

Where it's at
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What do we know when we know a word's meaning? For one thing, we know the conditions under which the word can be used. However, this raises a related question, as we may *use* a word to describe a scene, or *use* a word to understand what scene another is describing. Do we rely on a single meaning whether we are choosing a word or interpreting another's utterance? In this paper, I present two experiments that, taken together, suggest that the meaning accessed for the preposition *at* may differ depending on whether the word is being matched to a scene or the scene is being constructed to fit the word.

Two experiments separately looked at production and comprehension of *at*. Experiment 1 examined the acceptability of *at* as a description of an existent scene. Participants rated the acceptability of *at* (embedded in sentences) as a description of Figure/Ground configurations in which the *proximity* of the Figure and Ground (e.g., Herskovits, 1986; Miller & Johnson-Laird, 1976), *contact*, *support* (important, e.g., for *in* and *on*: Herskovits, 1986; Feist & Gentner, 2003), and *canonicity* of the Figure-Ground relation (Coventry & Garrod, 2004) were independently varied. Experiment 2 examined where speakers expect a Figure to be if it is described as *at* a Ground. Participants placed the Figures from Experiment 1 *at* the corresponding Grounds. The resultant scenes were coded for *coincidence* (as points) of the Figure and Ground (the limiting case of proximity), *contact* between the Figure and Ground, *support* of the Figure by the Ground, and *functional interaction* of the Figure and Ground (Coventry & Garrod, 2004; Vandeloise, 2003). The rate of appearance of each factor was then tested against chance.

The results of the two experiments show a number of discrepancies in the roles of the various factors in *at*'s meaning. First, while *at* was rated most acceptable (Experiment 1) if the Figure and Ground were proximal, in constructed scenes (Experiment 2), the limiting case of proximity, *coincidence* of the Figure and Ground, appeared less often than expected by chance. Second, *at* was rated less acceptable if the Figure and Ground were in contact than if not (E1), but they were placed in contact with one another more often than expected by chance (E2). Third, while *at* was rated less acceptable if the Ground was supporting the Figure than if not (E1), this disadvantage for *support* did not appear in constructed scenes, with support appearing at chance levels (E2).

These discrepancies can be explained by considering differences between choosing a term to describe a scene and comprehending another's description. When choosing a term, one must consider competing terms; as the acceptability of one term increases, the acceptability of competing terms decreases. Thus, the existence of *on*, which is often used when the Figure and Ground are in contact (Coventry & Garrod, 2004; Herskovits, 1986) accounts for the reduced acceptability of *at* when the two are in contact. When interpreting another's utterance, however, competing prepositions become less relevant: the descriptive term has already been chosen and the hearer seeks the most likely interpretation. When describing topological relations, it is often relevant whether the Figure and Ground are in contact, and further whether one supports the other. This results in the heightened influence of *contact* and *support* observed in comprehension relative to production. These results highlight the importance of examining both production and comprehension in order to probe the meanings of spatial prepositions: *where it's at* may depend on whether we're producing a description or interpreting one.

References

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