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# Use of Agent and Object-Oriented Information in Language Acquisition

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The purpose of this study is to investigate children's bias to focus on agency information when they map meanings onto linguistic forms. Fisher et al. (1992) have shown that children have an agency bias in construing a verb's meaning so that the most agentive participant will be the verb's syntactic subject. This bias makes verbs like "give" (the giver is the most agentive actor) very easy to learn but means that learning verbs like "take" (the giver is still most agentive) require exposure to particular argument structure cues. This study asks if the agency bias extends beyond verb learning, to the grammatical encoding of events more generally.

The domain of this investigation is the English progressive construction (be + V-ing). This construction conveys information related both to the agents and to the objects of events (cf. Smith 1991). As the imperfective grammatical aspect marker, it removes completion entailments from an event, and when relevant, from the object of the event. Thus (1) indicates that (at least potentially) the event of flower-drawing is incomplete, as moreover, is the flower. In this guise, the progressive contrasts with perfective forms (2) which entail the completion of the event and when relevant, the object of the event.

- (1) The girl was drawing a flower
- (2) The girl drew a flower

In addition to this object-oriented function, the progressive also codes for the dynamicity and engagement of the agent of the event. Thus, the difference between (3) and (4) is not one of object completion (there is no object to speak of) but rather of highlighted properties of the agent.

- (3) Jenny was sitting in the chair
- (4) Jenny sat in the chair

Previous work in children's acquisition of the grammatical aspect (e.g. Weist 1991) has claimed that children understand the grammatical aspect (i.e. object-oriented) entailments of the progressive by as young as age 2;6. Children in these studies were able to consistently match a progressive sentence (1) to a picture of an incomplete event (a girl in the midst of drawing a flower) and a perfective sentence (2) to a picture of a complete event (a girl next to a completed flower). However, these studies failed to differentiate between object and agent oriented information: in all cases, the incomplete event was signaled both by the presence of an incomplete object (a half-drawn flower) and by an engaged agent (the girl working on the flower), while the complete event was signaled by both the presence of a complete object (a fully drawn flower) and an un-engaged agent (the girl proudly considering her picture). These studies cannot, therefore, tell us whether children were using object or agent oriented information (or both) to solve this task.

Additional work on grammatical aspect that limited itself to using object-oriented cues (e.g., just the half-drawn and fully drawn flowers) found very different results, including a substantial age delay in comprehension (Wagner 1998).

This result suggests that children's success in the previous tasks may depend on the accessibility of agency information.

The current experiment explicitly manipulates the information available about the agent and object, thus allowing us to see developmentally the relative importance of each source of information. It uses the same forced choice sentence-to-picture matching task used previously, in which children are presented with two depictions of the same event and asked to match these pictures to descriptions containing either the progressive or non-progressive form of a predicate. This experiment uses four kinds of picture pairs: type (1) contains only object information (parallel to the work of Wagner 1998), type (2) contains only subject information (atelic/non-completive events are used so that the status of the event's object remains constant in both depictions), type (3) contains both object and subject information consistent with each other (parallel to Weist 1991), and type (4) contains both object and subject information but at odds with each other, so that the completed object is combined with the dynamic agent and the incomplete object with the less-engaged agent.

Adults, who presumably are able to use both agent and object oriented information, should succeed with picture types (1), (2), and (3), but should provide inconsistent responses when the two types of information are at odds with each other. A child reliant on agency information, on the other hand, would succeed with types (2) and (3), fail with type (1), and behave consistently with type (4), since this child will be insensitive to the competing cues.

Preliminary results (so far, N = 20 across three groups: adults, 5-year-olds and 3-year-olds), show that all groups are able to use both object and agent-oriented information to some degree, but the 3-year-old group is much more dependent on agent-oriented information compared to the other two groups. These results therefore suggest a larger role for the agency bias in acquisition; wherever language encodes event-related information, agency information appears to play a disproportionately large role in young children's mapping process.

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