially link telic predicates with perfective/past morphology and atelic predicates with imperfective/present morphology. It will argue that these aspectual groupings reflect a deep property of conceptual organization that manifests itself in various ways in both child and adult language. The results of two experiments with adults will be reported (a comprehension study of grammatical aspect and a sentence comparisons task) which support the idea that with respect to temporal/aspectual semantics, adults differ from children only in degree, not kind.

Until some time around the age of 2;6, children acquiring a variety of languages apparently restrict their tense and aspect morphology according to the probable aspectual category of the verb it appears on. That is, children often say things like *riding* (atelic + imperfective) and *broke* (telic + perfective) but very rarely say things like *rode* (atelic + perfective) or *breaking* (telic + imperfective). These temporal/aspectual groupings have been well documented in children's production (see Andersen & Shirai 1996 for a review) and may even extend into their comprehension (cf. Wagner 2001a, 2001b).

One proposed account of this acquisition under-extension invokes prototype theory (Shirai & Andersen 1995, Andersen & Shirai 1996; see also Li & Bowerman 1998). It argues that there are two prototypes which anchor the temporal/aspectual categories: on the one hand is the past-perfective-telic prototype and on the other is a present-imperfective-atelic one. During language acquisition, children cling to the prototypical cores and shun peripheral forms which cut across the prototypes. The exact status of these prototypes is a matter of debate, but this paper will take the position that they reflect conceptual rather than linguistic organization. Regardless, as the prototypes are not, in and of themselves, products of the language acquisition process, one strong prediction made by the prototype account is that the temporal/aspectual groupings should be found outside the first language acquisition situation. This paper will present two lines of evidence with adults in support of this prediction.

First, adults' understanding of grammatical aspect is subtly affected by the prototypical groupings. Experiment 1 was a sentence-to-picture matching task in which subjects had to pair a telic-perfective sentence such as *The girl painted a flower* to a picture in which there was a completed flower, and a telic-imperfective sentence such as *The girl was painting a flower* to a picture showing an incomplete version of the same event. In a parallel set of trials, subjects also matched an atelic-imperfective sentence such as *The boy was sleeping* to a picture showing ongoing sleeping, and an atelic-perfective version such as *The boy slept* to a picture showing a boy playing next to a rumpled bed. As has been previously reported (Wagner 2001b), the performance of children (aged 3 to 5 years old) was better for the prototypical groupings, particularly in trials which restricted contextual cues.

A new analysis of adult performance showed that they were well above chance in all conditions – clearly adults are able to understand non-prototypical groupings. However, within the narrow ceiling range of adults' success, a significant statistical interaction was found, in the direction of the prototypical groupings. That is, the relatively few errors adults made were virtually all in the non-prototypical groupings (telic + imperfective or atelic + perfective). It appears, therefore, that adults and

children agree about which cases are hard; the difference between the groups is just that adults are comparatively better at dealing with hard cases.

Second, adults judge sentences which conform to the prototypical groupings as better than those which do not. Experiment 2 was a sentence comparison task. Subjects were presented with two sentences which varied only in how well they corresponded to the prototypical groupings. The subject's task was to choose which sentence was the better one. For example, in one trial, subjects were asked to choose between *The man built a house* (telic + durative + past + perfective) and *The child was tapping the table*; (atelic + punctual + past + imperfective) in another trial, between *The woman won the race* (a prototypical core: telic + punctual + past + perfective) and *The teacher is carrying the box* (the other prototypical core: atelic + durative + present + imperfective).

Despite the fact that all the sentences were acceptable grammatical sentences in English, adults consistently rated more prototypical sentences as being better. Four dimensions of the prototype were varied: tense (past vs. present), grammatical aspect (perfective vs. imperfective), the lexical aspect feature of telicity, and the lexical aspect feature of durativity. The results suggested that how good a sentence was judged to be depended on how many of these dimensions were drawn from the same prototype group regardless of which dimensions were grouped together. Thus, although there are principled reasons to expect certain of these dimensions to be linked (telicity and grammatical aspect share a similar semantic basis while grammatical aspect and tense share a similar syntactic form), nevertheless, the prototype appears to draw strongly from all dimensions.

The results from these two experiments show that the temporal/aspectual groupings found in children's early production and comprehension of their native language are retained by adults and continue to influence their linguistic judgments. Moreover, these results are bolstered by corroborating data found in the domains of second language acquisition and historical linguistics. This therefore suggests that these temporal/aspectual groupings are not a simple product of the language acquisition process but reflect deeper properties of conceptual-linguistic organization. This paper will argue that in fact, the temporal/aspectual prototypes reflect prototypical organization within our conceptualization of events themselves.

References

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