

Katzensprünge in der Bindungstheorie: Reflecting on Gisbert Fanselow's Work

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1. Prolog

Gisbert's perspective on binding is reflected in just a few relatively early works, such as Fanselow (1983), *Zur Behandlung der Anaphora in der generativen Grammatik*, which he produced concurrently with his MA thesis on case, government and binding in the syntax of German, his 1990 article, which is a small contribution on proper government and barriers in a volume on Germanic syntax, edited by Werner Abraham, Wim Kosmeijer and myself, and his 1991 habilitation, *Minimale Syntax*, which is only available as a pdf on the website Groninger Arbeiten zur Germanistischen Linguistik. After his habilitation, it seems he had the impression that he had said all he had to say about binding theory, so it never got a prominent role in his writings again.

In these early days he relativized the significance of linguistics and his own work, witness the following set of quotations from the prolog of his (1983) contribution:

- (1) – In Lees (1959) wird festgestellt, dass Ratten und Hunde höchstens viermal so weit springen können, wie ihre Körperlänge beträgt.
- Postal (1964) entdeckt, dass Katzen 4 Meter weit springen können.
- Lakoff (1968) postuliert eine zugrundeliegende Katzenlänge von 1,20 Meter, die durch die Operation 'Cat-Reduction' auf 40 cm an der Katzenoberfläche reduziert wird.

*This contribution is based on work with Martin Everaert. I thank the organizers for inviting me to the workshop on Gisbert Fanselow's Contributions to Syntactic Theory. Note that both Fanselow (1983) and (1991) are in German. I decided to cite the German original in the main text, and add English translations in footnotes. The German part of my title can be translated as 'Stone's Throws in Binding theory', but that is of course less informative than the machine translation 'Cats Jumps in Binding Theory'.

- Sternefeld (1983) ... beweist, dass die Korrelation zwischen hypothetischer Katzenlänge und Entfernung Katze-Spur aus unabhängigen Prinzipien folgt, vor allem aber, dass nie eine Katze dagewesen ist.¹

This led him to the following conclusion:

- (2) Die Lage der Sprachwissenschaft ist hoffnungslos aber nicht ernst.²

2. Fanselow's Approach

Already Fanselow (1983: 10) shows an interest in explanation, given his remarks in (3):

- (3) – Unter der von Chomsky gewählten Beschreibung erscheint es ... als reiner Zufall, dass die Koreferenzbeschränkungen so formuliert sind ..., dass sie komplementäre Verteilung ergeben ... da das Reflexiv-Constraint als solches vom Personalpronomen-Constraint unabhängig ist
- Tatsächlich tritt ... wo das Reflexivpronomen ... fehlt, das Personalpronomen ein.³

¹ – In Lees (1959) it is established that rats and dogs can jump at most four times as far as their body-length.
– Postal (1964) discovers that cats can jump 4 meters far.
– Lakoff (1968) postulates a basic cat-length of 1,20 meters, which by the operation of 'Cat-Reduction' is reduced to 40 cm at the cat-surface.
– Sternefeld (1983) proves that the correlation between the hypothetical cat-length and the distance between the cat and its trace follows from independent principles, but especially that there never was a cat.

Note the joke references to Lees, Postal and Lakoff, which I did not include in the reference list.

²The state of linguistics is hopeless, but not serious.

³ – Under the description chosen by Chomsky it seems ... entirely accidental that the restrictions on coreference have been formulated in such a way that they indicate a complementary distribution ... because the reflexive constraint as such is independent of the constraint on personal pronouns.
– In fact it is so that ... where the reflexive pronoun is absent, the personal pronoun occurs.

In his quest for an explanation of binding principles, Fanselow (1990) expresses an important insight. He notes that according to Chomsky (1986) locality of NP-traces follows from the Empty Category Principle (ECP). Recovery of content is restricted by intervening barriers. But then he notes that lexical anaphors share an almost identical distribution with NP traces. It is natural to assume that binding of lexical anaphors will be restricted by the concept “barrier”, and the ECP as well. This raises the question of what lexical anaphors and NP-traces could share to make both susceptible to the ECP. On the basis of a survey of +/- 30 languages from different families he found that lexical anaphors (like expletives such as *there*) lack inherent specification of ϕ -features. This leads to the proposal in (4):

(4) Proposal

ϕ -feature specification has to be derived from a coindexed category via some process of feature transmission.

This insight is elaborated in Fanselow (1991), in a proposal that can be summarized as in (5):

(5) Summary of the proposal

- Das Prinzip der Vollständigen Spezifikation: Jede NP trägt ϕ -Merkmale.
- “Echte” Anaphern wie *sich*, *ziji* besitzen diese nicht inhärent, sondern müssen sie von einer anderen Position derivieren, die ϕ -Merkmale trägt.
- Da INFL selbst ϕ -Merkmale trägt, löst vornehmlich dieser Kopf Minimalitätseffekte für die Übertragung von ϕ -Merkmalen aus.
- Die Anapher muß innerhalb der IP ϕ -Merkmale ableiten.⁴

⁴Summary of the proposal

- The principle of complete specification: Every NP carries ϕ -features.
- True anaphors such as *sich*, *ziji* don't possess these features inherently, but must derive them from another position that does carry ϕ -features.
- Since INFL itself carries ϕ -features, it is primarily this head that causes minimality effects for the transmission of ϕ -features.
- The anaphor must obtain its ϕ -features within the IP.

The proposal in (5) represents a local binding dependency. Non-local binding is licensed on the basis of an INFL-INFL dependency, where the lower INFL receives a ‘parasitic’ index from a higher INFL, as in (6):

(6) Non-local binding

- Dabei steht auch ein auf INFL kopierter “parasitärer” Index zur Verfügung.
- So entsteht der Eindruck einer »langen« Bindung der Anapher.⁵

Complex anaphors in Germanic are locally bound. This is captured by (7):

- (7) Aus der Annahme, daß morphologisch komplexe Anaphern einen Reflexivoperator enthalten, folgt also, daß sie nur kurz gebunden werden können. Wie im Falle von *sjalfan sig* ist bei *himself* also *self* der Faktor, der für die Lokalität der Bindung von *himself* entscheidend ist.⁶

In analyzing *self* as a reflexivizing operator, Fanselow (1991) independently arrives at an insight that is also presented in Reuland (1990) and Reinhart and Reuland (1991). Fanselow’s approach, then, can be summarized as in (8):

(8) **Summary of the proposal**

- a. *The ‘trigger’ for anaphor binding:*
Principle: *_[NP α] if α has a phonetic matrix and lacks φ-features
- b. *Syntactic binding of anaphors*
φ-feature specification is derived from a coindexed category via some process of feature transmission
- c. *Locality of anaphor binding:*
Feature transmission is confined by barriers.
- d. *Locality of complex anaphors*
-self in *himself* is a reflexivizing operator.

⁵Non-local binding

- To this end there is also a parasitic index available that has been copied onto INFL.
- In this way we get the impression of “long-distance” binding of the anaphor.

⁶From the assumption that morphologically complex anaphors contain a reflexive operator it follows that that they can only be locally bound. Just like in the case of *sjalfan sig*, also in the case of *himself*, *self* is the factor that is decisive for the locality of the binding of *himself*.

After 1991 binding doesn't appear to play a substantial role in Gisbert's work. Perhaps because he found that everything, as in the prolog, "aus unabhängigen Prinzipien folgt" and therefore "nie [...] dagewesen ist".

It is striking how topical his ideas are despite the fact that the relevant work is hardly visible and cited. Fanselow (1991) proposes that *-self* in *himself* is a reflexivizing operator, as are corresponding elements in languages like Basque, Georgian, etc. Reuland (1990) and Reinhart and Reuland (1991), and subsequent work, proposes that *-self* in *himself* is a reflexivizer. But only quite a bit later, languages like Basque and Georgian are discussed (Reuland 2011).

Fanselow (1991)'s proposal of syntactic binding of ϕ -deficient anaphors by feature transmission in (8-b) is a clear precursor of current proposals based on anaphor binding by Agree, as in Reuland (2005, 2011), or Rooryck and Wyngaerd (2011), and subsequent work, see the parallel in (9):

- (9) – Reuland (2005, 2011 and related work): *Anaphor binding is to be represented by Agree, based on copying (values of) features.*
- Fanselow (1991): *ϕ -feature specification is derived (from a coindexed category) via some process of feature transmission.*

From the present perspective there are a number of issues Fanselow's approach leaves open:

- (10) i. Inherited from Chomsky (1982, 1986): Redundancy in a system based on sharing of features and indices
- ii. The precise mechanism of chain formation: underspecified elements derive their features from an element 'higher' in the structure
- iii. Lack of c-command in the case of 'logophoric' binders
- iv. If anaphors end up being fully specified why aren't they spelled out as fully specified elements = pronominals (e.g. Preminger (2019))?

In Fanselow (1991) feature sharing is dependent on coindexing, but feature sharing represents a dependency by itself, hence why are indices needed? In fact, they can and should be dispensed with on the basis of the Inclusiveness Condition (Chomsky 1995), stating that syntactic operations are restricted to morphosyntactic objects. Since indices are not morphosyntactic objects, syntactic binding should be represented without them. And since anaphor

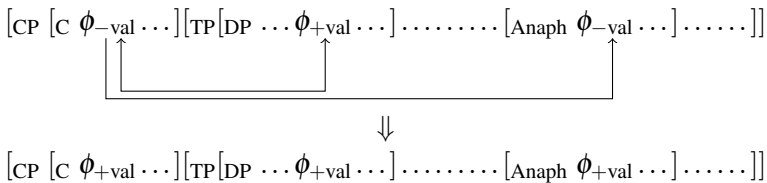
binding is subject to locality – typically a syntactic phenomenon –, it should be represented by a dependency between syntactic objects. But in fact, it seems to me that Fanselow’s approach already has the means to eliminate indices, although he did not draw that conclusion himself.

3. Moving On

Let’s first continue with the mechanism of chain formation (10). Prima facie, underspecified anaphors derive their features from an element ‘higher’ in the structure, as reflected in the c-command requirement on the antecedent of anaphors. This led to a theoretical debate, since in standard conceptions of Agree, the deficient element — the probe – is higher in the structure than the element that values it — the goal. Yet, in the case of anaphor binding the deficient element is lower in the structure than the element that provides the value. This led to an extensive debate on Upward Agree versus Downward Agree (Zeijlstra versus Preminger, among others). In the case of logophoric interpretation one also has to face the existence of non-c-commanding antecedents.

Both issues are resolved by adopting the operation of Multiple Agree (Hiraiwa 2001, 2005; Chomsky 2008) for the syntactic representation of ϕ -deficient anaphor binding. For details, see for instance Giblin (2016), Zubkov (2018), Reuland et al. (2020), and Reuland and Zubkov (2022). Agree-chains are formed by probe-goal dependencies, where the probe is an element that has an unvalued ϕ -feature, which it seeks to value. Valuation involves single features, such as person and number. A probe is valued by the closest suitable goal. A goal is valued by the closest suitable probe, as illustrated in (11):

(11)



The unvalued occurrence of ϕ probes and finds two other occurrences of ϕ in its domain, one valued, which values the probe, and a (lower) unvalued occurrence, which is simultaneously valued as well, as there is no closer probe that could have valued it here. The C-system plays a central role as a pivot

in the relation between the syntactic system and the discourse system (e.g. Delfitto and Fiorin 2011, Giblin 2016). It contains an unvalued feature such as an unvalued person feature in Russian, an unvalued participant feature in Mandarin, an unvalued Author feature in Vietnamese, etc. Valuation gives rise to single feature chains (contra Reuland 2011). This is crucial. In the system developed for Russian in Zubkov (2018), Reuland and Zubkov (2022), the anaphor ends up being valued for person or number, but not for both. Hence, after valuation anaphors remain distinct from pronominals. Note that this is consistent with Fanselow's Prinzip der Vollständigen Spezifikation, under a slight modification:

- (12) Das Prinzip der ~~Vollständigen~~ Spezifikation: *_[NP α] unless α ... has at least one valued ϕ -feature.⁷

In this model, probing continues all the way down to the next lower probe. This pattern of intervention essentially reduces to minimality. As a result, the probe spreads (or attempts to spread, depending on whether or not the potential goal is already valued) the value of the closest suitable goal to the farther goals in its domain, subject to intervention by other probes.

4. A Crosslinguistic *Katzensprung*

As is well-known, Mandarin has cases where the antecedent does not strictly c-command the anaphor it binds. This is illustrated in (13):

- (13) Zhangsan_i de jiaoao hai-le ziji_i.
 Zhangsan's DE pride hurt-ASP self
 'Zhangsan's arrogance harmed him.' (Tang 1989: 100)

This has led to the proposal that in Mandarin the c-command requirement has to be formulated a bit looser, as subcommand, allowing an antecedent to also bind the anaphor *ziji* from a more embedded position (Tang 1989 Huang and Tang 1991). This loosening is restricted, however. It is not available in (14):

- (14) Zhangsan_i de gege_j hai-le ziji_{*i/j}.
 Zhangsan's DE brother hurt-ASP self
 'Zhangsan's brother harmed self'

⁷The principle of complete specification: *_[NP α] unless α ... has at least one valued ϕ -feature.

Despite being a potential perspective holder *Jón* is not available as an antecedent of *sig*; only the more local *Harold* is. Relevant is the intervening indicative clause. This intervention effect is in line with a syntactic/Agree-based approach.

This, then, closes the circle with Gisbert's work.

5. Conclusion

We started with Gisbert's Katzen-metaphor, expressing the wish for explanation in linguistics. His approach can be summarized as follow:

The 'trigger' for anaphor binding:

- Principle: * $[_{NP} \alpha]$ if α has a phonetic matrix and lacks ϕ -features.

Syntactic binding of anaphors

- ϕ -feature specification is derived from a coindexed category via some process of feature transmission.

Locality of anaphor binding:

- Feature transmission is confined by barriers.

Locality of complex anaphors

- *-self* in *himself* is a reflexivizing operator.

We saw that his work expresses important insights ahead of his time. It deserves to be studied in detail, especially his habilitation, looking for more hidden gems.

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