

Hyper-active gap filling



Akira and Ellen
(actively filling their stomach!)

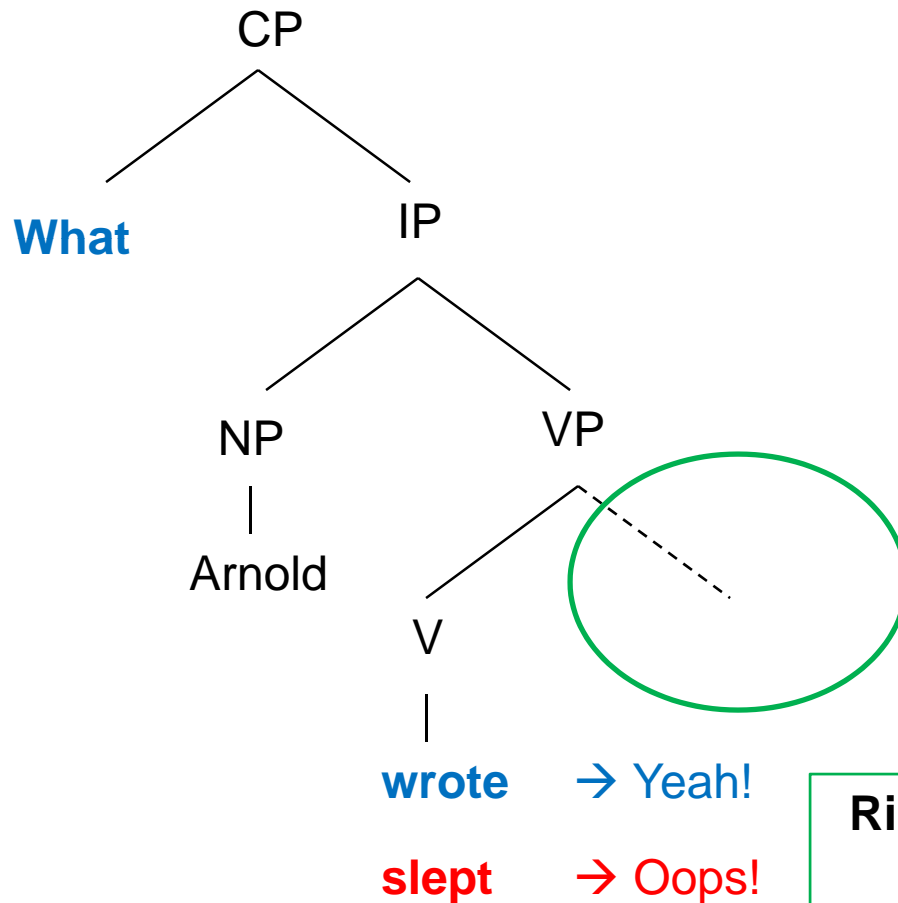
Active dependency completion

- Complete long-distance dependencies at the earliest possible point
 - Filler-gap dependencies (wh, scrambling)
 - ...if / **who** Ruth will bring **us** home to...
 - The book / **city** that the author **wrote** about...
 - Backward anaphora
 - When **he** was fed up, the boy / **girl** visited...
- Attested using various methods (SPR, eye-tracking, ERP, etc.) in many different languages

Active gap filling

- Question: What actually triggers active gap filling?
- Filled-gap effects & plausibility mismatch effects both show that gap filling occurred at the verb, but there are still two possible triggers

AGF Hypothesis 1: Gap-filling in VP whatever the V is

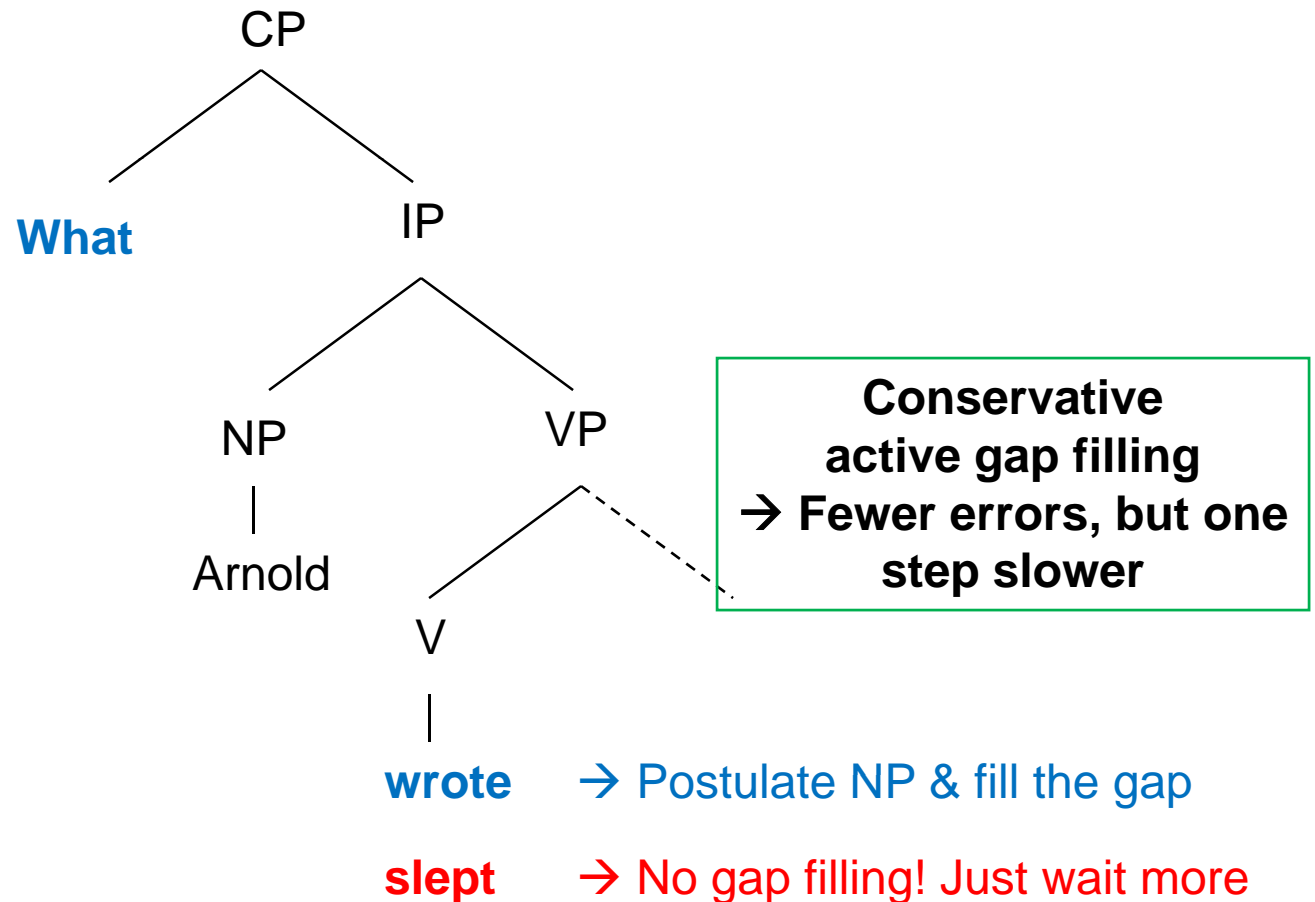


In principle, it's possible to have a transitive V and fill the gap here

↓
Gap filling before seeing the verb!

Risky, but very early gap filling
→ *Hyper active gap filling*

AGF Hypothesis 2: Gap-filling only when V allows it



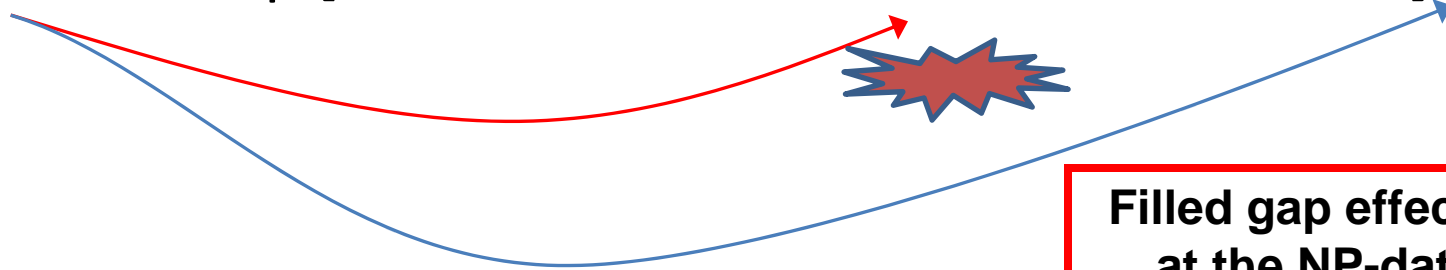
Support for Hyperactive-AGF?

- Aoshima et al 2004: Japanese gap filling before V

Filled-gap paradigm

- Condition 1: Sentence-initial, scrambled Wh-NP

Wh-dat NP-top [NP-nom Adverb **NP-dat** NP-acc Verb-C] Verb-Q



Filled gap effect observed
at the NP-dat position
→ Pre-verbal gap filling

- Condition 2: Non-scrambled Wh-nom

Wh-nom NP-dat [NP-nom Adverb **NP-dat** NP-acc Verb-C] Verb-Q

No scrambling of
subjects

Support for Conservative-AGF?

- Staub 2007 used intransitive verbs (eye-tracking)

a. Transitive, RC

The gadget that the manager **called** occasionally about...

b. Transitive, no filler

The manager **called** occasionally about...

slow down



c. Intransitive, RC

The party that the student **arrived** promptly for...

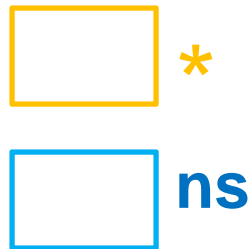
d. Intransitive, no filler

The student **arrived** promptly for...

no slow down



Details of Staub results



	the N	V	Adv+P
Measure	Pre-verb region	Verb region	Post-verb region
First fixation duration			
NP pref gap	216 (8)	258 (9)	264 (9)
NP pref no gap	195 (6)	237 (8)	247 (9)
PP pref gap	232 (8)	260 (9)	264 (11)
PP pref no gap	201 (8)	251 (8)	249 (9)
Unacc gap	222 (9)	267 (9)	249 (6)
Unacc no gap	204 (9)	280 (12)	247 (10)
First pass time			
NP pref gap	366 (20)	290 (11)	550 (37)
NP pref no gap	277 (12)	281 (14)	567 (30)
PP pref gap	334 (13)	331 (17)	492 (28)
PP pref no gap	280 (23)	311 (14)	500 (31)
Unacc gap	348 (19)	334 (14)	418 (17)
Unacc no gap	261 (15)	361 (19)	398 (20)
Go-past time			
NP pref gap	500 (31)	324 (14)	835 (62) *
NP pref no gap	277 (12)	350 (24)	742 (46) *
PP pref gap	469 (30)	383 (19)	658 (35)
PP pref no gap	280 (23)	354 (16)	634 (36)
Unacc gap	458 (30)	394 (22)	570 (27) *
Unacc no gap	261 (15)	421 (24)	476 (24) *
Percent regressions			
NP pref gap	24.5 (4.5)	5.4 (1.6)	21.3 (3.2)
NP pref no gap	0	13.7 (2.8)	23.6 (3.8)
PP pref gap	25.4 (4.8)	10.4 (2.5)	20.5 (3.3)
PP pref no gap	0	9.7 (2.3)	17.8 (2.9)
Unacc gap	21.3 (3.9)	11.3 (2.8)	19.2 (2.8)
Unacc no gap	0	9.4 (2.6)	13.1 (3.0)

Concerns about Staub's design

- Minor one
 - Not controlled for complexity (no filler in baseline)
 - Not neat, but constant across V types
- Bigger concern
 - Predictability of filler-V combinations differs
 - Transitive: The **gadget** that the manager **called**
 - Intransitive: The **party** that the student **arrived**

Our study

- In both transitive and intransitive V conditions...
 - Have a filler
 - Filler-V combination is equally implausible
 - For baseline, we use **RC island**

Our stimuli

a. Transitive, no island

The city that the author **wrote** regularly about _____ was...

b. Intransitive, no island

The city that the author **chatted** regularly about _____ was...

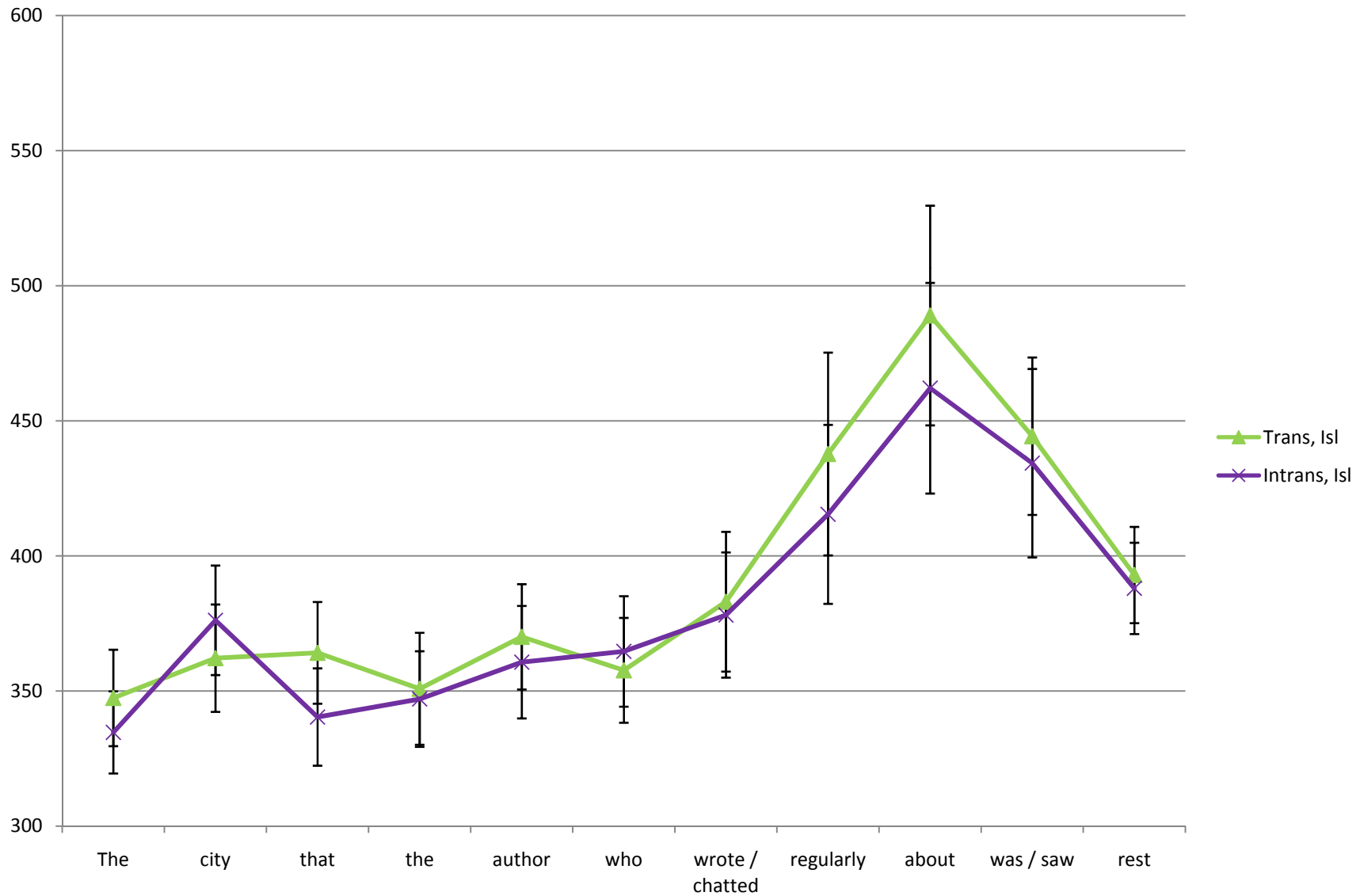
c. Transitive, island

The city that [_{RC} the author who **wrote** regularly] saw _____ was...

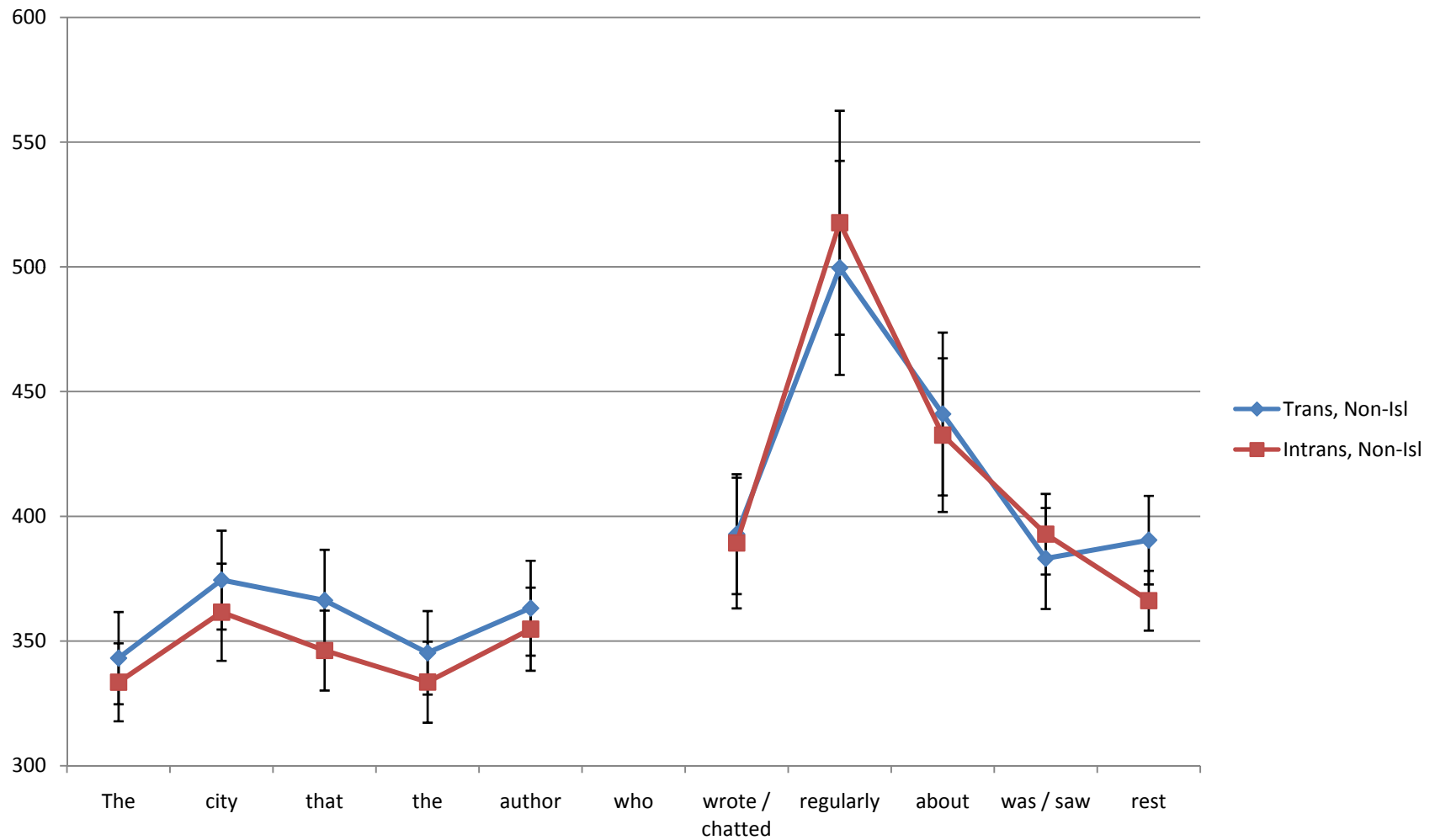
d. Intransitive, no island

The city that [_{RC} the author who **chatted** regularly] saw _____ was...

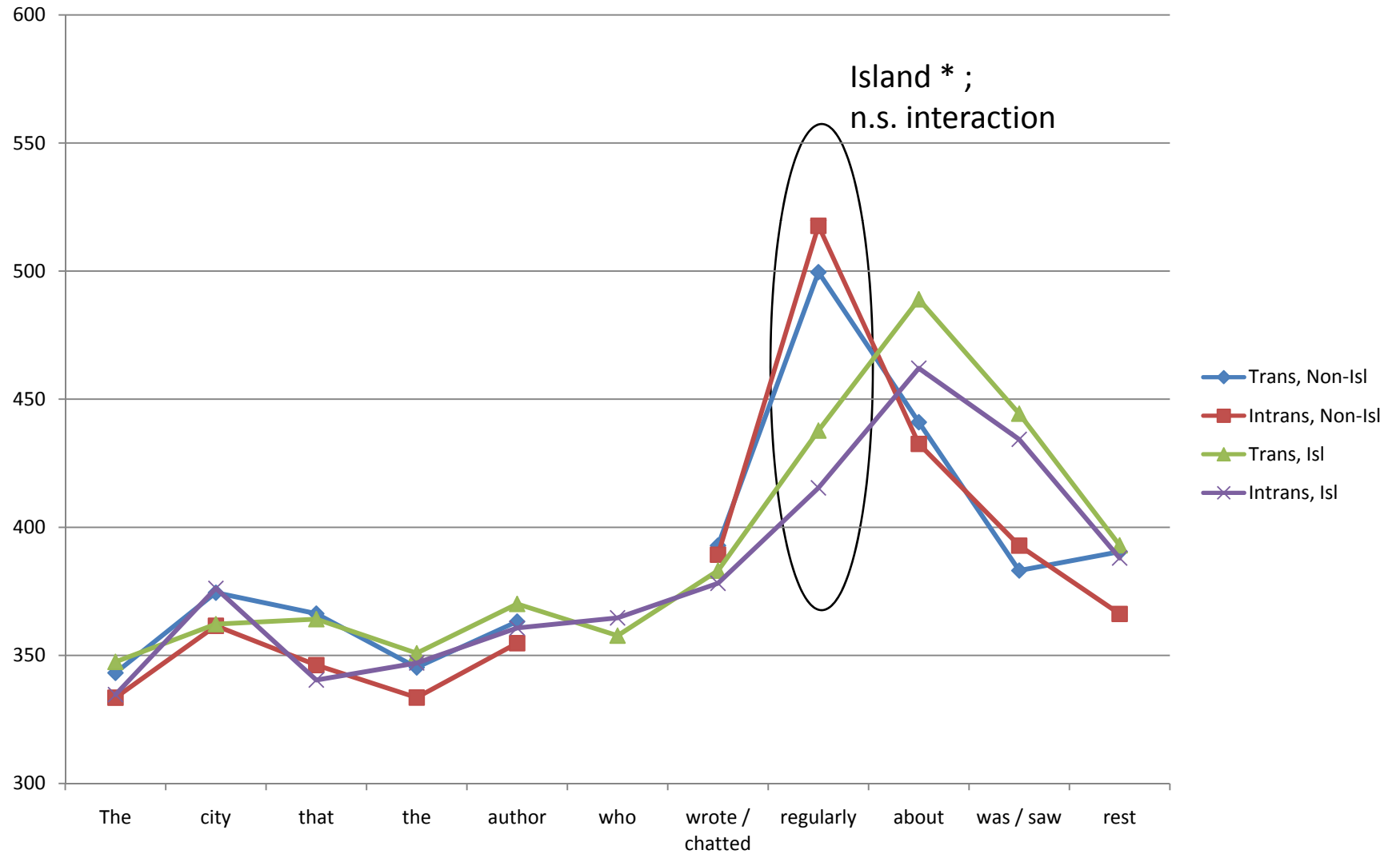
Island conditions



Non-Island conditions



Altogether



Concerns

- Could be due to the difference in the methodology (SPR vs. Eye-tracking?)
- Could be due to the difference in the stimuli

Back to our stimuli & Staub's

a. Transitive, no island

The city that the author **wrote** regularly about _____ was...

b. Transitive, island

The city that [_{RC} the author who **wrote** regularly] saw _____ was...

c. Intransitive, no island

The city that the author **chatted** regularly about _____ was...

d. Intransitive, no island

The city that [_{RC} the author who **chatted** regularly] saw _____ was...

Staub's stimuli

a. The party that the student arrived promptly for....

b. The student arrived promptly for the party...

Concerns about stimuli

- Verbs like “arrive” can be transitive-like
 - There is a high semantic association between the filler and the verb (e.g., inherently directional), and
 - It’s easy to come up with a preposition

The party that the student arrived... **[at]**

Better stimuli

- a. Non-island; high association

The **costume party** that the student **arrived** promptly **for** at the fraternity house was late in getting started.

- b. Non-island; low association

The **plumbing operation** that the student **arrived** promptly **for** at the fraternity house was late in getting started.

- c. island; high association

The **costume party** that the student **who arrived** promptly **threw** at the fraternity house was late in getting started.

- d. island; low association

The **plumbing operation** that the student **who arrived** promptly **saw** at the fraternity house was late in getting started.

Lab project 2! (5pts)

- Each of you constructs 4 sets of stimuli
- 2 based on Staub's; 2 from scratch (but make sure you use one of the verbs he used)
- Have a first draft (on googledoc) by Tuesday! I'll give you further instructions then

Preview of Lab project 3 (10 pts):

You'll actually run this self-paced reading experiment, and write up the results!