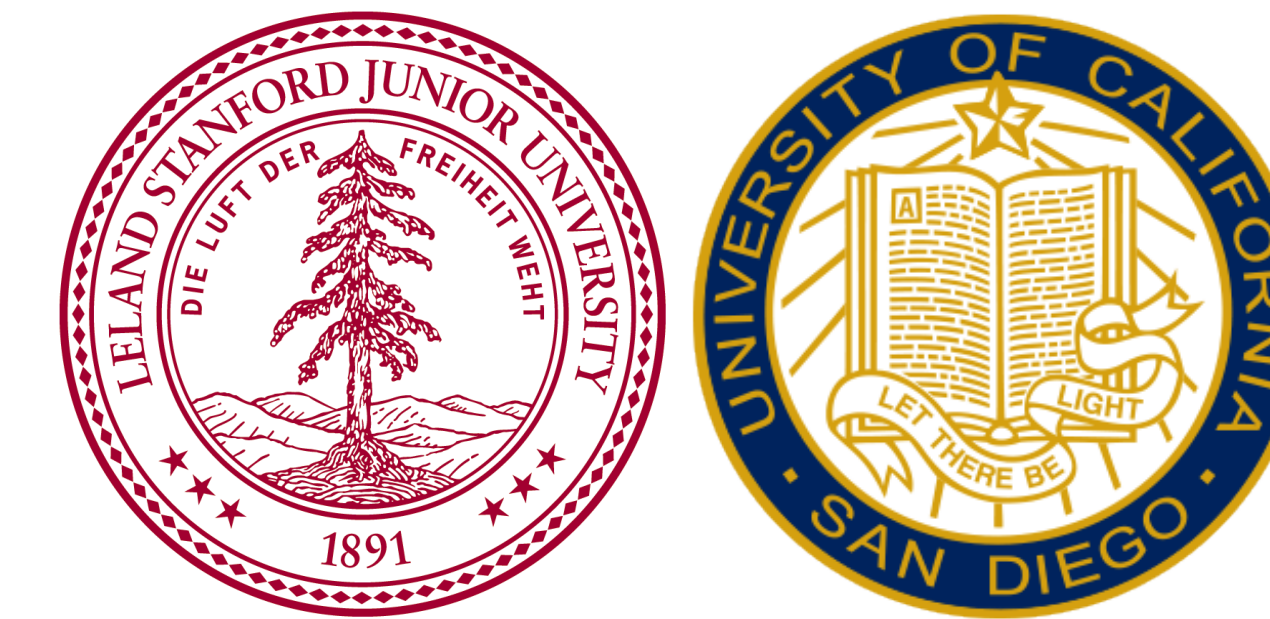


Negotiating lexical uncertainty and expertise with disjunction

Roger Levy and Christopher Potts



COMMUNICATING IN LANGUAGE ABOUT LANGUAGE

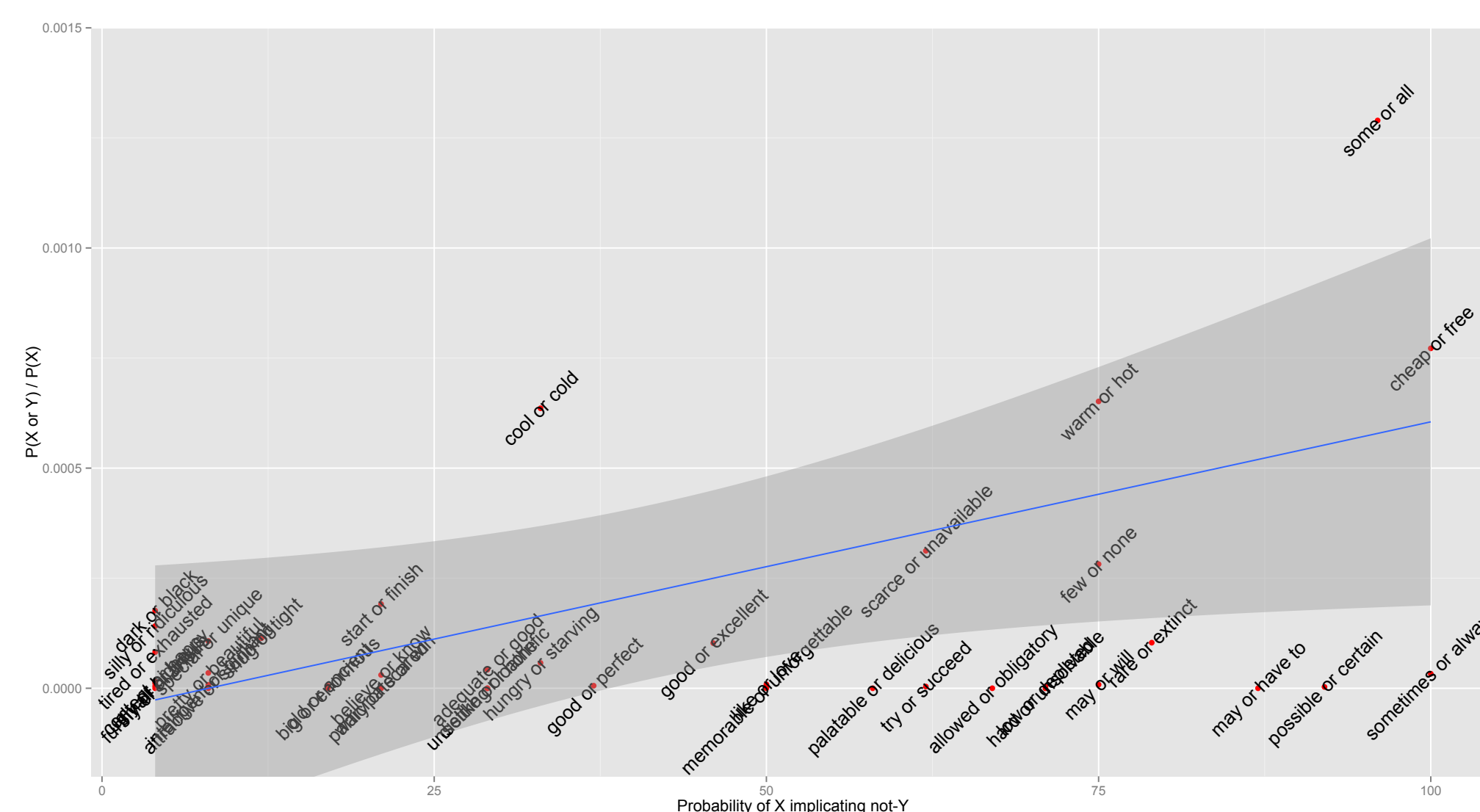
- Languages are neither fixed across time nor identically reproduced in all speakers, but rather continually renegotiated during interactions.
- People accommodate to each other's usage patterns, form temporarily lexical pacts, and instruct each other about their linguistic views.
- Some of this communication 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:** *X or Y* conveys that *X* and *Y* are disjoint
 - **Definitional inference:** *X or Y* conveys that *X* and *Y* are synonymous
- 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 where *X* and *Y* are disjoint, or addresses a speaker concern that the listener is using such a lexicon.

- (1) some of our **American** or **Californian** friends
- (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.

Our corpus	
general or specific	75
specific or general	86



X or Y usage correlates with *X* implicating *not Y*

DISJUNCTIVE DEFINITION AND IDENTIFICATION

Generalization: can arise when speaker and listener are willing to coordinate on the speaker's lexicon

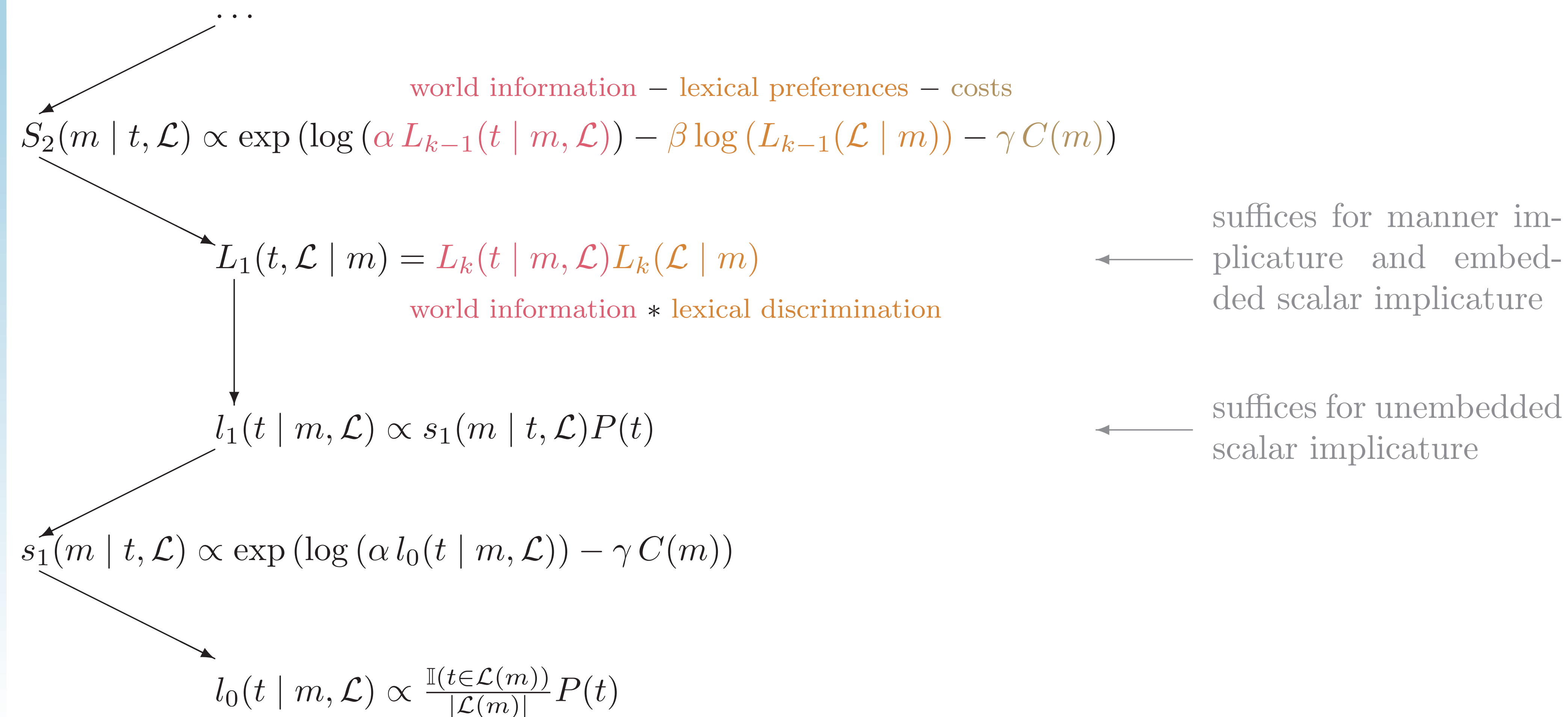
- (4) wine lover or *oenophile*
 - (5) A Geological History of Manhattan or New York Island
 - (6) New Haven or “the Elm City”
 - (7) woodchuck or “land beaver”
- Motivation: speaker is a known expert and ‘instructor’; listener is a known non-expert
 - Motivation: speaker wishes to display expertise to another expert
 - Motivation: speaker sees value in (temporarily or permanently) defining a term

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



HURFORDIAN CONTEXTS

With high disjunction costs, exclusivization maximizes the justification for the long form.

l_0	s_1	l_1
\mathcal{L}^* w_1 w_2 $w_1 \vee w_2$ A 0 0 0 B 0 0 0 C 0 0 0	\mathcal{L}^* A B C w_1 0 0 0 w_2 0 0 0 $w_1 \vee w_2$ 0 0 0	\mathcal{L}^* w_1 w_2 $w_1 \vee w_2$ A 0 0 0 B 0 0 0 C 0 0 0
\mathcal{L}_1 w_1 w_2 $w_1 \vee w_2$ A 0 0 0 B 0 0 0 C 0 0 0	\mathcal{L}_1 A B C w_1 0 0 0 w_2 0 0 0 $w_1 \vee w_2$ 0 0 0	\mathcal{L}_1 w_1 w_2 $w_1 \vee w_2$ A 0 0 0 B 0 0 0 C 0 0 0
\mathcal{L}_2 w_1 w_2 $w_1 \vee w_2$ A 0 0 0 B 0 0 0 C 0 0 0	\mathcal{L}_2 A B C w_1 0 0 0 w_2 0 0 0 $w_1 \vee w_2$ 0 0 0	\mathcal{L}_2 w_1 w_2 $w_1 \vee w_2$ A 0 0 0 B 0 0 0 C 0 0 0

Lexicon-specific agents

L_3 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	0.16
$\mathcal{L}_1 [A: \{w_1\}, B: \{w_2\}, X: \{w_2\}]$	0	0	0.47
$\mathcal{L}_2 [A: \{w_1\}, B: \{w_2\}, X: \{w_1\}]$	0	0	0.38

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

Joint world–lexicon listener

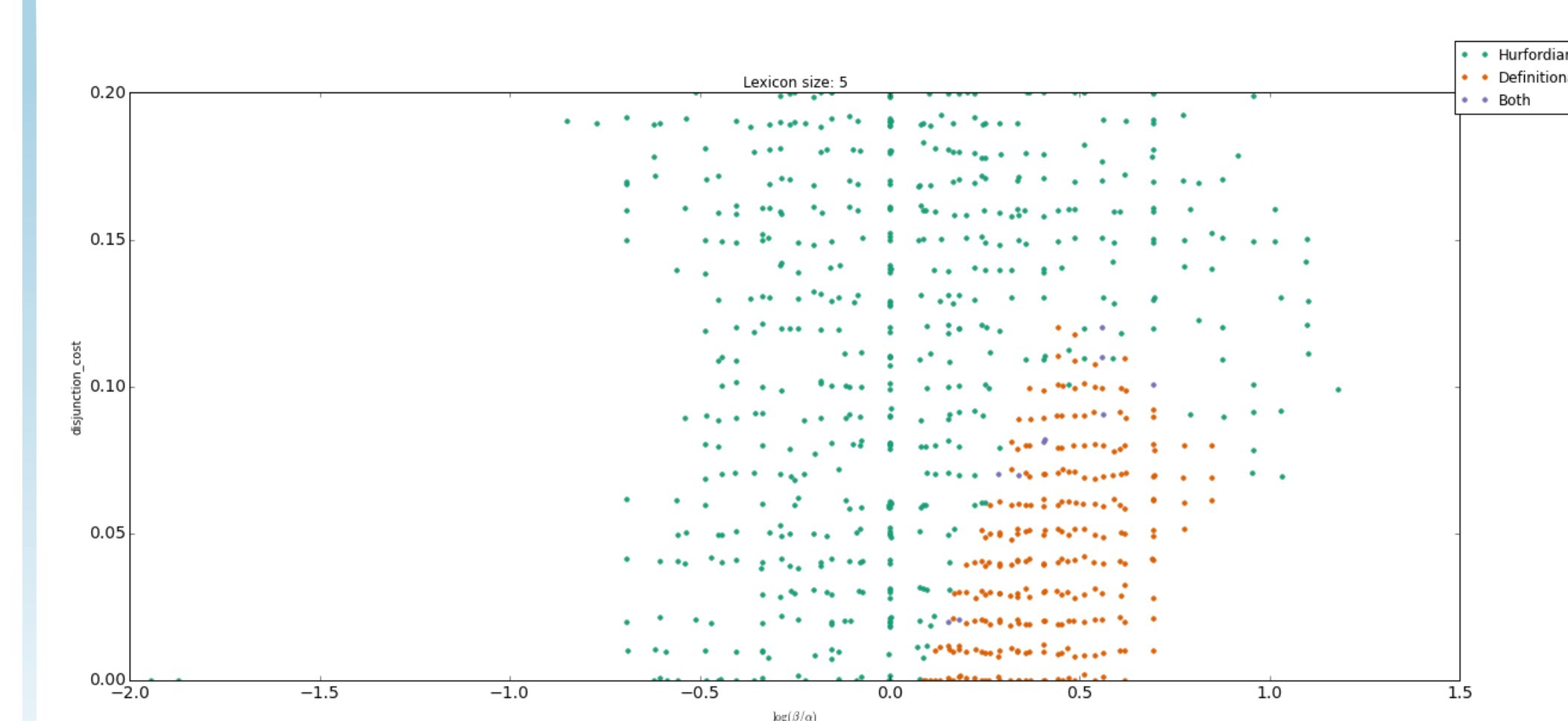
DEFINITIONAL CONTEXTS

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_3 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	0
$\mathcal{L}_2 [A: \{w_1\}, B: \{w_2\}, X: \{w_2\}]$	0	0	0
$\mathcal{L}_3 [A: \{w_1\}, B: \{w_2\}, X: \{w_1\}]$.88	0	.12

$\alpha = 5; \beta = 7; C(or) = 0.01$

CHARACTERIZATION



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