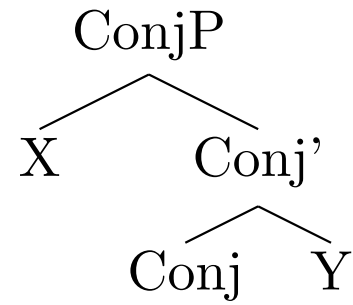
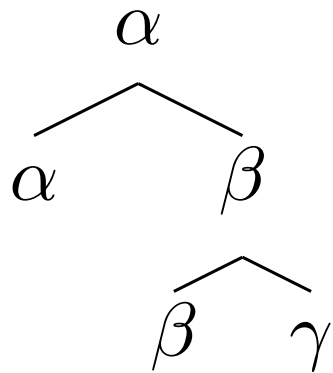
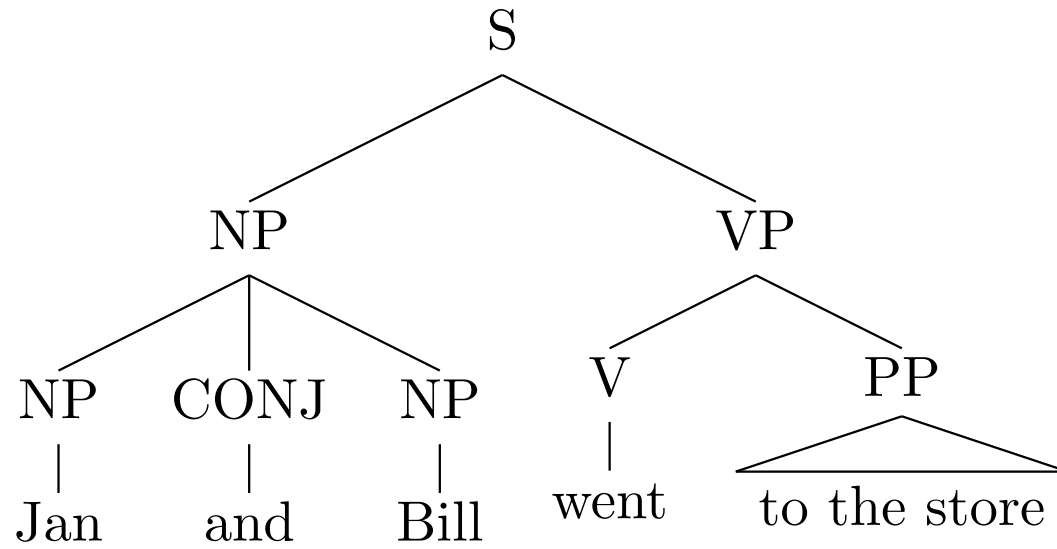


Straddling the Interface: Investigating the locus of coordination

Wayne Cowart (with Dana McDaniel)
University of Southern Maine

International Workshop on
Grammar & Evidence

April 13-15, 2007
National Chung Cheng University

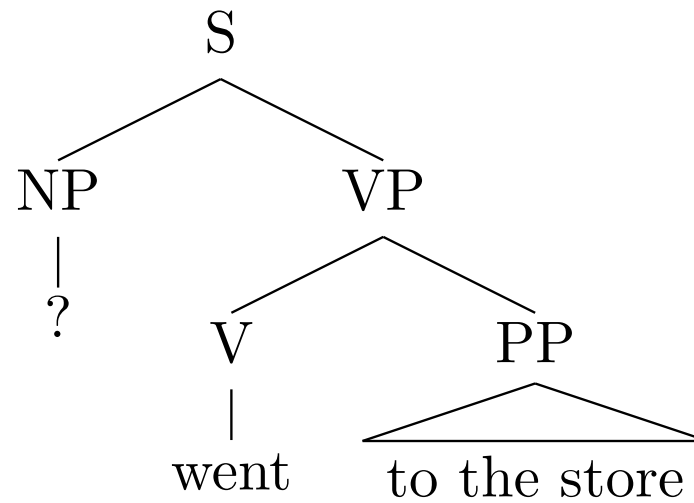
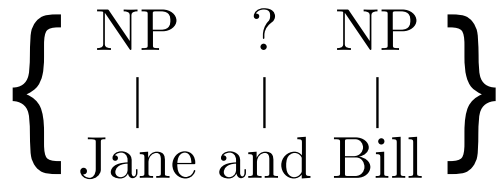


Jan and Bill went to the store

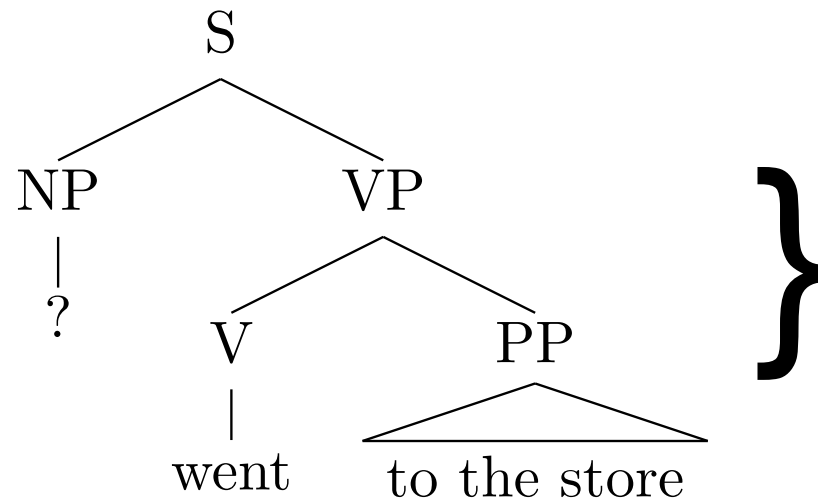
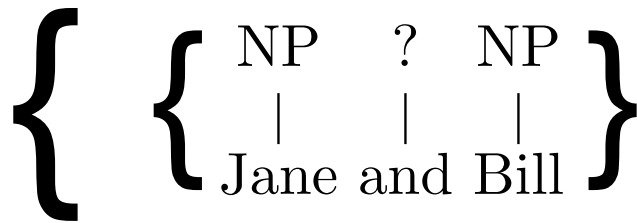


{ ... }

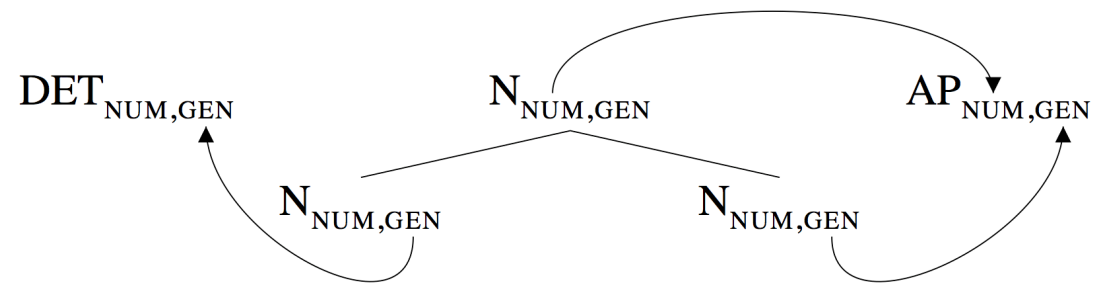
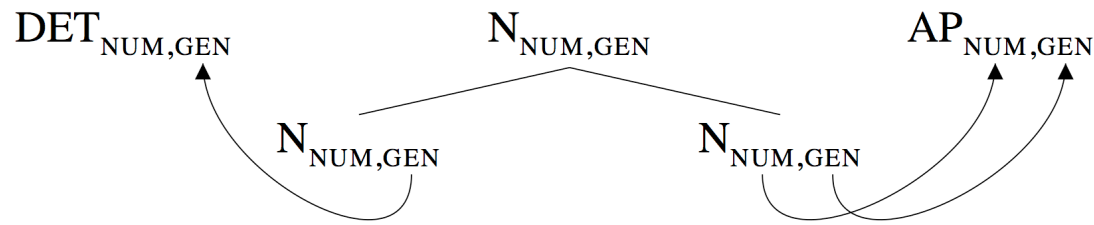
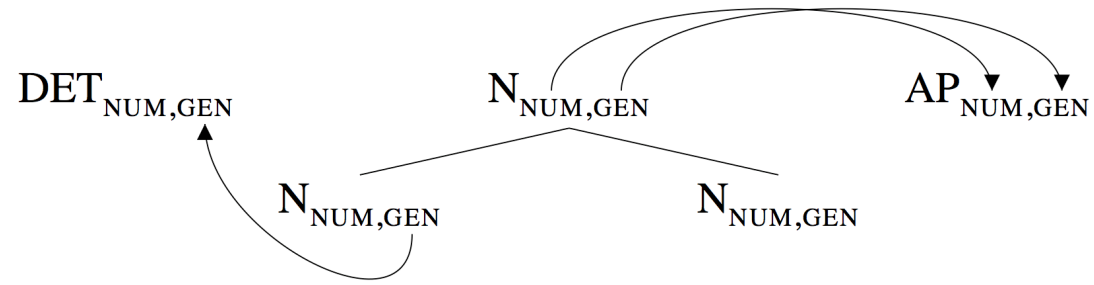
Two-Competence Model



Two-Competence Model



- (Un)Headedness/Symmetry
- Likeness
- (Un)Commanded
- Case and agreement oddity
- All-or-none extraction
- ...



The $\left\{ \begin{array}{l} \text{book} \\ \text{books} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{on} \\ \text{and} \end{array} \right\}$ the $\left\{ \begin{array}{l} \text{newspaper} \\ \text{newspapers} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{is} \\ \text{are} \end{array} \right\}$ on the desk

The $\left\{ \begin{array}{l} \text{book} \\ \text{books} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{on} \\ \text{and} \end{array} \right\}$ the $\left\{ \begin{array}{l} \text{newspaper} \\ \text{newspapers} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{is} \\ \text{are} \end{array} \right\}$ on the desk

The book on the newspaper is .64

The book on the newspapers is .45

The book on the newspaper are .19

The book on the newspapers are .38

The $\left\{ \begin{array}{l} \text{book} \\ \text{books} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{on} \\ \text{and} \end{array} \right\}$ the $\left\{ \begin{array}{l} \text{newspaper} \\ \text{newspapers} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{is} \\ \text{are} \end{array} \right\}$ on the desk

The book and the newspaper are .74

The book and the newspapers are .69

The $\left\{ \begin{array}{l} \text{book} \\ \text{books} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{on} \\ \text{and} \end{array} \right\}$ the $\left\{ \begin{array}{l} \text{newspaper} \\ \text{newspapers} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{is} \\ \text{are} \end{array} \right\}$ on the desk

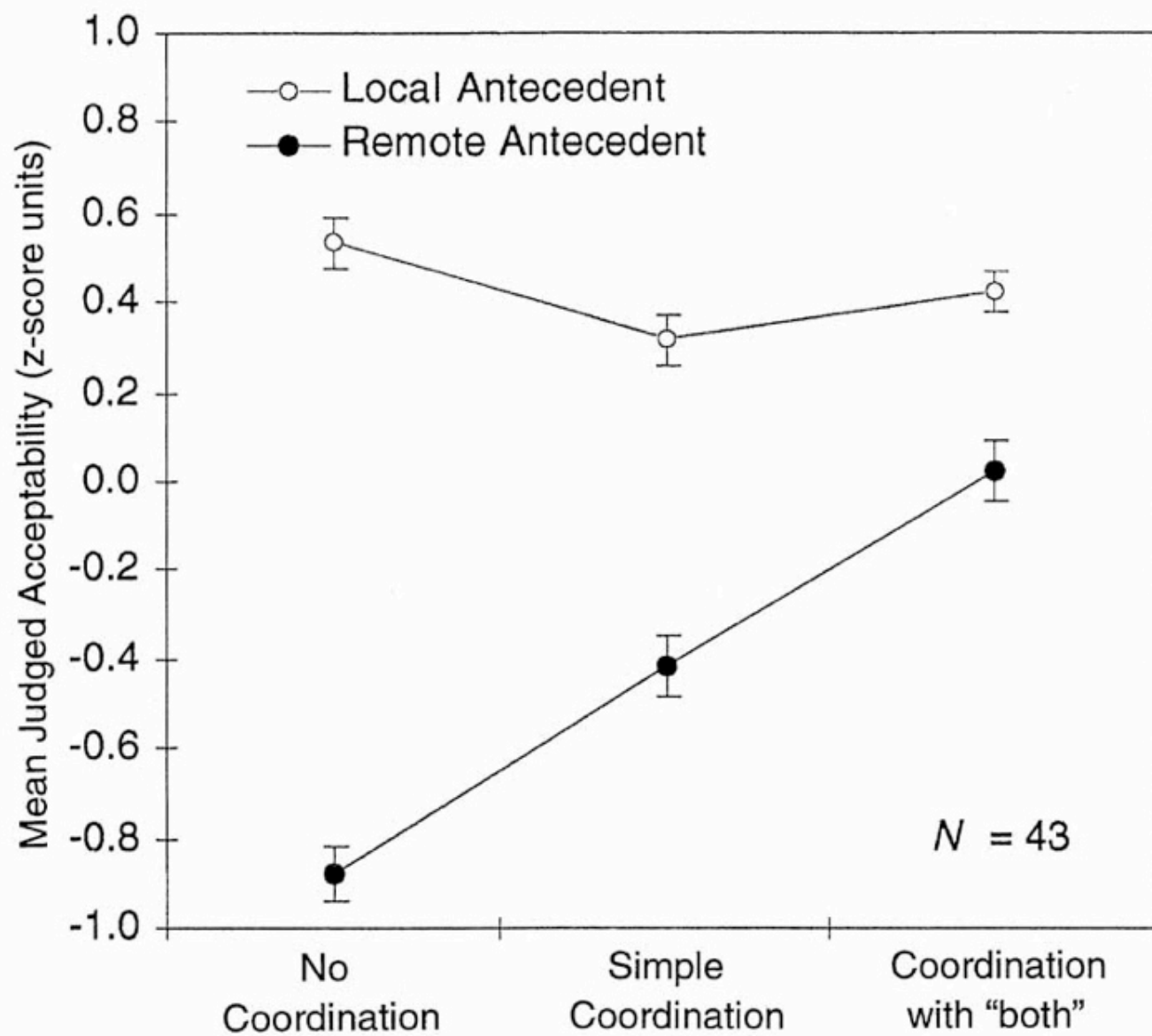
The book and the newspaper is .47

The book and the newspapers is .23

The books and the newspaper is .23

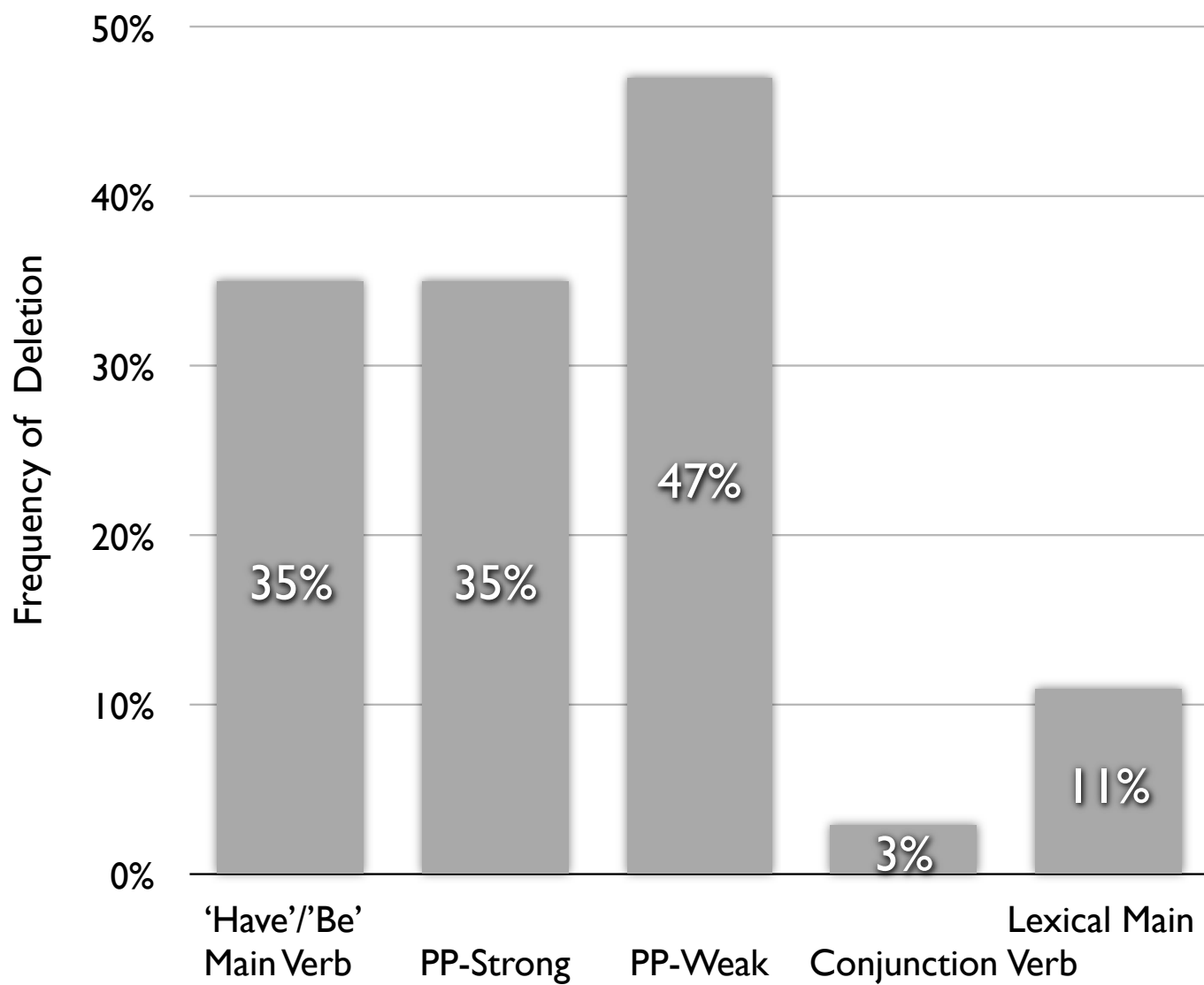
The books and the newspapers is .09

- 1) *Mary_i thinks the Commissioners like her_i*
- 2) *Mary_i thinks the Commissioners like herself_i*
- 3) *Mary_i thinks the Commissioners like herself_i and Bill*
- 4) *Mary_i thinks the Commissioners like both herself_i and Bill*



- 1) *Every boy_i said that the princess liked his_i dog.*
- 2) *Every boy_i and his_i dog left.*
- 3) *Every boy_i, the girl, and his_i dog left.*
- 4) *Every boy_i, his dog_i, and the girl left.*

Language	'Have'/'Be' Main Verb	Personal Pronouns		Conjunction	Lexical Main Verb
		Strong	Weak		
Dutch	100	100	80	6	19
Dutch	85	100	96	5	39
English	5			3	4
English	82	67		30	12
Finnish	36	55		0	18
Finnish	4	5		0	4
French	50	15	53	0	5
French	4	1	28	0	0
German	16	28		0	6
German	52	28		1	13
Hebrew		80		1	22
Hindi	27	13		0	8
Italian	57	8		0	20
Italian	8		12	0	3
Polish	10	40	27	0	4
Serbo-Croatian			80	8	
Serbo-Croatian	5	4	3	0	
Swedish	50	9		0	18
Swedish	8	4		2	0



ELW

And basket and Toto basket

Ball and Emily and heart attack

And hand bible and sit down

Roy and Whammy pitched and strike one

Johnny and her no more

Babysitter and wrapping up toilet paper

Soldier and dying

And rain and come in and sleep

Interpretation

Toto was in the basket.

She looked in the crystal ball and saw that her Aunt Emily was having a heart attack.

He put his hand on the bible (swore an oath) and sat down.

Roy pitched Whammy a strike.

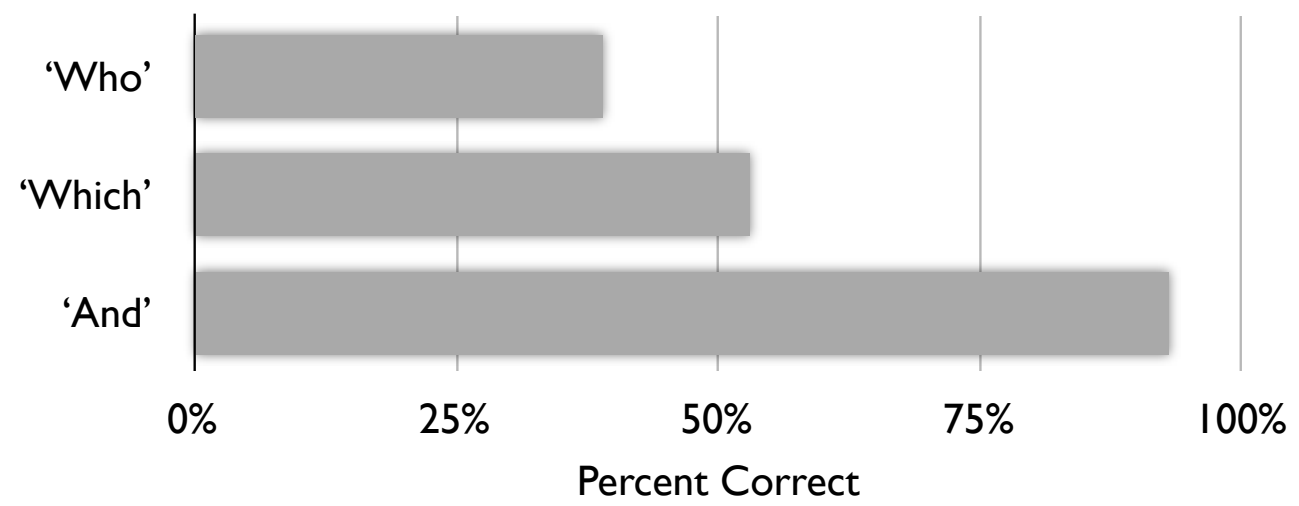
She and Johnny broke up.

The babysitter was wrapping something in toilet paper.

The soldier was dying.

It was raining and they came in to sleep.

Object Extraction	‘Who’	Wen waschen die Bären? (<i>‘Who are the bears washing?’</i>)
	‘Which’	Welchen Affen waschen die Bären? (<i>‘Which monkey are the bears washing?’</i>)
Coordi- nation	‘And’	Die Frau und der Mann gießen die Blumen (<i>‘The woman and the man are watering the flowers?’</i>)



Steiner “On the Comprehension of Coordination in Agrammatism” (2002)

Origins

Phase I

[ba]	Give-me-the-food!
[ki]	This-is-my-territory!
[do]	Watch-out-for-the-predator!
[mu]	Look-over-there!



{ α , β , γ }

Phase II

[ba]	Give-me-the-food!
[ki]	This-is-my-territory!
[do]	Watch-out-for-the-predator!
[mu]	Look-over-there!
[do]	predator
[ba]	food
[mu]	search

{ α , β , γ }

[baki] {give-me-the-food this-is-my-territory}

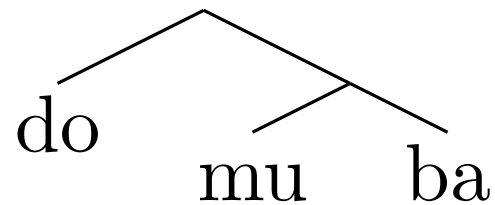
Phase III

[ba]	Give-me-the-food!
[ki]	This-is-my-territory!
[do]	Watch-out-for-the-predator!
[mu]	Look-over-there!
[do]	predator
[ba]	food
[mu]	search

{ α , β , γ }

[baki] {give-me-the-food this-is-my-territory}

[do mu ba]



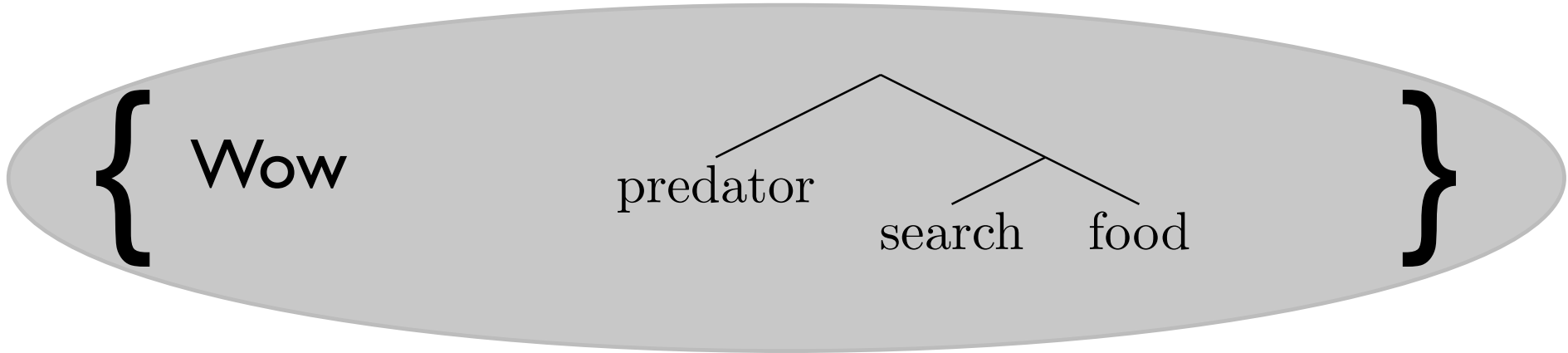
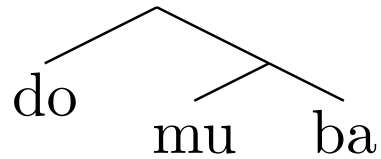
Phase IIIb

[ba]	Give-me-the-food!
[ki]	This-is-my-territory!
[do]	Watch-out-for-the-predator!
[mu]	Look-over-there!
[do]	predator
[ba]	food
[mu]	search

{ α , β , γ }

[baki] {give-me-the-food
this-is-my-territory}

[do mu ba]



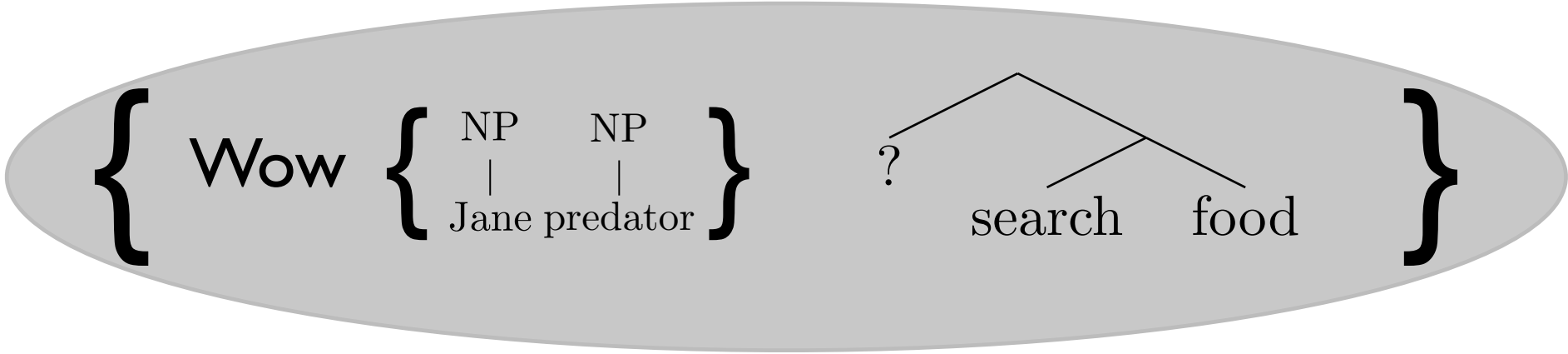
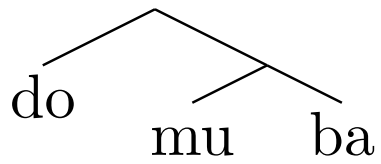
Phase IIIb

[ba]	Give-me-the-food!
[ki]	This-is-my-territory!
[do]	Watch-out-for-the-predator!
[mu]	Look-over-there!
[do]	predator
[ba]	food
[mu]	search

{ α, β, γ }

[baki] { give-me-the-food
this-is-my-territory }

[do mu ba]



Recap: evolution of two competences

	Holistic System	Dynamic Set-Making	Merge
Phase I	✓		
Phase II	✓	✓	
Phase III	✓	✓	✓

Conclusions

Several lines of evidence support a 2nd-competence model of coordination.

A notable feature of this approach is that it turns the usual problem of coordination on its head.

- The familiar unruliness of coordinate structures is expected.
- But, the apparent syntactic systematicity of some coordinate phenomena in some languages is unexpected and therefore problematic.

Evidence

Sentence judgments

Corpus data

Neurological observations

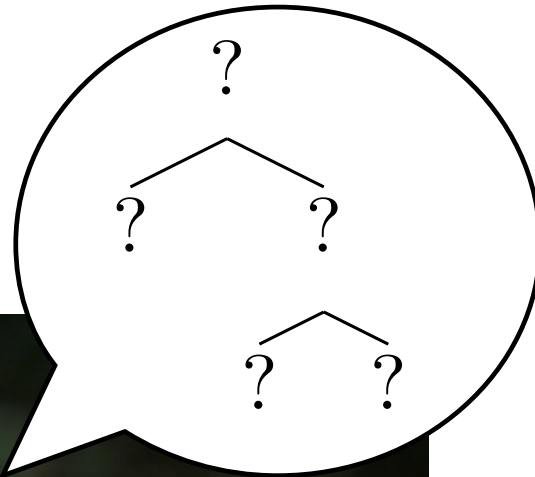
Comparative Psychology

Sentence production

Acquisition

Grammar and Evidence

- There are no observations of the form
Sentence S is (un)grammatical.
- Ungrammatical forms are at least as informative as grammatical ones.
- The informative value of judgments of acceptability goes beyond what can be tapped by informal methods.
- The neglect of experimental methods for assessing judgments of acceptability both ...
 - ...impedes the development of linguistics with respect to its own core issues and ...
 - ...makes it more difficult to integrate linguistic theory with relevant results in other disciplines
 - (because that demands that we have something concrete to say about how grammar manifests in specific forms of behavior).

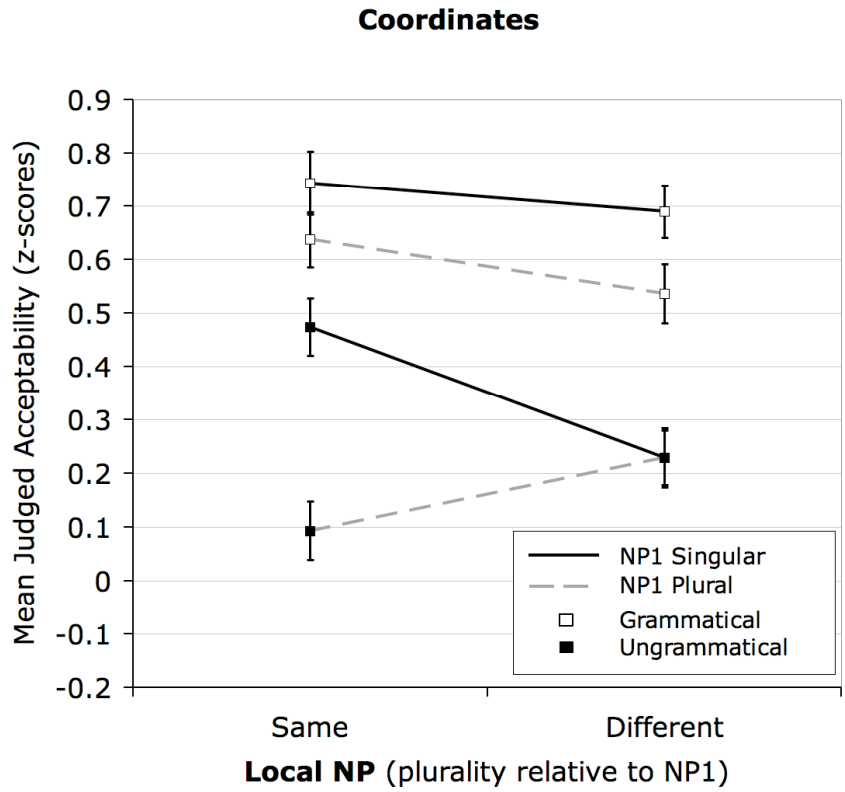
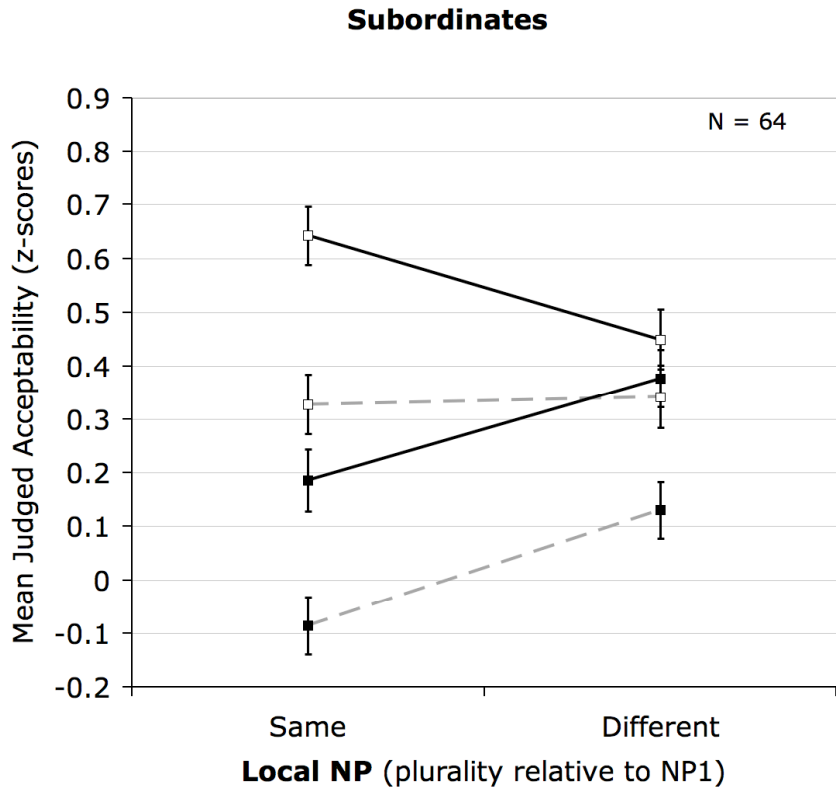


Thanks to:

{ Tatiana Agupova }
{ Daniel Lawrence }
{ Winnie Paulino }
{ JoAnn Smith }

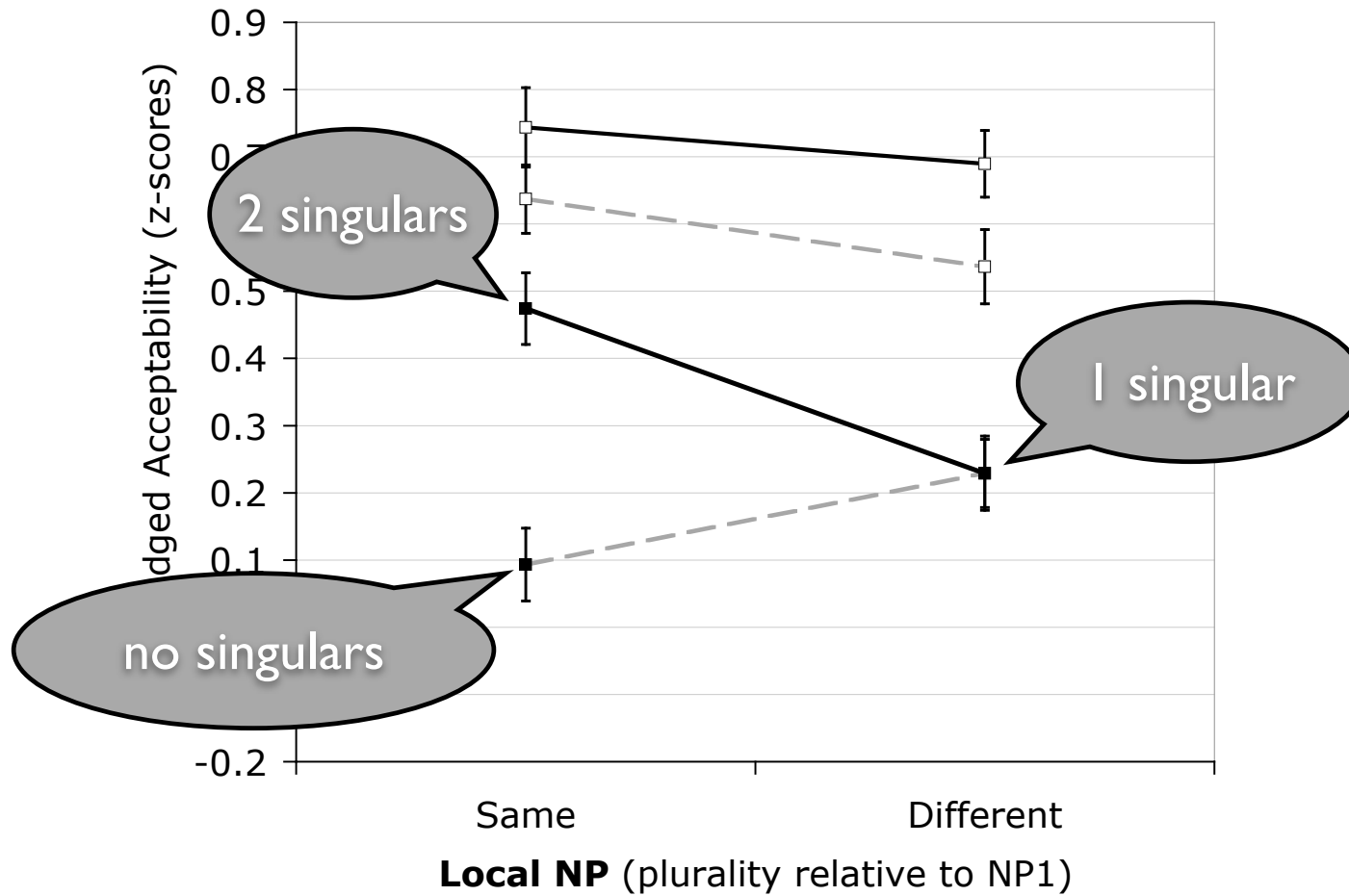
Supplemental Material

The following three slides provide additional detail concerning the experiment discussed on slides 11 - 14.



The $\left\{ \begin{matrix} \text{book} \\ \text{books} \end{matrix} \right\} \left\{ \begin{matrix} \text{on} \\ \text{and} \end{matrix} \right\}$ the $\left\{ \begin{matrix} \text{newspaper} \\ \text{newspapers} \end{matrix} \right\} \left\{ \begin{matrix} \text{is} \\ \text{are} \end{matrix} \right\}$ on the desk.

Coordinates



The { book books } and the { newspaper newspapers } is on the desk.

	Local NP		Means			F_1
	Same	Different	Same	Different	Difference	
Subordinate Cases						
NP1 singular	$N_{\text{sing}}-N_{\text{sing}}-V_{\text{sing}}$	$N_{\text{sing}}-N_{\text{pl}}-V_{\text{sing}}$	.64 (.05)	.45 (.06)	-.19	$p < .05$
	* $N_{\text{sing}}-N_{\text{sing}}-V_{\text{pl}}$	* $N_{\text{sing}}-N_{\text{pl}}-V_{\text{pl}}$	.19 (.06)	.38 (.05)	.19	$p < .05$
NP1 plural	$N_{\text{pl}}-N_{\text{pl}}-V_{\text{pl}}$	$N_{\text{pl}}-N_{\text{sing}}-V_{\text{pl}}$	.33 (.06)	.34 (.06)	.01	NS
	* $N_{\text{pl}}-N_{\text{pl}}-V_{\text{sing}}$	* $N_{\text{pl}}-N_{\text{sing}}-V_{\text{sing}}$	-.09 (.05)	.13 (.05)	.22	$p < .01$
Coordinate Cases						
NP1 singular	* $N_{\text{sing}}-N_{\text{sing}}-V_{\text{sing}}$	* $N_{\text{sing}}-N_{\text{pl}}-V_{\text{sing}}$	.47 (.05)	.23 (.05)	-.24	$p < .01$
	$N_{\text{sing}}-N_{\text{sing}}-V_{\text{pl}}$	$N_{\text{sing}}-N_{\text{pl}}-V_{\text{pl}}$	.74 (.06)	.69 (.05)	-.05	NS
NP1 plural	$N_{\text{pl}}-N_{\text{pl}}-V_{\text{pl}}$	$N_{\text{pl}}-N_{\text{sing}}-V_{\text{pl}}$	.64 (.05)	.54 (.06)	-.10	NS
	* $N_{\text{pl}}-N_{\text{pl}}-V_{\text{sing}}$	* $N_{\text{pl}}-N_{\text{sing}}-V_{\text{sing}}$	.09 (.05)	.23 (.06)	.14	$p < .1$