

Exhaustiveness in *It*-Clefts (ExCI): A Proposal

Anna-Christina Boell and Joseph P. DeVeaugh-Geiss

Universität Göttingen & Universität Potsdam

Presented at *Questions in Discourse*
at Universität Göttingen on 18 September 2014;
revised on 22 September 2014

Structure: *It is α that P.*

- Cleft Pivot: α
- Cleft Relative: P

It-Clefts

(1) Who is eating an apple?

- a. [John]_F is eating an apple. (*canonical*)
- b. **It is [John]_F who is eating an apple.** (*cleft*)

(2) Wer isst einen Apfel?

- a. [Hans]_F isst einen Apfel. (*canonical*)
- b. **Es ist [Hans]_F, der einen Apfel isst.** (*cleft*)

Exhaustiveness Inference

- (3) It is John who is eating an apple.
→ **Nobody other than John is eating an apple.**

Exhaustivity is argued to be inferred from cleft constructions; see Büring and Križ (2013: 1) below, as well as Percus (1997), Krifka (2008), and many others.

*A cleft of the form It is x that P not only expresses that x has property P, but also that x is the **only individual to have P**, i. e. that x **exhaustively identifies P** (in the relevant contextual domain). Call that the **Exhaustivity Claim**. [emphasis added]*

Semantic vs. Pragmatic Exhaustiveness?

Open Issues

- Is the **exhaustive inference**. . .
 - (a) **semantic**, i.e., conventionally coded in the structure; see, e.g., Halvorsen (1978), Percus (1997), Büring and Kriz̄ (2013), or
 - (b) **pragmatic**, i.e., inferred via conversational implicature (Grice 1967); see, e.g., Horn (1981, 2013)?

Semantic vs. Pragmatic Exhaustiveness

Semantic: Exhaustivity is part, or a necessary entailment of, a cleft.

Truth-Functional Account (4) — comparable to exclusive *only* (Atlas and Levinson 1981, Kiss 1998).

- (4) ASSERTED:
 $eating.apple(J.) \wedge \forall x. eating.apple(x) \rightarrow x = J.$

Definite Description Account (5) — with uniqueness or maximality presupposition (Percus 1997).

- (5) ASSERTED: $x = J.$
PRESUPPOSED: $\exists!x. eating.apple(x)$

Semantic vs. Pragmatic Exhaustiveness

Semantic: Exhaustivity is part, or a necessary entailment of, a cleft.

Exhaustiveness Presupposition Account (6) — cleft pivot α is *not a proper part* of a sum with property P satisfying the backgrounded presupposition (i.e., either α alone has property P or α does not have property P) (Büring and Križ 2013).

- (6) ASSERTED: *eating.apple(J.)*
 PRESUPPOSED: $\forall x. x \in \text{MAX}(\textit{eating.apple}) \rightarrow \neg(J. \sqsubset x)$

Semantic vs. Pragmatic Exhaustiveness

Pragmatic: Exhaustiveness is derived via pragmatic principles (Horn 1981, 2013)

- Clefts come with an existential presupposition.
- If a speaker uses a linguistic form that presupposes $\exists x.F(x)$ and asserts $F(\alpha)$, then s/he conversationally implicates $\forall x. x \neq \alpha \rightarrow \neg F(x)$

Semantic vs. Pragmatic Exhaustiveness?

Predictions

Semantic Exhaustiveness

- Encoded in structure
 - not (easily) cancellable
 - context-independent
 - robust
 - not able to be violated

Pragmatic Exhaustiveness

- Conversational implicature
 - cancellable
 - context-dependent
 - subject to variation
 - able to be violated

Semantic vs. Pragmatic Exhaustiveness?

Analysis?

No consensus on the correct analysis of exhaustiveness in clefts:

- Theoretical literature tends to bias toward semantic approach.
- Experimental studies tend to support pragmatic approach.

At-Issue vs. Not-At-Issue Information?

Open Issues

- Is the **exhaustive inference**. . .
 - (a) **at-issue**, i.e., addressing the Question Under Discussion, or
 - (b) **not-at-issue**, see, e.g., Velleman et al. (2012), Destruel et al. (2013), Horn (2013)?

At-Issue vs. Not-At-Issue Information?

At-Issue or Not-At-Issue?

- Not-at-issue information behaves differently to various linguistic diagnostics (Horn 2013).
- Prior experiments on exhaustiveness in clefts may only have been sensitive to at-issue information (Onea and Beaver 2009, Destruel et al. 2013).
- Not-at-issue information has been shown to be more easily cancelled (Mayol and Castroviejo 2013), and needs to be controlled for when differentiating semantic from pragmatic inferences.

Overview of Presentation

- 1 Introduction
- 2 Experiments
 - Research Questions
 - Notes On Experimental Methods
 - Block A: Detecting Exhaustiveness
- 3 Corpus Data
 - English Examples
 - German Examples

Research Questions

- **Q1:** Is exhaustiveness at-issue or not?
- **Q2:** Is it semantic or pragmatic?
- **Q3:** What is the correct theoretical analysis?
- **Q4:** Do clefts differ crosslinguistically?

3 Blocks Of Experiments

Block A

Detecting Exhaustiveness (at-issue vs. non-at-issue; semantic vs. pragmatic)

Block B

Semantic vs. Pragmatic Inference (effects of unexpectedness and salience)

Block C

Cross-linguistic Comparison (English, French, Hungarian, Akan)

Notes On Experimental Methods

Blocks A–C: General Notes

- Sentence-picture/video verification and felicity judgement tasks
- Conscious behavior only, no use of high-end technology (eye-tracking, ERP) for processing studies

Notes On Experimental Methods

Block A: Methods

- Truth value judgment on a target sentence (auditive) relative to a context picture or video.
- Participants are asked to give a judgement as soon as the relevant information is available.

Block A: Detecting Exhaustiveness

Verification/falsification strategy

- (7) **Critical Condition:** It is John who is eating an apple.
- Canonical Meaning: verified if John is eating an apple.
 - Exhaustiveness: falsified if someone other than John is eating an apple.

Control Conditions

- (8)
- Definite:** The man who is eating an apple is John.
 - Exclusive:** Only John is eating an apple.
 - Focus:** JOHN is eating an apple.

Experiment A1: [+/-] At-issueness

A1 Design

- Pictures/videos containing 4 individuals, auditive stimulus for target.
- At least one satisfies the property denoted by target clause.

Predictions

If judged true as soon as canonical meaning is validated (2nd individual), we can conclude that exhaustiveness inference in clefts is non-at-issue

Target: **It is John who is eating an apple.**

1	2
3	4

Experiment A2: [+/-] Exhaustive Inferences

A2 Design

- Same as Exp. A1, but the critical picture will falsify the exhaustiveness inference.

Predictions

- If judged false, it can be concluded that clefts do come with an exhaustiveness inference of some sort.

Target: **It is John who is eating an apple.**

1	2
3	4

Corpus Search

Corpus Search

In a small corpus study, we paid particular attention to violations of exhaustivity in naturally-occurring examples.

- A violation of exhaustiveness would **not** support a semantic, at-issue analysis of exhaustiveness in *it*-clefts.
- This may be somewhat of a strawman argument, since as far as we know no recent literature on the issue would argue for exhaustiveness in *it*-clefts being semantic and at-issue, as argued for *only*; cf. Percus (1997), Velleman et al. (2012), Buring and Križ (2013).

Four Possibilities

Semantic, At-Issue	Pragmatic, At-Issue
Semantic, Non-At-Issue	Pragmatic, Not-At-Issue

Corpus Search

- Python with Natural Language ToolKit (NLTK)
- Regex search for, e.g., “It’s/it is . . . who/that . . .”
- English corpora included:
 - NLTK’s US presidential inaugural addresses and selected Gutenberg books (Bird et al. 2009).
 - WaCky (Web as Corpus . . . , UK English) (Baroni M. et al. 2009).

Violating Exhaustiveness

mostly + Subject (passive)?

(context) For classical, Spanish and folk guitar[,] you would certainly need to have an acoustic instrument, whereas for pop and jazz you would generally require an electric guitar.

(9) It is **mostly classical guitar** that is taught in primary schools.

→ in some cases there are other kinds of guitar (e.g., folk, Spanish) taught in school.

Violation: α is not the only individual to have property P in (9)

- α = classical guitar
- P = taught in primary schools

Violating Exhaustiveness

Counterargument?

(10) (reading) In most guitar-teaching-events, it is **classical guitar** that is taught in primary schools.

With this reading, in which *mostly* quantifies over guitar-teaching-events, *classical guitar* is the only individual with the property of being mostly taught in primary schools.

Violating Exhaustiveness

Subject (active)?

(context) Throughout the course there is an emphasis on the stage by stage development of your portfolio of student work.

- (11) When you complete your degree it is **this portfolio** that will **also** assist you in your search for employment.
- there are other aspects of the program that will assist you.

Violation: α is not the only individual to have property P in (11)

- α = the portfolio
- P = assist you . . .

Violating Exhaustiveness

Counterargument?

(12) (Relevant QUD): *What else should I know about the portfolio?*

- a. When you complete your degree it is **this portfolio** that will **also** assist you in your search for employment.

Exhaustiveness seems to depend on how you interpret the relevant QUD, shown in (12).

Violating Exhaustiveness

More Examples?

- (13)
- a. It is **chiefly among galled whales** that this drug is used.
 - b. It is **chiefly with his name** that I now have to do.
 - c. It is also **mainly through these two treatises** that medieval philosophy got the still familiar view that there are three ways of talking about God [...].

Violating Exhaustiveness

Perhaps More?

Does the writer really intend α to be exhaustive in (14)?

- (14)
- a. It is **the simplicity of their loaning system** that makes Credit Unions such an attractive alternative for many people.
 - b. It is **for this reason** that we are calling for a concerted effort to promote education at all levels.

Corpus Search

- COSMAS II
- Regex search for, e.g., “Es ist/war ... der/die/das ...”
- German corpora included:
 - Newspapers (German-speaking countries)
 - Wikipedia

Subject

(context) Finally the decision about the name 'Albert Einstein School' was made. There were different reasons for this decision.

- (15) Es war zunächst **die naturwissenschaftliche Leistung**, die ihn als Namenspatron für die Schule auszeichnet, es war aber auch **sein politisches Auftreten gegen Gewalt, Diskriminierung und Militarismus**.

*'It was first of all **his scientific achievement**, which qualified him as a name-patron for the school, but it was also **his political engagement against violence, discrimination and militarism**.'*

Another Example? Subject

(context) 'The Rat Race' (newspaper headline)

- (16) Es ist **das permanente Beschäftigtsein**, das viele davon abhält, mit sich allein zu sein und über sich nachzudenken.
*'It is **the ongoing busyness** that keeps many from being alone with themselves and reflecting.'*

(context) Many also have fear of getting caught up in such thoughts or convince themselves that it is a waste of time.

→ not only busyness keeps people from being alone and reflecting, but also the fear of such thoughts, etc.

More Examples?

- (17)
- a. Es ist **vor allem die Stimmung im Lokal**, die dem Ort zu Bekanntheit verholfen hat.
 - b. Es ist **nicht zuletzt die australische Sommerhitze**, die zu den Überraschungen der vergangenen Jahre beitrug.
 - c. Es ist **seine Offenheit**, die ihn so beliebt macht.
 - d. Doch es war **gerade Breschnew**, der ein scharfes Vorgehen gegen Alla Pugatschowa nicht durchließ.

Can exhaustivity be violated/cancelled?

Based on a small corpus search, it appears that exhaustivity may be violated (although the data is not always so clear).

- This seems to suggest that exhaustivity is not semantic and at-issue.

Four Possibilities

✗ Semantic, At-Issue	Pragmatic, At-Issue
Semantic, Non-At-Issue	Pragmatic, Not-At-Issue

References I

- Atlas, J. D. and Levinson, S. C. (1981). It-clefts, informativeness and logical form: Radical pragmatics. In Cole, P., editor, *Radical Pragmatics*, pages 1–61. Academic Press Inc, New York.
- Baroni M., Bernardini S., and Ferraresi A. (2009). The WaCky Wide Web: A Collection of Very Large Linguistically Processed Web-Crawled Corpora. *Language Resources and Evaluation*, 43(3):209–226.
- Bird, S., Loper, E., and Klein, E. (2009). *Natural Language Processing with Python*. O'Reilly Media Inc.
- Büring, D. and Kriz, M. (2013). It's that, and that's it! Exhaustivity and homogeneity presupposition in clefts (and definites). *Semantics and Pragmatics*, 6(6):1–29.
- Destruel, E., Velleman, D. B., Onea, E., Bumford, D., Xue, J., and Beaver, D. (2013). A cross-linguistic study of the non-at-issueness of exhaustive inferences. *submitted*.

References II

- Grice, H. P. (1967). Logic and Conversation. In Grice, P., editor, *Studies in the Ways of Words*. Harvard University Press, Cambridge, MA.
- Halvorsen, P. K. (1978). *The Syntax and Semantics of Cleft Constructions*. PhD thesis, University of Texas at Austin.
- Horn, L. (1981). Exhaustiveness and the semantics of clefts. In *Proceedings of NELS*, volume 11, pages 125–142.
- Horn, L. (2013). Focus and exhaustivity revisited. Talk at DGfS Potsdam.
- Kiss, K. E. (1998). Identificational focus versus information focus. *Language*, 74(2):245–273.
- Krifka, M. (2008). Basic notions of information structure. *Acta Linguistica Hungarica*, pages 243–276.
- Mayol, L. and Castroviejo, E. (2013). How to cancel an implicature. *Journal of Pragmatics*, 50:84–104.
- Onea, E. and Beaver, D. (2009). Hungarian focus is not exhausted. *Proceedings of SALT*, 19:342–359.

- Percus, O. (1997). Prying open the cleft. In *Proceedings of NELS*, pages 337–351.
- Velleman, D. B., Beaver, D., Destruel, E., Bumford, D., Onea, E., and Coppock, E. (2012). *It*-clefts are IT (inquiry terminating) constructions. *Proceedings of SALT 22*, pages 441–460.