Children's early productivity with verbal morphology

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ARTICLE INFO

ABSTRACT

Three studies using the intermodal preferential looking paradigm examined onset of productive comprehension of tense/aspect morphology in English. When can toddlers understand these forms with novel verbs and novel events? The first study used familiar verbs and showed that 26–36-month olds correctly matched a past/perfective form (*-ed* or irregular past) to a completed version of an event and a present/imperfective (*is V-ing*) to the ongoing version of the same event. The second study used novel verbs and events and found that 33-month olds failed to use tense/aspect morphology to choose between completed and ongoing versions of the same event. The third study also used novel verbs and events but simplified the processing demands of the task in several ways (using initial priming of the events and classes of meaning, using different events within test pairs). This study found that 30-month olds successfully used tense/aspect morphology to choose between ongoing and completed novel events. The results demonstrate that children have productive command of tense/aspect morphology by 30 months and have therefore begun the process of creating an abstract grammar containing this element.

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1. Introduction

This article examines children's early productivity in the domain of verb morphology. When do children understand tense and aspect morphology in English well enough to interpret them creatively

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with novel verbs? A great deal of work has been conducted looking at children's productive under-standing of sentence-level grammatical elements, such as argument structure and word order (Fisher, 2002; Gertner, Fisher, & Eisengart, 2006; Naigles, 1990, 1996), but comparatively less attention has been paid to children's developing productivity in the morphological domain (although see Akhtar & Tomasello, 1997; Behrend, Harris, & Cartwright, 1995; Berko, 1958). Morphology is an important part of a grammatical system, but it differs from sentence-level grammar in a variety of ways. At the level of form, morphemes can often be bound to lexical items, which may make it more difficult for children to be productive with them independently of those words. At the level of meaning, morphemes typically link to a different class of meanings than sentence-level elements, and productivity may depend on children's facility with the particular meanings involved. The current experiments focus on English-learning children's productivity with tense/aspect morphology. In particular, they address children's ability to interpret both simple past tense forms (*V-ed*) and present tense forms (*is V-ing*) as they are applied to nonsense verbs. The intermodal preferential looking (IPL) paradigm was used, allowing the investigation to focus on children at the onset of productivity with these items.

1.1. What needs to be learned?

In English, tense and aspect are coded through a combination of periphrastic and bound mor-phemes. The past/perfective form consists of a bound morpheme (*-ed*) added to the verb (or an irregular change to the verb stem). Semantically, the *-ed* form conveys both past tense and perfective aspec-tual meaning. As a past tense form, it signals that the event described happened at some point in the past (before the time of utterance). As a perfective aspect form, it further signals that the speaker has adopted a closed perspective on the event: the event is completed. The present/imperfective form consists of a bound morpheme (*-ing*) added to the verb in combination with the present auxiliary form (*is/am/are*). Semantically, the tense and aspect meanings are separated in this construction: the auxiliary conveys tense information and the progressive *-ing* is an imperfective marker and signals that the speaker is taking an open perspective on the event: the event is ongoing. Thus, the imper-fective marker need not appear only with the present tense, but in English it must appear with some auxiliary that independently conveys the tense information. (For a more complete discussion of the main tense/aspect contrasts in English, see Comrie, 1976, 1985; Klein, 1994; Smith, 1991.)

This pattern of aspectual form-meaning mapping is not universal. In fact, there is wide cross-linguistic variation in how tense/aspect meanings get mapped onto morphology, and even in the extent to which they will be mapped onto overt morphology at all (Comrie, 1976, 1985; Slobin, 1985, 1992). For example, in the sentence "Beverly was hugging Gregory," English marks tense (*was*) separately from the imperfective aspect (*ing*), but French combines them into a single verb (in the imparfait form), and Mandarin marks the imperfective with an unbound particle (*zai*) and leaves the tense information to be inferred from context. From the perspective of language acquisition, therefore, tense/aspect morphology poses a variety of learning challenges to the child, including identifying a range of forms, finding a range of meanings and combinations of meanings, and combining the two in a language-specific mapping. These challenges may lead to a relatively long path toward productivity.

1.2. The development of tense/aspect morphology knowledge

Children appear to be facile from an early age with respect to command of the forms involved in tense/aspect. In production, Brown (1973) found that the progressive *-ing* was among the earliest mor-phemes to be used by children to his 90% correct criterion, with the past *-ed* form following some 4–12 months later (see also Santelmann & Jusczyk, 1998). Moreover, Hohenstein and Akhtar (2007) found that 2-year olds could segment both the *-ing* and *-ed* morphemes from lexical verbs. That is, children who were given the item *meeking* produced *meek*, demonstrating that they could correctly strip the morphology from verbs in their production. Further, these children also distinguished between *-ing* as a verbal inflection and *-ing* as simply the phonological end of a noun (as in the word *pudding*), consistently omitting the *-ing* only as a verbal inflection. In addition, around age 3 years, children begin over-regularizing the past tense forms (e.g., "goed"), suggesting that they have abstracted a rule regarding application of this form (Maratsos, 2000; Marcus et al., 1992).