

What would Humboldt have done about ergativity in 2010?

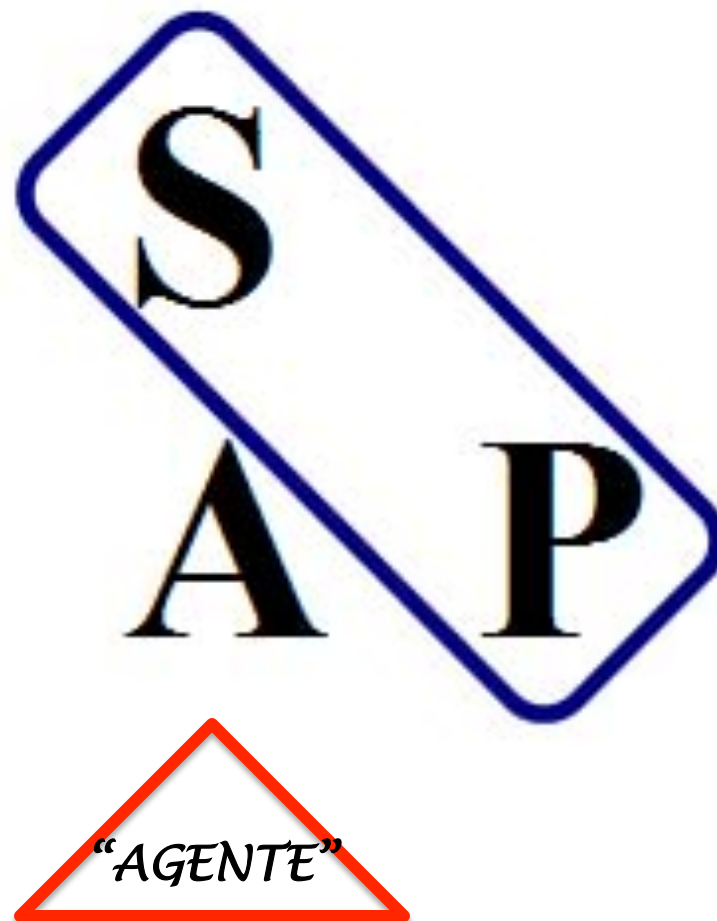


ERGATIVITY

Accusative alignment



Ergative alignment



SOME EXAMPLES

Accusative: Latin

rex-∅ *revenit*
king-**nom** came back

senator-∅ *reg-em*
senator-**nom** king-**acc**
laudavit
praised

Ergative: Tsez

šax-∅ *ays*
king-**abs** arrived

šax-zā *tušman-∅*
king-**erg** enemy-**abs**
exursi
killed

HUMBOLDT'S VIEW OF ERGATIVITY

- The ergative clause can be assimilated to the passive
- The ergative NP is different from the nominative NP

FAST FORWARD 200 YEARS

What we have accomplished

- The ergative construction is different from the passive, moreover, some ergative languages have a separate passive
- The ergative NP has properties of a syntactic subject:
 - control and raising, coreference across clause, binding, addressee of the imperative

ERGATIVE IS SYNTACTIC SUBJECT

Tongan: Control (same as in English or German)

Na'e	ui	'e	he	fefine _i	'a	e	tokoua _k
PAST	call	ERG	DET	woman	ABS	DET	guys
['o	langamatai	_____	'a	e	faiakó]		
		k/*i					
COMP	help		ABS	DET	teacher		

'The woman called the guys [to help the teacher].'

Tsez: reflexive binding

už-ā	nesā nesis	žek-si	'The boy hit himself.'
boy-ERG	self.ABS	hit-PAST	
*uži	nesā nesiz	žek-si	
boy.ABS	self.ERG	hit-PAST	

HOW SYNTACTIC IS ERGATIVITY?

- Since the ergative NP has the properties of a syntactic subject, ergativity is a morphological phenomenon

and should not have profound syntactic consequences—ergative languages are only ergative in the morphological marking of NPs

So ERG IS SYNTACTIC SUBJECT...

- it should also be high on the Accessibility Hierarchy (Keenan & Comrie 1977) which accounts for the ease of relative clause formation:

*Subject > Object > Indirect Object >
Prepositional Object > Genitive > Standard
of comparison*

HOWEVER...

- unlike subjects in nominative-accusative languages, the ergative NP is often inaccessible to relativization, topicalization, and wh-question formation (A-bar movement)
- The inaccessibility of the ergative NP to extraction (*syntactic ergativity*) is found in a large number of ergative languages

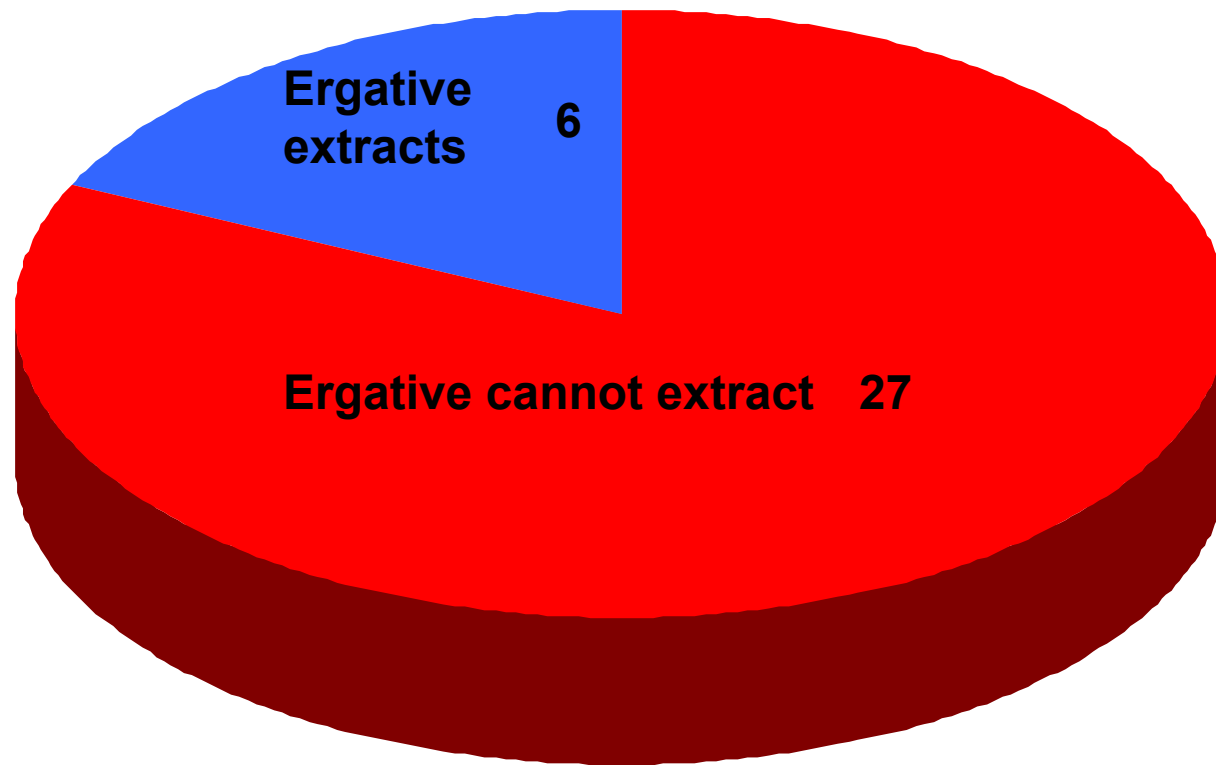
IF ERG DOES NOT EXTRACT, HOW TO ASK “WHO DID THIS?” AND HOW TO RELATIVIZE A?

- Turn A into S (antipassivization, agent focus):
The hunter shot the bear → *The hunter that shot at the bear*
the hunter [that ___ shot at the bear]
(e.g., some Mayan languages, Chukchi, Salish)
- Use a **resumptive** pronoun in place of A:
the hunter [that he shot the bear]
(e.g., Polynesian languages)

SYNTACTIC ERGATIVITY

- **WALS: 32 ergative languages, of which 5 allow the relativization of the ergative NP; the exceptions belong to two language families:**
 - Hunzib, Ingush, Lezgian—Nakh-Dagestanian
 - Ngiyambaa, Pitjantjatjara—Pama-Nyungan
- **If we add Basque, we get 6 languages (out of 33) that allow for A-bar movement (extraction) of the ergative NP**

ERGATIVE LANGUAGES WITH AND WITHOUT EXTRACTION OF THE ERGATIVE



A CLOSER LOOK AT THE CHOSEN SIX

- Do ergative languages which allow the extraction of the ergative NP show any difficulty in that extraction?

HOW TO DETERMINE WHAT IS EASY AND WHAT IS DIFFICULT

- Experimental work on the processing of extracted DPs
 - If a particular structure is more difficult it imposes a heavier processing load
 - The processing load can be measured by reaction time, time of response, or neuroimaging

RELATIVE CLAUSES

- Universal preference for **subject relatives** over **object relatives**

- The reporter

[who () attacked **the senator**]
admitted the error.

SR

IS PREFERRED OVER

- The reporter

[who **the senator** attacked]
admitted the error.

OR

RELATIVE CLAUSES

Universal preference for **subject relatives** over **object relatives**:

- Die Gruppe, **die den Naturschutzverein unterstützte**, bewundert den Bürgermeister
IS PREFERRED OVER
- Die Gruppe, **die der Naturschutzverein unterstützte**, bewundert den Bürgermeister

PROCESSING: SUBJECTS ARE EASIER TO EXTRACT THAN OBJECTS

- English (King and Kutas 1995; Traxler et al. 2002, a.o.)
- German (Hemforth 1993; Mecklinger et al. 1995; Schlesewsky et al. 2000; Schwartz 2007, a.o.)
- Dutch (Frazier 1987, 1989)
- Japanese (Miyamoto & Nakamura 2003; Ishizuka et al. 2003)
- Korean (Kwon et al. 2006, 2010)
- Russian (Levy et al. 2007; Fedorova 2006; Polinsky 2008)
- Chinese (Lin & Bever 2006—but Hsiao & Gibson 2003)

RELATIVE CLAUSES IN ACQUISITION

- Acquired 2;0-2;6
- Universal preference for subject relatives
 - English (multiple studies)
 - German (Behrens 2001)
 - Indonesian (Tjung 2006)
 - Russian (Polinsky 2008)
 - Chinese (Hsu et al. 2006)
 - Irish (Goodluck et al. 2001)
 - Hebrew (Arnon 2006, Friedmann & Novogrodsky 2005)
 - Turkish (Slobin 1982)

THE NOMINATIVE TRAP

- All these languages are nominative-accusative
- In such languages, Subject ~ **Nominative**, and Object ~ **Accusative**
- It is hard to tell what extraction is sensitive to, case form or grammatical function

ERGATIVE LANGUAGES CAN HELP

Do languages in which both the ABS and ERG NPs extract show a processing difference

--between *subjects* and *objects*

or

--between *absolutives* (unmarked case) and *ergatives* (marked case)?

WHAT HAPPENS IN AN ERGATIVE LANGUAGE?

- If extraction is sensitive to subject/object difference, **ERG** and **ABS** subject should be privileged:

ERG/ABS_{subject} > **ABS**_{object}

- If extraction is sensitive to morphological (surface) case, any **ABS** should be privileged, (being an unmarked case):

ABS > **ERG** ~ **NOM** > **ACC**

(cf. Keenan & Comrie 1977, 1981; Wunderlich 1996, 2009)

ENTER BASQUE

emakume-a-k gizon-a-Ø ikusi du gaur
woman-the-**ERG** man-the-**ABS** seen has today
'The woman has seen the man today.'

MORPHOSYNTACTIC AMBIGUITY

a + k: [singular det] + [**ergative case**]

(a) emakume-**a-k** gizon-a ikusi du
woman-the-**erg** man-the.abs seen has
'The woman has seen the man.'

ak: [plural determiner], **absolutive case**

(b) zu-k emakume-**ak** ikusi dituzu
you-erg women-the.pl.**abs** seen have
"you have seen the women"


FULL SYNTACTIC AMBIGUITY

(A) emakume-a-k gizon-ak ikusi ditu
woman-the-erg men-the.pl.abs seen has
'The woman has seen the men.'


(B) emakume-ak gizon-a-k ikusi ditu
women-the.pl.abs man-the-erg seen has
'The man has seen the women.'

CARREIRAS ET AL. IN PRESS: THE STRUCTURE REMAINS AMBIGUOUS TO THE VERY LAST WORD

[emakume-a-k ___OBJ ikusi ditu-en] gizon-ak lagunak dira
[woman-the-erg seen has-that] man-PL friends are
'the men that the woman saw are friends'

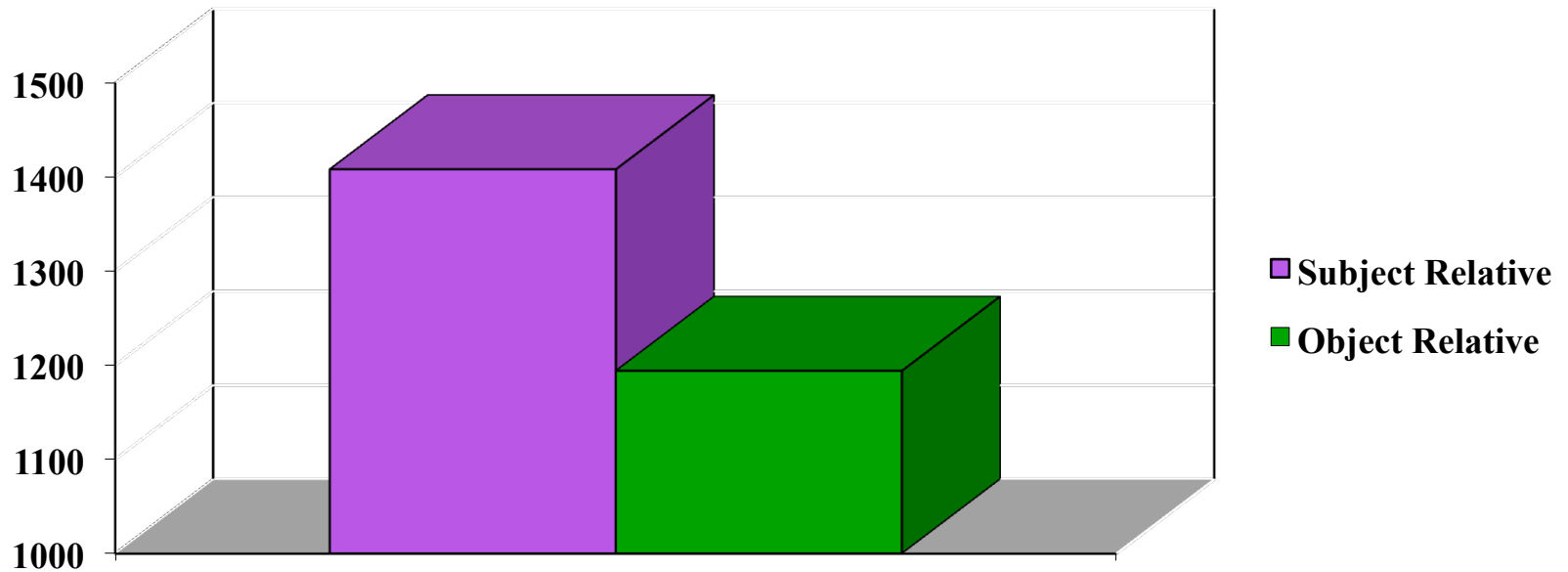


[___SUBJ emakume-ak ikusi ditu-en] gizon-a-k lagunak ditu
[woman-the.pl seen has-that] man-the-erg friends has
'the man that saw the women has friends'



(Carreiras et al. in press, see also Mendikoetxea 1989)

READING TIMES AT THE LAST TWO WORDS, Basque



BASQUE ACQUISITION

- Acquisition data also show the prevalence of object relatives over subject relatives (Mendikoetxea 1989; Junkal Gutiérrez 2009):

ABS > ERG

- Same prevalence in questions (Junkal Gutiérrez 2009)

BASQUE LESSONS

- The Basque study could be interpreted in two ways:
 - The object relative is easier because the distance between the gap and the filler is shorter (a similar proposal has been made for Chinese, Hsiao & Gibson 2003, 2010)
 - Extraction is sensitive to case, not to grammatical function, hence **ABS** > **ERG**
- However, there are no data on **ABS**_{SUBJECT}

HOW DO A AND P COMPARE TO S?

Accusative alignment

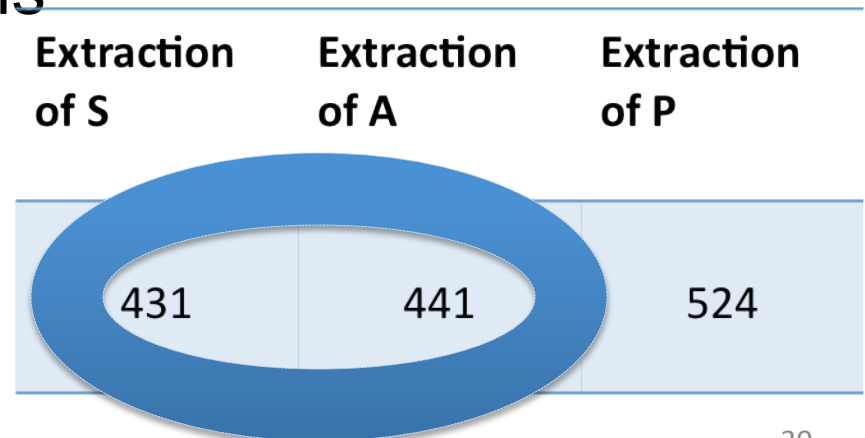


Ergative alignment



HOW DO A AND P COMPARE TO S?

- In a nominative-accusative language, the extraction of S is comparable to the extraction of A, both in terms of structure and in terms of processing time
- English: reaction times (ms) for extraction of A, S, and P in wh-questions (Polinsky et al. 2010)



HOW DO A AND P COMPARE TO S?

- In an ergative language, A (=ergative NP) is at a disadvantage in processing (compared to P)
- Is that the contrast between **subject** and **object**, or between **ERG** and **ABS**?
- How does the extraction of A compare to the extraction of S?

ENTER AVAR

- a Northeast Caucasian language
- spoken in Western Dagestan, Azerbaijan, Kazakhstan, Turkey
- about 744,000 speakers in the Russian Federation (2002 census)
- taught in primary and secondary schools
- a reasonable reading tradition

AVAR

- SOV, head-final, verb-final
- ergative-absolutive case system (+dative, genitive, and various locative cases)
- morphologically unmarked **ABS**; marked **ERG**
- pre-nominal relative clauses without relative pronouns or overt Complementizers

AVAR RCs

- both ABS and ERG arguments can be relativized

subject relative: [____i DP-ABS Verb] Head-noun_i

object relative: [DP-ERG ____i Verb] Head-noun_i

AVAR PRO-DROP

Text counts:

Ergative DP dropped	75%
Absolutive subject DP dropped	47%
Absolutive object DP dropped	5%

Based on frequency of pro-drop, **ergative RCs** and **subject RCs** in general should be easier

PREDICTIONS

Extraction sensitive to:	Subject relative: [__ _i DP-ABS V] NP-ABS _i	Object relative: [DP-ERG __ _i V] NP-ABS _i
Grammatical function	easier	harder
Morphological case	harder	easier
Frequency of pro-drop	easier	harder

THE EXPERIMENT: MATERIALS

4 conditions, 20 sentences each:

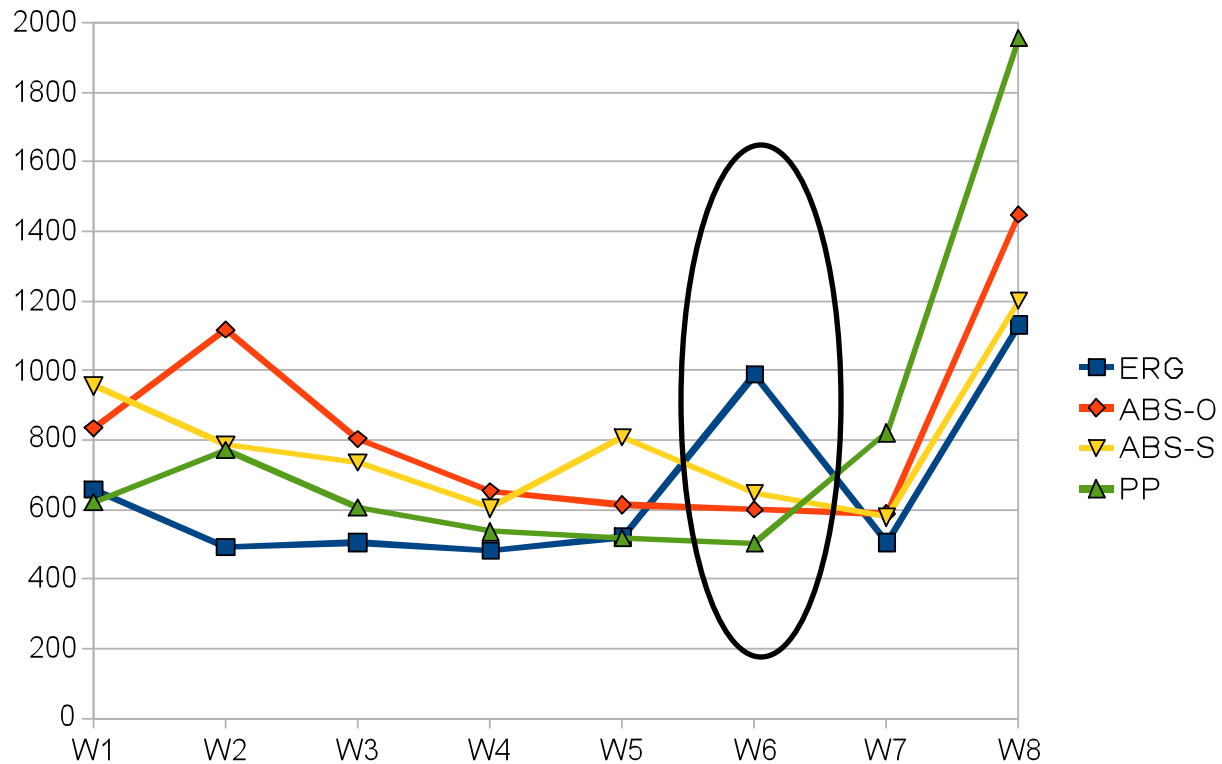
- **ERG** gap: [____i **DP-ABS** Verb] Head-noun_i
- **ABS-Obj** gap: [**DP-ERG** ____i Verb] Head-noun_i
- **ABS-Subj** gap: [____i PP Verb] Head-noun_i
- **PP** gap: [**DP-ABS** ____i Verb] Head-noun_i

THE EXPERIMENT: MATERIALS

- each participant sees 40 experimental items
- 80 fillers (all of them grammatical)
- all stimuli were normed by 3 native speakers
- the overall length of sentences and lexical items was controlled for and kept maximally uniform

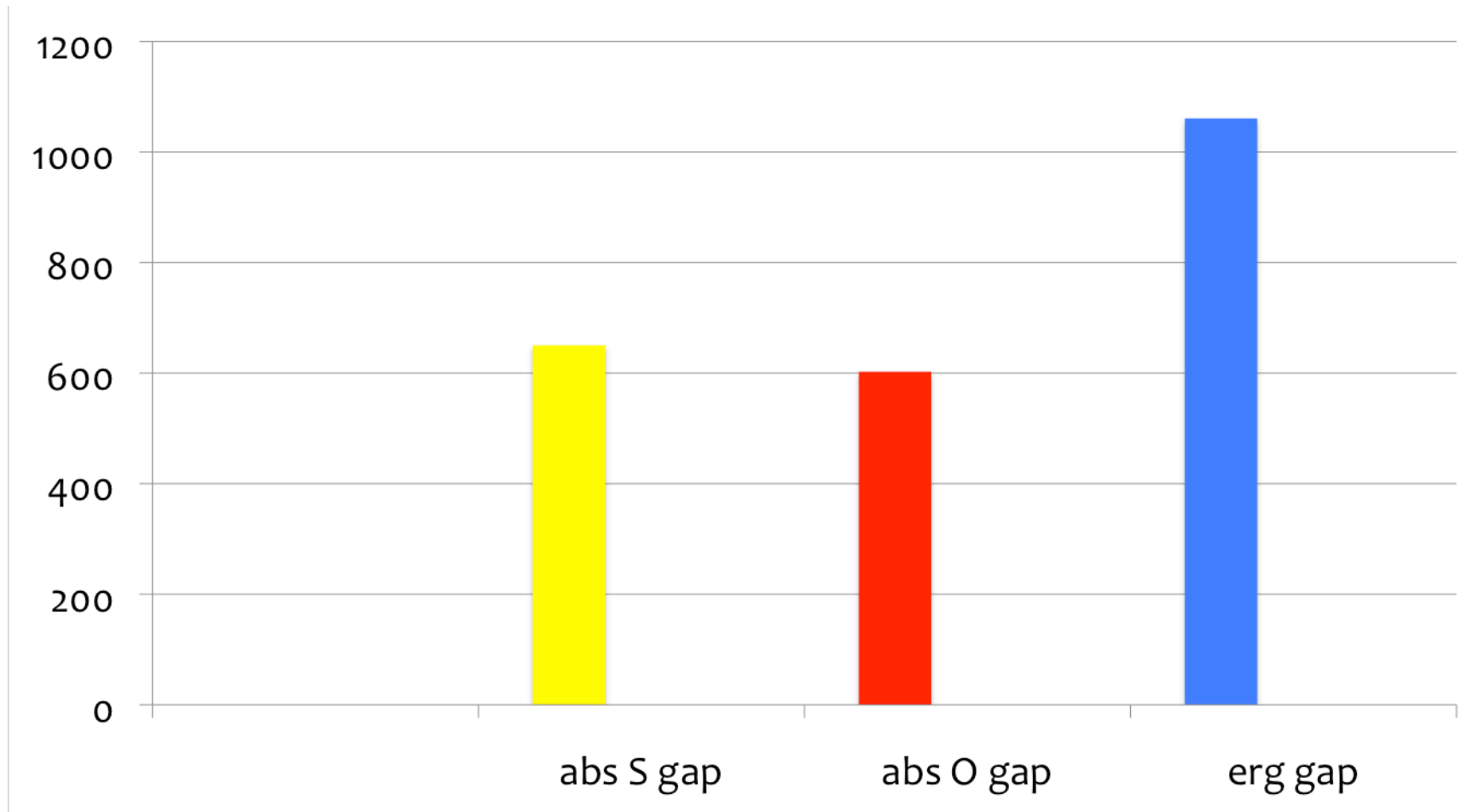
RESULTS

- Word-by-word reading times

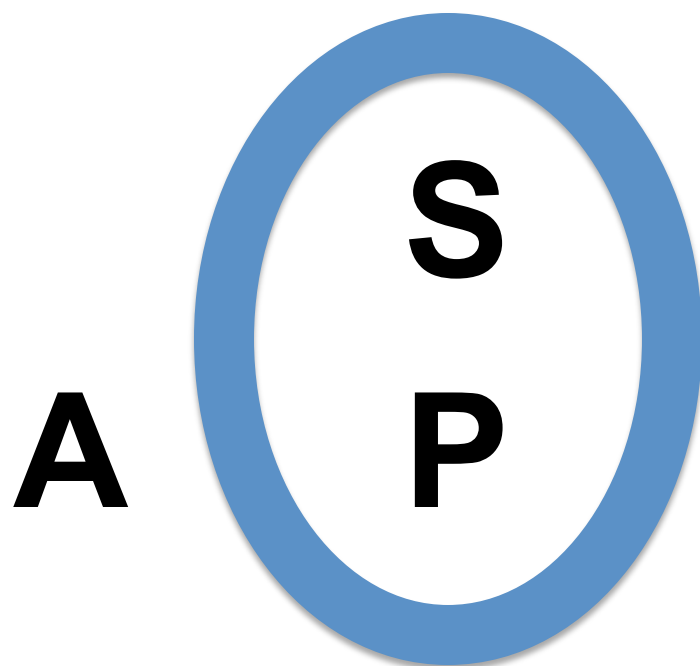


preliminary, small subject pool

READING TIME AT HEAD NOUN



GRADIENT SYNTACTIC ERGATIVITY



Avar: Relativization on **S and P** is preferred over relativization on **A**

INTERPRETING THE RESULTS

Extraction sensitive to:	Subject relative: [$__i$ DP-ABS V] NP-ABS _i	Object relative: [DP-ERG $__i$ V] NP-ABS _i
Grammatical function	easier	harder
Morphological form	harder	easier
Frequency of pro-drop	easier	harder

ABS > ERG

- Even though some ergative languages permit the extraction of the ergative NP, this extraction is more difficult than that of the ABS (regardless of its grammatical function)

INTERIM SUMMARY

- Do ergative languages with syntactic ergativity and ergative languages without it share a dispreference for the extraction of the ergative NP? **YES**
 - In syntactically ergative languages, the “ergative disadvantage” is an **absolute constraint** (27 languages in WALS)
 - In languages where the ergative extracts, the “ergative disadvantage” is a **gradient constraint** (Avar, maybe Basque)

IMPLICATIONS FOR THE ACCESSIBILITY HIERARCHY

From

*Subject > Object > Indirect Object >
Prepositional Object > Genitive > Standard
of comparison*

To

*Nominative > Accusative > Dative >
Prepositional object/Oblique > Genitive?*

UNDERSTANDING EXTRACTION

- *Standard assumption*: A-bar movement (extraction) is sensitive to structural position
- *The new evidence*: A-bar movement (extraction) is sensitive to argument-marking
 - No difference in accusative languages
 - Clear difference in ergative languages

UNDERSTANDING EXTRACTION

- If the new evidence is correct, the Accessibility Hierarchy needs to be revised:
unmarked core argument > marked core argument > non-core arguments
- The unknowns:
 - other ergative languages with extraction of the ergative NP
 - possible difference between ABS subject and object
 - extraction of other case forms in accusative languages (e.g., datives)

HUMBOLDT'S VIEW OF ERGATIVITY

- The ergative clause can be assimilated to the passive **NO**
- The ergative NP is different from the nominative NP **YES**

NEXT

- Why is the ergative extraction difficult?

- In search of an answer:

Ergative NP is *diachronically* related
either to the *by*-phrase or to the
possessive/locative PP

(Basque case forms could be analyzed as
NPs?)

ACCESSIBILITY HIERARCHY AGAIN

Subject > Object > Indirect Object >
***Prepositional Object > Genitive** >*
Standard of comparison

INITIAL EVIDENCE THAT THE ERGATIVE NP IS PP-LIKE

- Does not license depictives
- Does not/has difficulty floating quantifiers
- Includes an overt adposition
- Unlike the nominative, can remain unchanged in nominalizations (only in some languages)

CONCLUSIONS

- Syntactic ergativity is an empirical reality, and it appears in two guises:
 - **Absolute syntactic ergativity** (**ABS NP** undergoes extraction, **ERG NP** does not)
 - **Gradient syntactic ergativity** (the extraction of the **ERG NP** is possible but has greater processing costs than the extraction of the **ABS NP**)

CONCLUSIONS

A-bar phenomena (relativization, topicalization, wh-questioning, focusing) are sensitive

to case rather than to structural position

This sensitivity is obscured in nominative-accusative languages but is evident in ergative languages