

Negotiating lexical uncertainty and expertise with disjunction

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COMMUNICATING IN LANGUAGE ABOUT LANGUAGE

- Languages are neither fixed across time nor identically reproduced in all speakers, but rather continually renegotiated during interactions [7].
- People accommodate to each other's usage patterns [16], form temporarily lexical pacts [8, 3], and instruct each other about their linguistic views [18, 39].
- Some of this communication in language about language is direct, as with explicit definitions, but much of it arrives via secondary pragmatic inferences.
- Disjunction supports what appear to be opposing inferences about language:
 - **Hurfordian pressure [21]:** *X or Y* conveys that *X* and *Y* are disjoint
 - **Definitional inference [20]:** *X or Y* conveys that *X* and *Y* are synonymous
- This pattern is cross-linguistically robust, so we seek a single pragmatic model that can derive both of these meanings from the semantics of disjunction given different contextual assumptions.

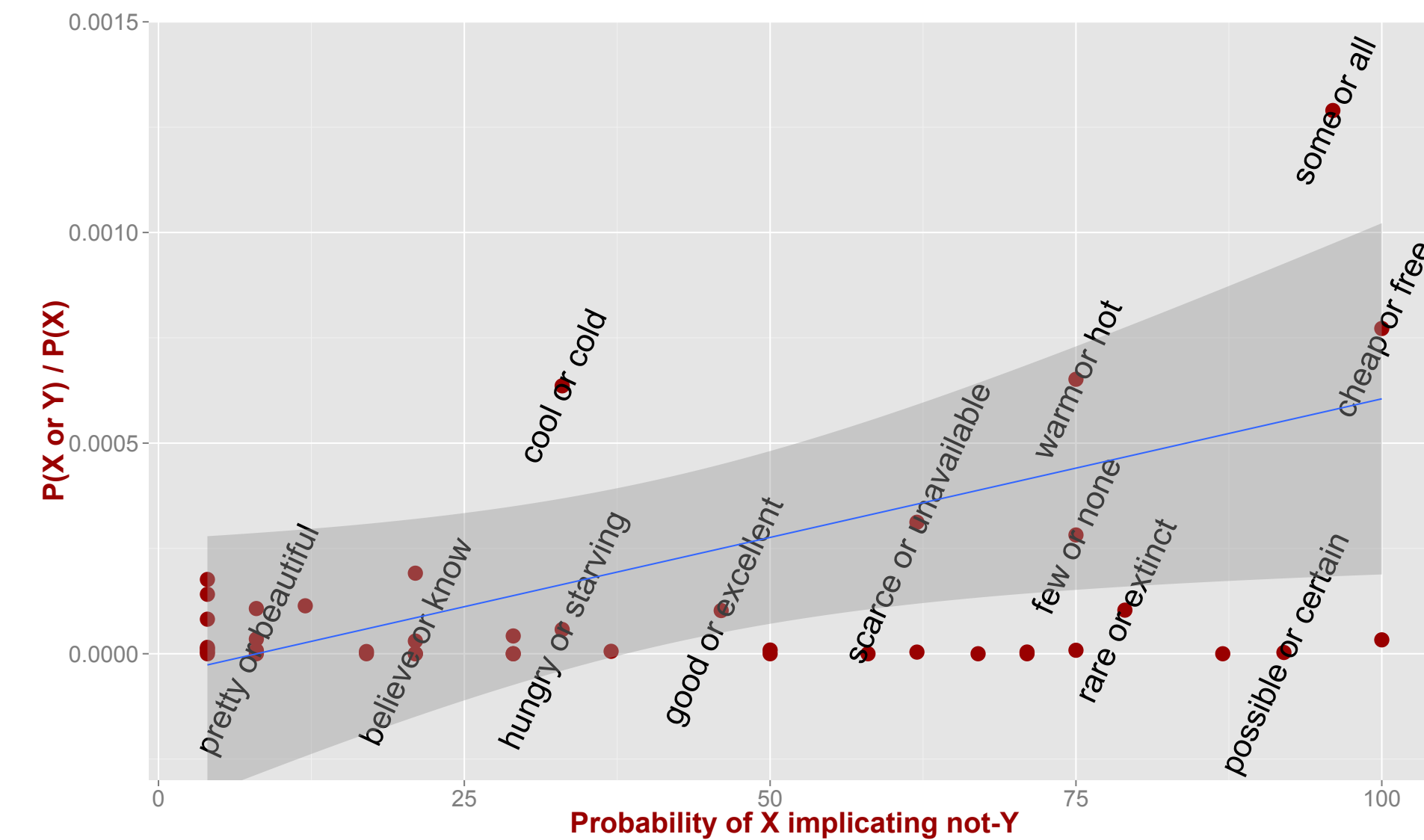
HURFORDIAN PERCEPTIONS AND INTENTIONS

Generalization: *X or Y* conveys that the speaker is using a lexicon in which *X* and *Y* are disjoint, or it addresses a speaker concern that the listener is using such a lexicon.

- (1) the nuptials will take place in either **France** or **Paris**
- (2) the **canoe** or **boat** will be held by the stream's current
- (3) In 1940, 37% of us had gone to a **church** or **synagogue** in the last week.

No clear evidence for ordering restrictions or preferences deriving from the entailment relation:

Our corpus		
Disjunct order	Exs.	
[general] or [specific]	75	
[specific] or [general]	86	



The frequency of *X or Y* usage correlates with the prevalence of *X* implicating *not Y* [5].

DISJUNCTIVE DEFINITION AND IDENTIFICATION

Generalization: *X or Y* can convey $\llbracket X \rrbracket \approx \llbracket Y \rrbracket$ when the speaker is mutually, publicly known to be an expert or would like to establish expertise.

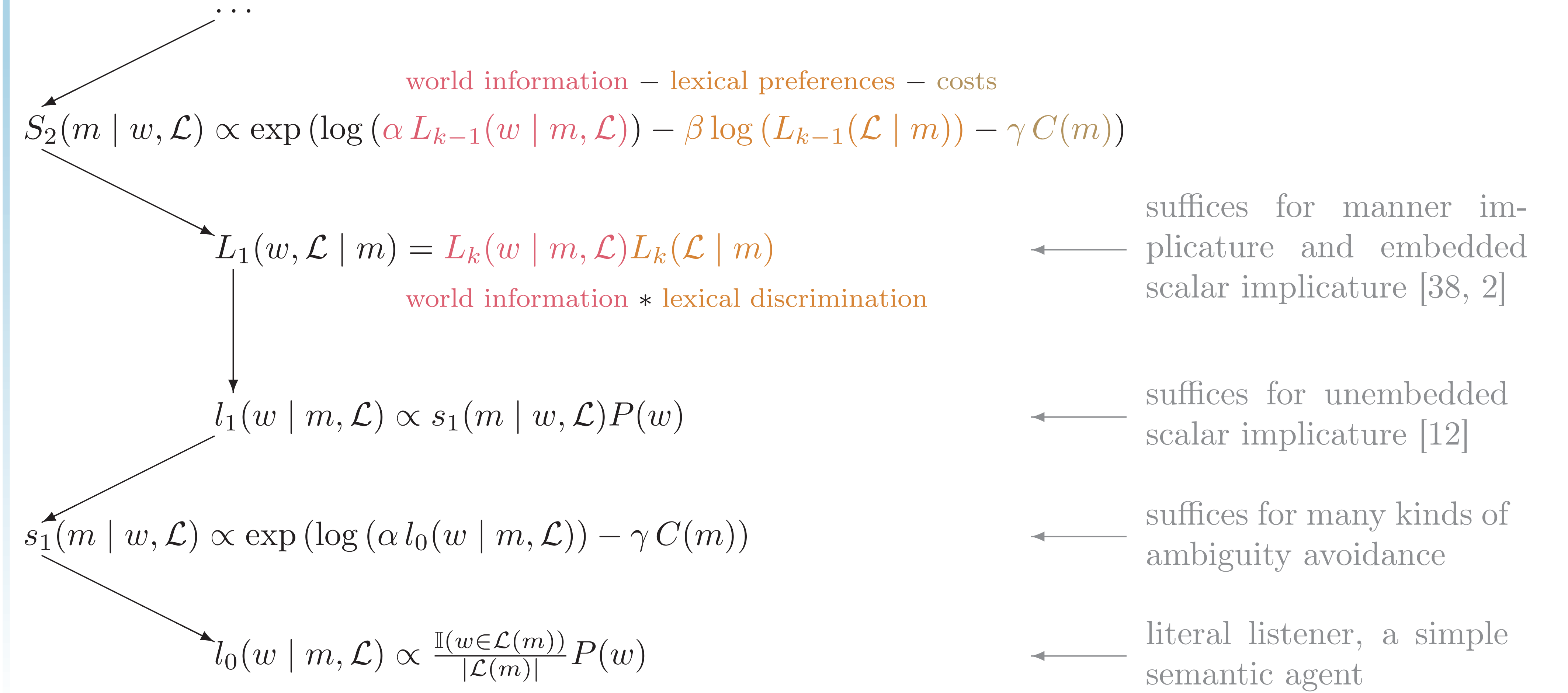
- (4) She's a **wine lover** or **oenophile**.
- (5) Title: **A Geological History of Manhattan** or **New York Island**
- (6) Welcome to **New Haven** or "the **Elm City**".
- (7) It's a **woodchuck**, or **land beaver**.

Attested in Chinese, German, Hebrew, Ilokano, Japanese, Russian, and Tagalog. Seems to survive even where the language has a dedicated definitional disjunction morpheme (e.g., Finnish, Italian).

FURTHER INFORMATION

Paper, references, model code, corpus data: <http://github.com/cgpotts/pypragmods/>

MODELING COMMUNICATION WITH ANXIOUS EXPERTS



DEFINITIONAL CONTEXTS

Require low disjunction costs and high β : the speaker is invested in communicating about the lexicon and can tolerate the cost of a disjunction that is synonymous with one of its disjuncts.

L_2 hears <i>A or X</i>	w_1	w_2	$w_1 \vee w_2$
$\mathcal{L}^*[A: \{w_1\}, B: \{w_2\}, X: \{w_1, w_2\}]$	0	0	.08
$\mathcal{L}_1[A: \{w_1\}, B: \{w_2\}, X: \{w_2\}]$	.07	0	.08
$\mathcal{L}_2[A: \{\mathbf{w}_1\}, B: \{w_2\}, X: \{\mathbf{w}_1\}]$	.77	0	.06

$$\alpha = 5; \beta = 7; C(or) = .01$$

S_2 observes $\langle \mathcal{L}_2, w_1 \rangle$			
A	0		
X	0		
$A \text{ or } X$	.05		

L_1 hears <i>A or X</i>			
	w_1	w_2	$w_1 \vee w_2$
$\mathcal{L}^*[A: \{w_1\}, B: \{w_2\}, X: \{w_1, w_2\}]$	0	0	.23
$\mathcal{L}_1[A: \{w_1\}, B: \{w_2\}, X: \{w_2\}]$	0	0	.38
$\mathcal{L}_2[A: \{w_1\}, B: \{w_2\}, X: \{w_1\}]$	.38	0	0

L_1 hears <i>A or X</i>			
	w_1	w_2	$w_1 \vee w_2$
$\mathcal{L}^*[A: \{w_1\}, B: \{w_2\}, X: \{w_1, w_2\}]$	0	0	.23
$\mathcal{L}_1[A: \{w_1\}, B: \{w_2\}, X: \{w_2\}]$	0	0	.38
$\mathcal{L}_2[A: \{w_1\}, B: \{w_2\}, X: \{w_1\}]$	.38	0	0

S_1			
	w_1	w_2	$w_1 \vee w_2$
$\mathcal{L}^*[A: \{w_1\}, B: \{w_2\}, X: \{w_1, w_2\}]$	.98	0	0
$\mathcal{L}_1[A: \{w_1\}, B: \{w_2\}, X: \{w_2\}]$	.33	.33	.33
$\mathcal{L}_2[A: \{w_1\}, B: \{w_2\}, X: \{w_1\}]$	.33	.33	.33

S_1			
	w_1	w_2	$w_1 \vee w_2$
$\mathcal{L}^*[A: \{w_1\}, B: \{w_2\}, X: \{w_1, w_2\}]$	.98	0	0
$\mathcal{L}_1[A: \{w_1\}, B: \{w_2\}, X: \{w_2\}]$	.33	.33	.33
$\mathcal{L}_2[A: \{w_1\}, B: \{w_2\}, X: \{w_1\}]$	.33	.33	.33

L_2			
	w_1	w_2	$w_1 \vee w_2$
$\mathcal{L}^*[A: \{w_1\}, B: \{w_2\}, X: \{w_1, w_2\}]$	0	0	.23
$\mathcal{L}_1[A: \{w_1\}, B: \{w_2\}, X: \{w_2\}]$	0	0	.38
$\mathcal{L}_2[A: \{w_1\}, B: \{w_2\}, X: \{w_1\}]$	.38	0	0

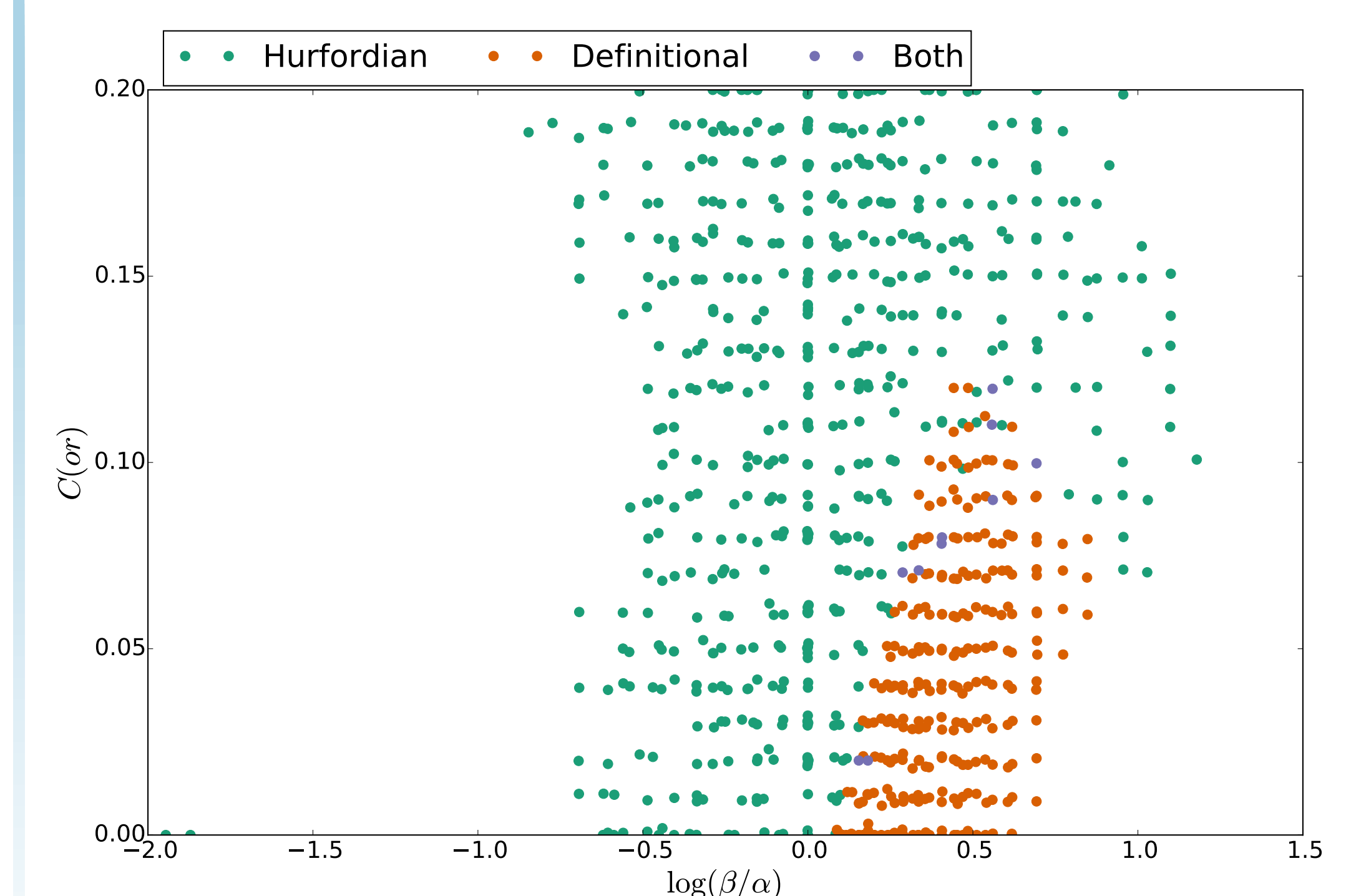
HURFORDIAN CONTEXTS

With high disjunction costs, exclusivization maximizes the justification for the long form; the Hurfordian instinct is a rational response to a disjunction that is unduly prolix for many lexica.

L_2 hears <i>A or X</i>	w_1	w_2	$w_1 \vee w_2$
$\mathcal{L}^*[A: \{w_1\}, B: \{w_2\}, X: \{w_1, w_2\}]$	.03	0	.14
$\mathcal{L}_1[A: \{\mathbf{w}_1\}, B: \{w_2\}, X: \{\mathbf{w}_2\}]$	.04	0	.45
$\mathcal{L}_2[A: \{w_1\}, B: \{w_2\}, X: \{w_1\}]$	.02	0	.32

$\alpha = 2; \beta = 1; C(or) = 1$

CHARACTERIZATION



Summarizes a search over many parameter settings using a large lexicon and large world space.

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