EVIDENCE FOR THE ACTIVE COGNITIVE STATUS OF CONSTRAINTS

1 Pidgins

1 Usage data

1 Psycholinguistic experiments

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USAGE DATA

(Bresnan, Dingare and Manning's 2001 study of SWITCHBOARD)
Rate of Passivization

Agent ↓ Patient →	Local person	Third person
Local person	0.0%	0.0%
Third person	2.9%	1.2%

Particle Ellipsis in the annotated CallHome Japanese corpus (Fry 2001)

Following particle?	Animate				Not animate			
	SU		OJ		SU		OJ	
yes	1,642	.65	208	.54	1926	.70	1,117	.47
no	873	.35	178	.46	829	.30	1,253	.53
Total	2,515	1.00	386	1.00	2,755	1.00	2,370	1.00

Particle ellipsis and animacy in CHJ (Fry 2001, 128)

Different rates of particle ellipsis in animate and inanimate subjects is statistically significant; differences in objects are not statistically significant at the .01 level.

Following particle?	Proper Noun or personal pronoun				Other			
	SU		OJ		SU		OJ	
yes	918	.63	104	.59	2,650	.70	1,221	.47
no	545	.37	72	.41	1,157	.30	1,359	.53
Total	1,463	1.00	176	1.00	3,807	1.00	2,580	1.00

Particle ellipsis and strongly definite NPs in CHJ ([Fry 2001, 128]

Different rates of particle ellipsis in 'strongly' definite subjects and other subjects is statistically significant; so are the differences in objects.

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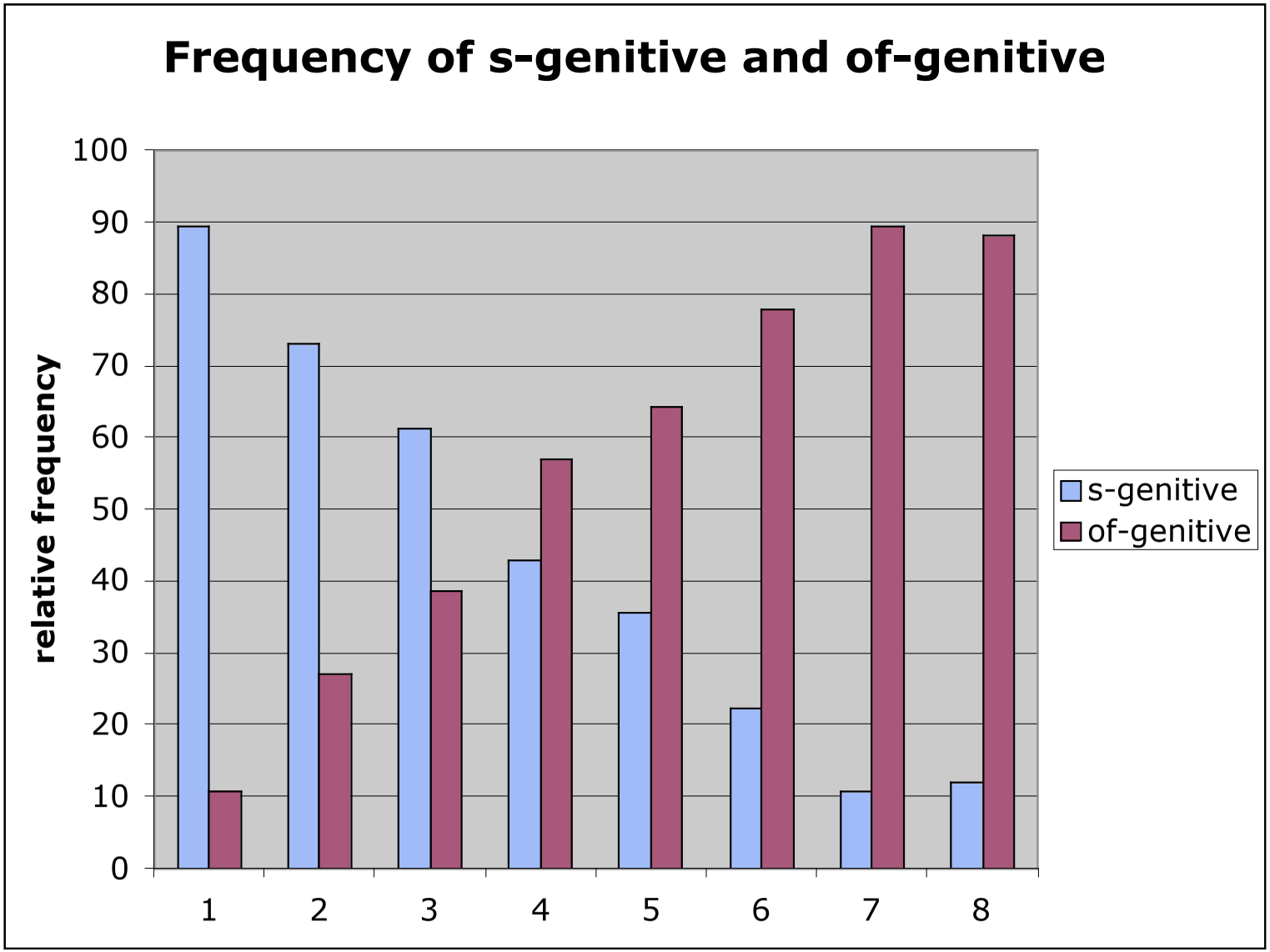
(5) Rosenbach (to appear)



THE STOCHASTIC GENERALIZATION: HARD AND SOFT 'CONSTRAINTS'

The Stochastic Generalization of OT unifies hard and soft generalizations within a single, formal model.

1 Cross-Linguistic Variation

2 Diachronic Change

3 Register Shift

4 Language-Internal Variation

HARD AND SOFT 'CONSTRAINTS': CROSS-LINGUISTIC VARIATION

(Jelinek and Demers 1983)
Rate of Passivization in Lummi

Agent ↓ Patient →	Local person	Third person
Local person	0.0%	0.0%
Third person	100%	variable

(Bresnan, Dingare and Manning's 2001 study of SWITCHBOARD)
Rate of Passivization in English

Agent ↓ Patient →	Local person	Third person
Local person	0.0%	0.0%
Third person	2.9%	1.2%

Recall Givón (1979):

> What we are dealing with is apparently the very same communicative tendency — to reserve the subject position in the sentence for the *topic*, the old-information argument, the "continuity marker." In some languages (Krio, etc.) this communicative tendency is expressed at the categorical level of 100%. In other languages (English, etc.) the very same communicative tendency is expressed "only" at the noncategorical level of 90%.

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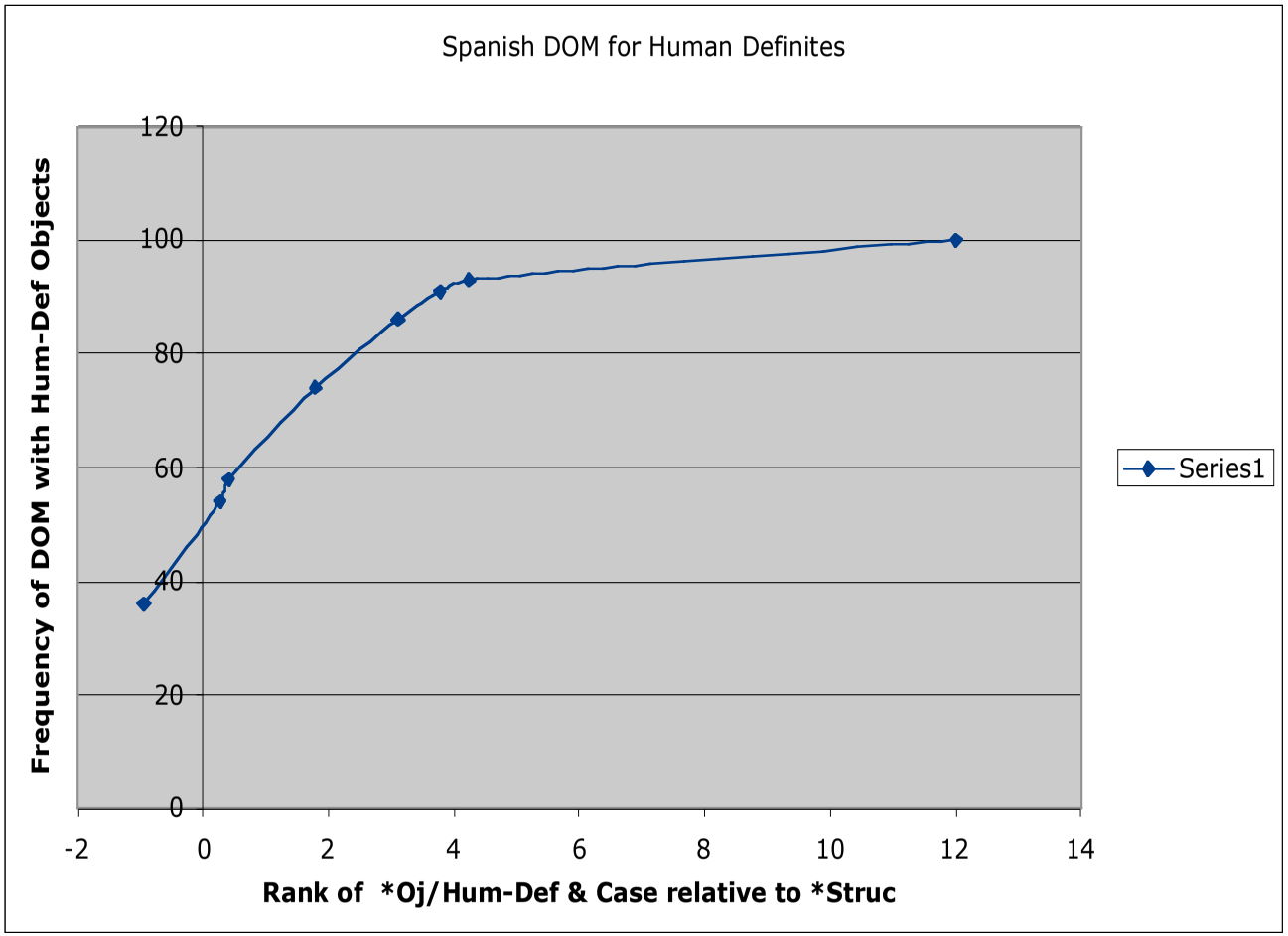
HARD AND SOFT 'CONSTRAINTS': DIACHRONIC CHANGE

GRADUAL EXTENSION OF DOM TO HUMAN-DEF OBJECTS IN SPANISH

	% DOM with Hum-Def. Oj.	Rank Difference between [*Oj/Def-Hum & Case] and *Struc
12th C	36%	-.953
14th C	54%	.264
15th C	58%	.405
16th C	74%	1.79
17th C	86%	3.107
18th C	91%	3.778
1830	93%	4.24
1870	100%	12.004

Today	100%	12.004

☞Stochastic OT has the formal means to model grammaticization.


Spanish DOM for Human Definites
Frequency of DOM with Hum-Def Objects
120
100
80
60
40
20
0
-2
0
2
4
6
8
10
12
14
Rank of *Oj/Hum-Def & Case relative to *Struc
Series1

THE STOCHASTIC GENERALIZATION: HARD AND SOFT 'CONSTRAINTS;

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HARD AND SOFT 'CONSTRAINTS': REGISTER DIFFERENCE

CASUAL REGISTER

*WeakSu & Case	100.906
*StrongSu & Case	100.342
*StrongOj & Case	100.089
*Struc	99.380
*WeakOj & Case	99.282

WRITTEN REGISTER

*WeakSu & Case
*StrongSu & Case
*StrongOj & Case
*WeakOj & Case

*Struc

(Boersma and Hayes 2001):

At the time of evaluation, the styleSensitivity value associated with *Struc will drive its selectionPoint down in the more formal register.

$\text{selectionPoint}_i = \text{rankingValue}_i + \text{styleSensitivity}_i \cdot \text{Style} + \text{noise}$

☞ Reduction in structure is associated with informal registers both in morphosyntax (Haiman 1985) and in phonology (Tranel 1999)

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HARD AND SOFT 'CONSTRAINTS': LANGUAGE-INTERNAL DIFFERENCE

PRENOMINAL VS. POSTNOMINAL GENITIVE POSITIONS IN ENGLISH

	Input distributions Prenom./Postnom.	Output distributions determined by $\mathcal{G}$.
Human Pronoun	98.5 / 1.5 *	98.76 / 1.24
Inanimate Pronoun	90/10 *	90.25/ 9.75
Human Name	90 / 10 *	89.94 / 10.05
Human Definite	82 /18	83.41/ 16.58
Human Indefinite	52/48	53.59 / 46.41
Inanimate Definite	31/ 69	31.9/ 68.1
Inanimate Indefinite	11/89	11.43/ 88.56

*—Spec-H-Pro 103.166 **6.33** *Spec-H-Pro 96.834

*—Spec-I-Pro 101.828 **3.66** *Spec-I-Pro 98.172

*—Spec-H-PN 101.819 **3.64** *Spec-H-PN 98.181

*Spec-I-Indef 101.712 **3.42** *—Spec-I-Indef 98.288

*—Spec-H-Def 101.371 **2.74** *Spec-H-Def 98.629

*Spec-I-Def 100.664 **1.33** *—Spec-I-Def 99.336

*—Spec-H-Indef 100.129 **.26** *Spec-H-Indef 99.871

THE STOCHASTIC GENERALIZATION: HARD AND SOFT 'CONSTRAINTS'

		Hard	Soft
Cross-Linguistic Variation	Voice (wrt Person)	Lummi, Picurís	English
	Differential Case Marking	Dyirbal	Colloq. Japanese
Diachronic Change	DOM for human-referring definites	Present-day Spanish	12th C.-1830 Spanish
Register	DOM/DSM	Written Japanese	Colloquial Japanese
Language-Internal Variation	Prenominal vs. Postnominal genitive	English: pronouns, PNs	English: other expression types
	DOM	Spanish: specific human objects	Spanish: nonspecific human objects

The Stochastic Generalization of OT unifies hard and soft generalizations within a single, formal model. It also provides a formal mechanism for modeling grammaticization.