Research Question

To what extent do animacy and definiteness influence grammatical function disambiguation in transitive sentences?

Animacy & Definiteness

Animacy
- Inherent semantic property
- Animacy Hierarchy
  - Animates >> inanimate
  
  "...in natural languages, certain grammatical relations tend to be characteristic of certain features, in particular that subjects tend to be definite, animate, and topic (theematic); while direct objects tend to be indefinite, inanimate, and thematic."
  - Comrie (1979: 19)

Definiteness
- Referential information
  - Topic, Focus, Given, New
  - Definiteness hierarchy
  - Definite >> Indefinite

Unmarked Form Verb ($x_{animate}$, definite ($y_{inanimate}$, indefinite))

Word Order

Subject-first preference
- subject-object (SO) >> object-subject (OS)

Animate-first preference
- animate-inanimate >> inanimate-animate

Interpretation of animacy is not affected by word order; Interpretation of indefiniteness is affected by word order

De zaak breidt een professoren. ($x_{SO, non-specific reading}$)
En een professoren de zaak. ($x_{SO, specific reading}$)
'The case pleased a professor.'

Verb Type

Agentive /Subject-Experiencer Verbs

Animate subject, passive is possible
- De professor bewonderde de poster. / De poster werd bewonderd ...
  - 'The professor admired the poster.' / 'The poster was admired ...'

Causative Psych Verbs

Animate object, passive is possible
- De resultaten verrasten de professor. / De professor werd verrast ...
  - 'The results surprised the professor.' / 'The professor was surprised ...'

Unaccusative Psych Verbs

Animate object, no passive
- De conferentie bevielt de professor. / De professor werd bevallen ...
  - 'The conference pleased the professor.' / 'The professor was pleased ...'

The experiment

- off-line rating: ease of comprehensibility 1 to 7
  (1=difficult; 7=easy to comprehend)
- 80 native speakers of Dutch (56 female, age 18 – 28 years)
- subject- and object-initial embedded sentences: animate-animate or animate-inanimate NP pairs were combined with 18 different agentive/subject-experiencer verbs, 18 causative psych verbs, 8 unaccusative psych verbs; NPs were definite with de (‘the’) or indefinite with ‘n’ (a);
- 36 conditions, 1584 sentences distributed over 8 lists
- sentences were matched on plausibility, and all highly filler sentences were pseudorandomly distributed on each list

Results

Overall statistics

Three-way rating: 7 conditions, 1584 sentences distributed over 8 lists

Word order * Verb type * Definite

Analyses per verb type

Agentive /subject-exp. verbs:
- Word Order:
  - F(2,76)=1279.11, p<.001
  - SO (animate-animate) >> OS (animate-inanimate) >> OS (animate-animate)
  - Definiteness: n.s.

Causative psych verbs:
- Word Order:
  - F(2,76)=864.60, p<.001
  - SO (animate-animate) >> OS (animate-inanimate) >> OS (animate-animate)
  - Definiteness: n.s.

- Unaccusative psych verbs:
  - Word Order:
    - F(2,76)=13.24, p<.001
    - Definiteness:
      - F(3,77) = 11.83, p<.001
    - Word order * Definiteness:
      - F(6,74) = 2.73, p<.023
    - Definiteness:
      - SO (animate-animate) vs OS (animate-inanimate) vs OS (animate-animate)
      - Word order: SO vs OS (animate-animate)
    - OS: n.s.

Ease of Comprehensibility

- SO-sentences preferred to OS-sentences for all verb types
- SO-sentences: agentive, subject-exp. << causative << unaccusative
- OS-sentences: unaccusative << causative << agentive, subject-exp.
- Difference between SO and OS was largest for sentences with agentive/subject-exp. verbs and smallest for unaccusative psych verbs
- High ratings for sentences with animate-animate NP pairs indicate that they were interpreted as preferred SO-sentences

Conclusion

- For verbs that make it possible to fulfill the subject-first preference & the animate-first preference, the ease of comprehensibility is highest for SO-sentences in which both preferences are fulfilled (OPTIMAL FORM), while for OS-sentences in which both preferences are violated, the comprehensibility is rated as extremely difficult
  - agentive/subject-experiencer verbs
- For verbs that can only fulfill both preferences in a more complex, passive structure, the ease of comprehensibility is lower for SO-sentences fulfilling the subject-first preference, whereas OS-sentences in which the animate-first preference is fulfilled are rated as less difficult to understand
  - causative psych verbs
- For verbs that offer no possibility to fulfill both the subject-first and the animate-first preference, SO-sentences as well as OS-sentences, which both fulfill only one preference, are rated as relatively easy to understand
  - unaccusative psych verbs

Animacy word order, definiteness and verb type influence ease of comprehensibility

If both the subject-first and animate-first preference can be fulfilled, animacy word order is a strong cue; definiteness only kicks in if there is no possibility to fulfill the two preferences at the same time. Hence:

Animacy and Definiteness form two different forces in sentence comprehension!

References