

# Contextual Licensing of Marked Word Order in Spatial Descriptions

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## Two Principles of Spatial Premise Integration

Example of premise pair

P1: [The snake]<sub>locatum</sub> is to right of [the deer]<sub>relatum</sub>.

P2: [The donkey]<sub>locatum</sub> is to the right of [the snake]<sub>relatum</sub>.

### • Relatum = Given:

Integration is easier if given term figures as relatum of P2.

### • Given-New:

Integration is easier if given term precedes new term in P2 (cf. Clark & Haviland, 1977)

## Licensing Marked Word Order: Given-New or Partially Ordered Set (Poset)?

### • Given-New Licensing

Marked word order is licensed if given preverbal prepositional object precedes postverbal new subject

### • Poset Licensing (Prince, 1999):

Marked word order is licensed if preverbal constituent, whole PP, is new and poset related to given entity

Poset relations: e.g., if transitive, irreflexive, and asymmetric

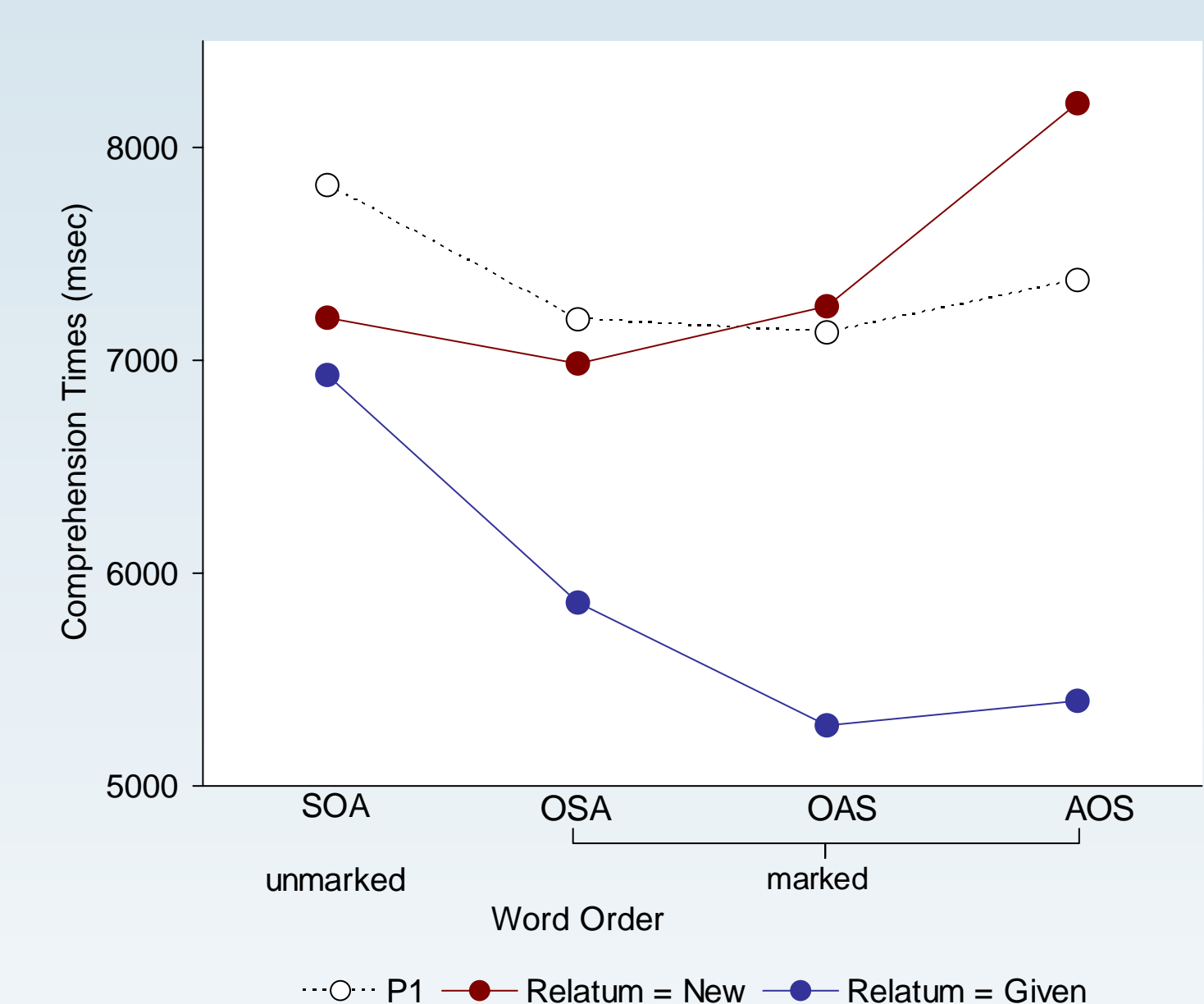
⇒ Spatial relations are poset relations

## Predictions

- Given-New: Marked OSA, OAS, and AOS are all licensed
- Poset: Marked OAS and AOS are licensed, but OSA is not

Procedure see above

Results: P2 comprehension times



## Varying Word Order: Projective Prepositions

(1.a) Der Esel<sub>new</sub> ist rechts von der Schlange<sub>given</sub>.  
The donkey<sub>new</sub> is to the right of the snake<sub>given</sub>.

(1.b) Die Schlange<sub>given</sub> ist links vom Esel<sub>new</sub>.  
The snake<sub>given</sub> is to the left of the donkey<sub>new</sub>.

(2.a) Rechts von der Schlange<sub>given</sub> ist der Esel<sub>new</sub>.  
To the right of the snake<sub>given</sub> is the donkey<sub>new</sub>.

(2.b) Links vom Esel<sub>new</sub> ist die Schlange<sub>given</sub>.  
To the left of the donkey<sub>new</sub> is the snake<sub>given</sub>.

(1) = unmarked word order; (2) = marked word order

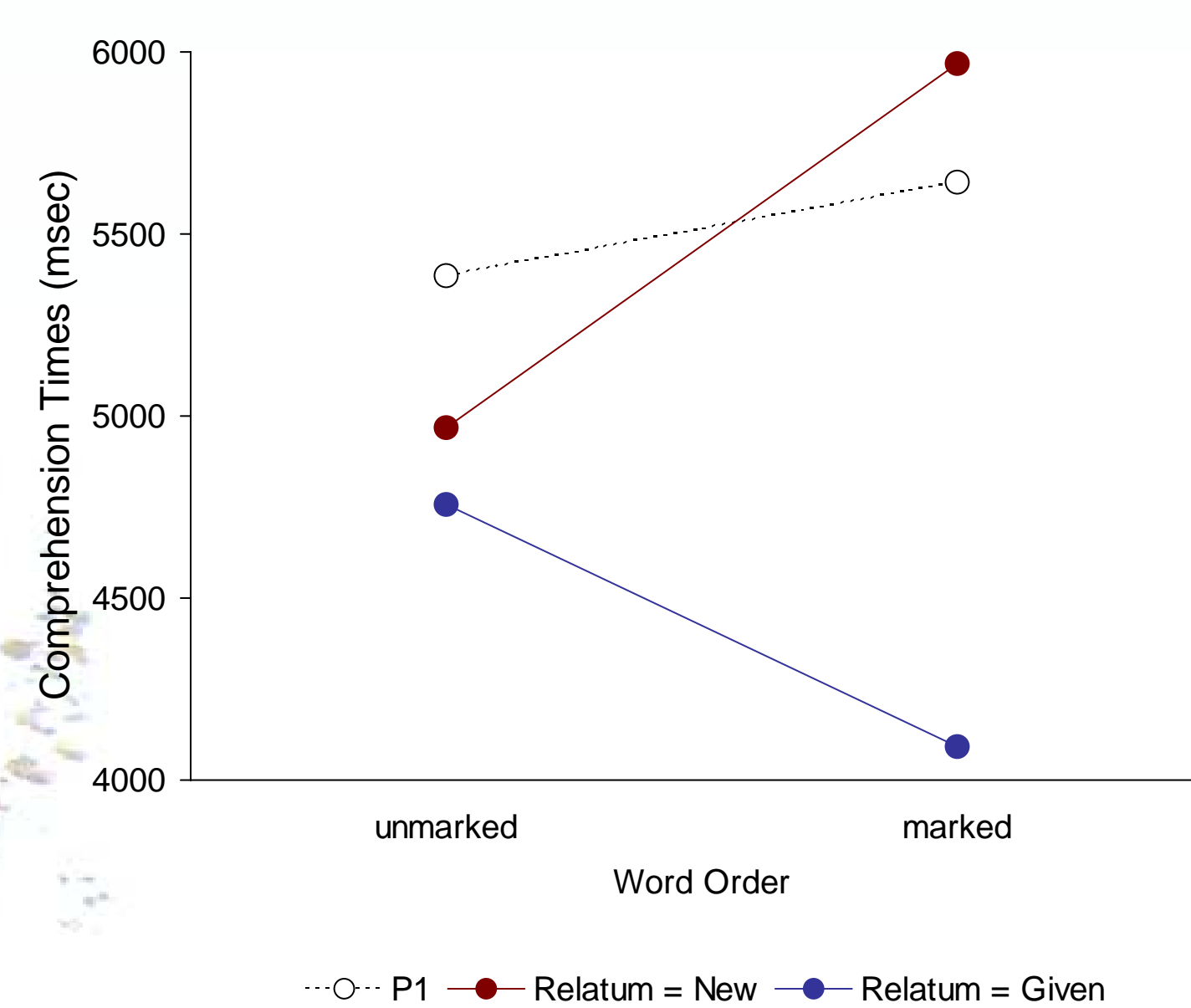
## Predictions

- Relatum = Given: (1.a), (2.a) easier than (1.b), (2.b)
- Given-New: (1.b), (2.a) easier than (1.a), (2.b)
- ⇒ (2.a) easiest (licensed)
- (2.b) most difficult (unlicensed)

## Procedure

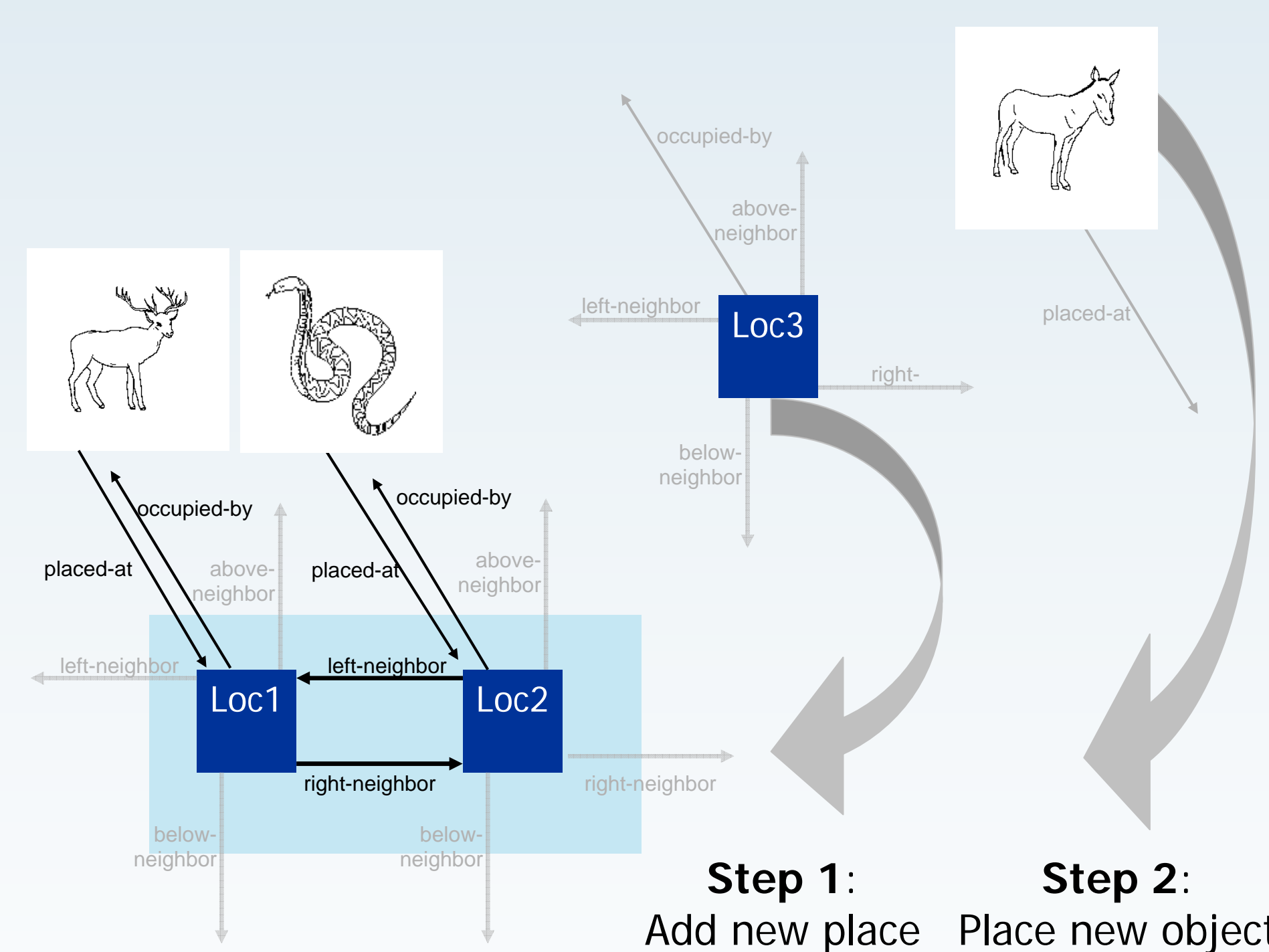
- Self-paced reading of first premise, P1
- Self-paced reading of second premise, P2
- Picture verification

Results: P2 comprehension times  
cf. Hörnig, Oberauer, & Weidenfeld, 2005



- Relatum = Given:  $F_{1,21} = 54.36, p < .001$
- Given-New (relatum × word order):  $F_{1,21} = 105.04, p < .001$

## Model Integration: Dissociating Objects and Places



Preverbal PP denotes a new place which is poset related to a given place:

[To the right of [the snake]<sub>givObj</sub>]<sub>newPlace</sub> is [the donkey]<sub>newObj</sub>.

## Varying Word Order: Projective Adverbs

(3.a) Der Esel<sub>new</sub> ist von der Schlange<sub>given</sub> aus rechts.  
The donkey<sub>new</sub> is as from the snake<sub>given</sub> right.

(4.a) Von der Schlange<sub>given</sub> aus ist der Esel<sub>new</sub> rechts.  
As from the snake<sub>given</sub> the donkey<sub>new</sub> is right.

(5.a) Von der Schlange<sub>given</sub> aus rechts ist der Esel<sub>new</sub>.  
As from the snake<sub>given</sub> right is the donkey<sub>new</sub>.

(6.a) Rechts von der Schlange<sub>given</sub> aus ist der Esel<sub>new</sub>.  
Right as from the snake<sub>given</sub> is the donkey<sub>new</sub>.

(3) = unmarked SOA; (4), (5), (6) = marked word orders, OSA, OAS, AOS

Versions 3.b to 6.b –new relatum– were also tested

## Discussion

### Contextual Licensing:

- Given-new licenses marked word order
- Poset licensing even stronger than given-new licensing
- Contextual licensing is a matter of degree

### Processing Assumptions:

- Earlier availability of given relatum speeds up premise integration
- ⇒ Speeding up antecedent access
- Earlier availability of given relatum together with relational expression, speeds up adding new place
- ⇒ Speeding up relational processing

## References

- Clark, H.H., & Haviland, S. E. (1977). Comprehension and the Given-New contract. In R. O. Freedle (ed.), *Discourse processes: advances in research and theory, vol. 1: Discourse production and comprehension* (pp.1-40). Norwood: Ablex.
- Hörnig, R., Oberauer, K., & Weidenfeld, A. (2005). Two principles of premise integration in spatial reasoning. *Memory & Cognition*, 33, 131-139.
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