

## Evidence from German for N-stranding NP-ellipsis

Johanna Benz and Martin Salzmann  
University of Pennsylvania and University of Potsdam

### 1 Introduction

#### 1.1 X-stranding XP-ellipsis

Cross-linguistically, ellipsis operations vary in whether the head of an elided constituent can survive ellipsis. In one scenario, both the head and all dependents within a given phrase are deleted, as in English VP-ellipsis:

- (1) Arthur brought a present to Hall, and Julia did ~~bring a present to Hall~~ too.

Several languages have a type of VP-ellipsis where, unlike in English, the head of the elided constituent survives ellipsis. This is referred to as V-stranding VP-ellipsis. The following Portuguese example is from Lipták & Saab (2014, 1250):

- (2) Eu dei um livro pra Maria e o Pedro também deu  
I gave.1SG a book to.the Maria and the Pedro also gave.3SG  
um-livro-~~pra-Maria~~  
a book to.the Maria  
'I gave a book to Maria, and Pedro did, too.'

The interpretation of the VP in the second conjunct is such that it includes both the verb *deu* 'gave' and its dependents, suggesting that the entire VP is elided, not just individual dependents of N (for recent discussion of how to distinguish V-stranding VP-ellipsis from argument ellipsis, see, e.g., Gribanova 2020). The standard account of such examples is that it involves regular VP-ellipsis which is, however, preceded by verb movement out of VP, e.g., to T, as sketched in (3):

- (3) ... deu<sub>1</sub> [<sub>VP</sub>        ~~um livro pra Maria~~]

Under these assumptions, V-stranding VP-ellipsis is only predicted to be available in a language if it has both VP-ellipsis and V-movement out of VP. In this paper, we argue that similar considerations point to the existence of N-stranding NP-ellipsis based on new data from German. In order to make this point, we also provide evidence against the deletion of individual constituents within the noun phrase and against pragmatic recovery.

#### 1.2 Lipták & Saab (2014): The absence of N-stranding NP-ellipsis

Lipták & Saab (2014) argue that X-stranding XP-ellipsis can generally be used as a diagnostic for the presence of a given head-movement operation (as sketched above). Applying this logic to Spanish noun phrases they argue that, given the possibility of NP-ellipsis in the language, there should be N-stranding NP-ellipsis

if there is N-movement out of NP. N-raising has been postulated for many Romance languages to derive word orders where the noun precedes the adjective, as, e.g., in examples like (4) (from Lipták & Saab 2014, 1248):

- (4) [DP una [NumP comedia<sub>1</sub> [NP musical [NP \_\_\_<sub>1</sub> ]]]]  
 a comedy musical  
 ‘a musical comedy’

The surface order could result from N-to-Num raising (presupposing that adjectives are adjoined to NP). If such N-raising really exists, we expect Spanish to also allow N-stranding NP-ellipsis. The authors first point out that the N-raising account of noun-adjective orders has become problematic for various reasons discussed in, e.g., Cinque (2010). They then go on to show that N-stranding NP-ellipsis is actually absent in the language and conclude that the noun does not move out of NP in Spanish. The empirical evidence against N-stranding NP-ellipsis consists of examples like (5) (Lipták & Saab 2014, 1256):

- (5) \*Juan habló con tres estudiantes de física y yo hablé con dos  
 Juan talked with three students of physics and I talked with two  
 estudiantes de física  
 students of physics  
 intended: ‘Juan talked to three students of physics and I talked to two students of physics.’

Examples of this type do not allow an interpretation where the PP-modifier of the noun is recovered in the second conjunct. The only available interpretation is one where the speaker was talking to two students of some sort, but crucially not students of physics. If the noun does not move out of NP, there cannot be NP-ellipsis in such an example and hence, the PP cannot be deleted along with it. Note that this argument presupposes that PPs cannot be deleted independently (a possibility we return to below). The interpretive facts are the same in English and German.

## 2 Evidence for the existence of N-stranding NP-ellipsis

### 2.1 The importance of contrast

However, the examples in the preceding section have another crucial property: while the numeral is contrastive, the noun is not. If the example is modified such that the noun is contrastive (rather than the numeral), deletion and recovery of PP-dependents becomes possible in German and English as well as, crucially, in Spanish (Raúl Bendejú Araujo, p.c):

- (6) a. Peter sprach mit zwei Studenten der Physik und ich sprach  
 Peter spoke with two students the.GEN physics and I spoke  
 mit zwei Professoren der Physik  
 with two professors the.GEN physics  
 ‘Peter spoke with two students of physics and I spoke with two professors (of physics).’

- b. Juan habló con dos estudiantes de física y yo hablé con dos  
 Juan talked with two students of physics and I talked with two  
 profesores de física  
 professors of physics  
 ‘Juan talked to two students of physics and I talked to two professors.’

This result thus points in the opposite direction: Given that the PP can be recovered, a larger constituent seems to have been deleted, viz., the NP (with the verb having previously moved out of NP).

Suppose that this conclusion is correct, which type of head-movement could we be dealing with given that it cannot be movement across the adjective to a head like Num? There is a fairly well-established type of head-movement affecting a lower part of the noun phrase found in several languages, viz., movement of N across (some of) its arguments to a functional head like n. It is proposed, for instance, in textbooks like Adger (2003) to account for nominalizations of ditransitive verbs in English where coordination and binding facts suggest that the theme-argument is projected higher than the goal:

- (7) the consul’s gift<sub>i</sub> of the gladiator<sub>i</sub> \_\_\_<sub>1</sub> to himself<sub>i</sub>

Movement of N across the theme in its specifier then derives the surface order. For German, this type of analysis seems to go back to Haider (2000) and is motivated on the basis of binding as in (8), where the first postnominal constituent binds into the second and thus can be assumed to c-command it.

- (8) die Wut des Mannes<sub>i</sub> auf sich<sub>i</sub>  
 the anger the.GEN man.GEN on self  
 ‘the man<sub>i</sub>’s anger at himself<sub>i</sub>’

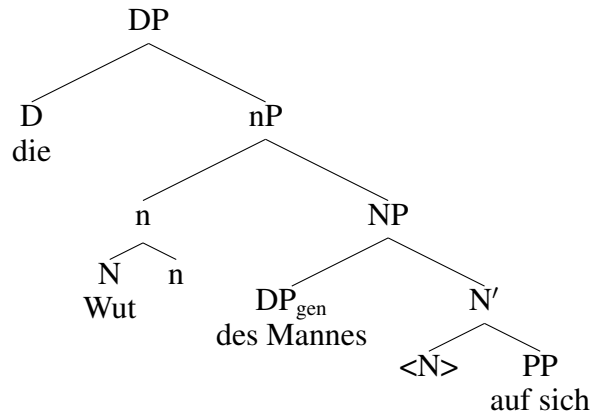
In addition, the preposition *auf* heading the PP is selected by the noun, indicating that the PP is a complement of N. If the external argument is a PP rather than a genitive, reordering of the post-nominal constituents is possible; the following binding facts show that in the base order, the *von*-PP realizing the agent must be projected higher than the *auf*-PP:

- (9) a. die Wut von Hans<sub>i</sub> auf sich<sub>i</sub>  
 the anger of Hans on self  
 ‘Hans’ anger at himself’  
 b. ?die Wut auf sich<sub>i</sub> von Hans<sub>i</sub>  
 the anger on self of Hans  
 c. \*die Wut auf Hans<sub>i</sub> von sich<sub>i</sub>  
 the anger on Hans of self

Note that unlike variable binding, which has become a contested diagnostic for c-command (see, e.g., Barker 2012), anaphor binding in German is a reliable diagnostic: Not only does the language have no logophoric binding (see Kiss 2001, 186), anaphor binding is also subject to a rather strict c-command requirement (the only exception being certain PPs headed by grammatical prepositions like *von*).

Sternefeld (2006, 587) proposes an implementation in terms of N-to-n-movement:<sup>1</sup>

(10)



If external arguments of nouns are generated in a separate projection, e.g., nP, then N would have to move via n to a functional head above nP. Note that German differs from English in that the moved noun can precede external arguments (while in English, the noun targets a head below the base position of the external argument, which in addition moves to Spec,DP). Before concluding that N-stranding NP-ellipsis exists, we first need to establish that German independently has NP-ellipsis. This is the topic of the next subsection.

## 2.2 NP-ellipsis in German and licensing

Evidence for the existence of NP-ellipsis in German comes from various sources (see, e.g., Saab 2019, Merchant 2023 for an overview of diagnostics). First, one can delete more than just the noun, showing that there must be more than just an empty noun in the structure:

- (11) Ich kaufte zwei Bücher über Chomsky und du kauftest drei  
 I bought two books about Chomsky and you bought three  
 Bücher über Chomsky  
 books about Chomsky  
 ‘I bought two books about Chomsky and you bought three.’

Second, there are remnants of NP-ellipsis that are headed by a preposition that is lexically selected by the (elided) noun (empty nouns are thought not to be able to take arguments and select specific cases/XPs). In the following example, the elided noun *Angst* ‘fear’ selects the preposition *vor* ‘before’. Such a PP can survive ellipsis, suggesting that the noun *Angst* is present in the ellipsis site.

- (12) Die Angst vor Monstern ist grösser als die ~~Angst~~ vor Spinnen  
 the fear of monsters is bigger than that fear of spiders  
 ‘The fear of monsters is bigger than that of spiders.’

<sup>1</sup>Haider’s analysis involves reprojection movement of N; as we will see below, assuming movement to a functional head instead has certain technical advantages for ellipsis licensing.

Finally, there can be extraction from the ellipsis site, showing that there must be a full-fledged syntactic structure in the ellipsis site:

- (13) [Über Chomsky]<sub>1</sub> habe ich zwei interessante Bücher \_\_\_<sub>1</sub> gelesen und  
 about Chomsky have I two interesting books read and  
 [über Churchill]<sub>1</sub> habe ich drei ~~interessante Bücher~~ \_\_\_<sub>1</sub> gelesen  
 about Churchill have I three interesting books read  
 ‘About Chomsky, I’ve read two interesting books, and about Churchill, I’ve  
 read three (interesting books).’

We can thus conclude that NP-ellipsis exists in German. In what follows, we will briefly discuss the size of the ellipsis site and how NP-ellipsis is licensed.

We follow previous work in assuming that ellipsis licensing obtains between a functional head, the licensor, and an XP c-commanded by it, the ellipsis site (Lobeck 1995, Merchant 2001, Aelbrecht 2010 etc.). Concretely, these functional heads bear an E-feature that instructs PF to elide (a phrase contained within) its complement and LF to interpret it as given.<sup>2</sup> Like, e.g., Lipták & Saab (2014) and Saab (2019), we assume that ellipses in noun phrases can be of different sizes, viz., the E-feature can reside on different heads. Concretely, the E-feature can be on D, leading to deletion of everything lower than D, potentially including numerals and adjectives. (14) would thus be an instance of NumP-ellipsis in German:

- (14) Ich kaufte diese zwei interessanten Bücher und du kauftest jene [NumP  
 I bought these two interesting books and you bought those  
~~zwei interessanten Bücher~~  
 two interesting books  
 ‘I bought these two interesting books and you bought those.’

For the purposes of this paper, it does not matter whether determiners and demonstratives are located in D or in Spec,DP, see, e.g., Murphy (2018, 343) for references. The E-feature can also reside on the Num-head, leading to ellipsis of everything below Num as in (15):

- (15) Ich kaufte zwei interessante Bücher und du kauftest drei  
 I bought two interesting books and you bought three  
~~interessante Bücher~~  
 interesting books  
 ‘I bought two interesting books and you bought three.’

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<sup>2</sup>There is a large body of work addressing morphological and semantic aspects of licensing. As discussed in Saab (2019) and the references cited there, morphological effects of NP-ellipsis are arguably epiphenomena arising from the way in which morphology resolves some stranded affix filter configurations; for relevant work on German, see Murphy (2018) and references cited there. Semantic approaches that postulate a contrast condition on remnants overgenerate because of the existence of non-contrastive remnants, see, e.g., Lipták & Saab (2016, 71, fn. 5); while contrast surely often affects the acceptability of ellipsis (recall our case above with contrastive nouns), it remains poorly understood at this point to what extent this should be considered part of ellipsis licensing. It is for these reasons that much recent work has converged on a more mechanistic approach to ellipsis licensing based on E-features.

This is again regardless of whether numerals are introduced in Num or Spec,NumP.

If prenominal adjectives survive ellipsis, the technically most straightforward implementation is to introduce adjectives in the specifier of functional heads as in, e.g., Gallmann (1996), Sternefeld (2004, 285), Sternefeld (2006, 243) with the E-feature located on the functional head introducing those adjectives. Alternative implementations are conceivable as well, e.g., with the adjective being treated as a head as in Murphy (2018) and then bearing the E-feature itself; if the adjective is assumed to be adjoined to nP, nP-ellipsis would be required to affect only some segments of nP – as in VP-ellipsis, where segments of VP can survive. In (16), ellipsis affects everything below the prenominal adjective:<sup>3</sup>

- (16) Ich kaufte ein gutes Buch über Linguistik und du kauftest ein  
I bought a good book about linguistics and you bought a  
schlechtes ~~Buch über Linguistik~~  
bad book about linguistics  
'I bought a good book about linguistics and you bought a bad one.'

In the next subsection, we turn to the analysis of N-stranding NP-ellipsis.

### 2.3 Against deletion of individual constituents

Above for ex. (6), we argued that the data involve N-raising followed by NP-ellipsis (since, in German, ellipsis can also affect the external argument and the noun thus possibly moves to a higher functional head, nP-ellipsis would arguably be more precise). Before concluding that N-stranding NP-ellipsis exists, there is one alternative analysis that needs to be discussed: the possibility of deletion of individual constituents. Rather than deleting the NP/nP in (6), deletion would target just the PP individually. At first sight, such an analysis may seem plausible given the observations in Collins (2015, 57) that certain NP-modifiers in English seem to be able to independently undergo deletion, see the relative clause and PP-adjunct in (17):

- (17) a. At the party, I saw three boys who I know and one girl.  
b. Some boy from every school reads comic books, and some girl does too.

According to Collins, these examples can have interpretations with the relative clause in (17-a) and the PP-modifier in (17-b) being syntactically present but deleted at PF:

- (18) a. At the party, I saw three boys who I know and one girl ~~who I know~~.  
b. and some girl ~~from every school~~ does read comic books too.

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<sup>3</sup>Ellipsis can affect a subset of prenominal adjectives, as in (i):

- (i) Ich habe ein grosses grünes Auto und du hast ein kleines ~~grünes Auto~~  
I have a big green car and you have a small green car  
'I have a big green car and you have a small (green car).'

All three analyses of prenominal adjectives sketched above extend to these examples without further stipulation.

The same is in fact possible in German. Thus, German allows deletion of relative clauses and PPs (arguments and adjuncts):

- (19) Ich hab ein Buch gekauft, das dir sicher gefällt, und Hans eine  
 I have a book bought which.NEUT you surely pleases and Hans a  
 Zeitung ~~die dir sicher gefällt~~  
 newspaper which.FEM you surely pleases  
 'I bought a book that you'll surely like, and Hans a newspaper.'
- (20) Im Flugzeug habe ich einen Artikel über Churchill gelesen und du  
 In.the plane have I an article about Churchill read and you  
 einen Roman über Churchill  
 a novel about Churchill  
 'On the plane I read an article about Churchill and you a novel.'

In addition, German allows deletion of noun-complement clauses as in (21) and deletion of genitive arguments as in (22):

- (21) Clara lieferte das Gerücht, dass Petra schwanger ist, und Hans den  
 Clara provided the rumor that Petra pregnant is and Hans the  
 Beweis ~~dass Petra schwanger ist~~  
 proof that Petra pregnant is  
 'Clara provided the rumor that Petra is pregnant and Hans the proof.'
- (22) Peter beschrieb die Erbauung Roms und Maria die Zerstörung  
 Peter described the construction Rome.GEN and Maria the destruction  
 Roms  
 Rome.GEN  
 'Peter described the construction of Rome and Maria the destruction.'

Collins provides several arguments in favor of a deletion analysis, such as strict and sloppy readings of pronouns contained in the deleted modifiers, reconstruction of the head noun into deleted relative clauses, the strongest one arguably being the inverse linking interpretation in (18-b), where QR of *every school* out of the ellipsis site is necessary to derive the reading. Equivalent examples can be constructed in German. Additional evidence for ellipsis can come from the phi-mismatch in (19) and the possibility of variable binding inside the elided constituent, suggesting that these cases of deletion cannot be reanalyzed as mere pragmatic recovery:

- (23) Die Angst von jedem Studenten<sub>i</sub> vor seinem<sub>i</sub> Professor ist grösser als  
 the fear of every student of his professor is greater than  
 der Respekt von jedem Studenten<sub>i</sub> vor seinem<sub>i</sub> Professor  
 the respect of every student of his professor  
 'Every student<sub>i</sub>'s fear of his<sub>i</sub> professor is greater than his respect.'

In (23), more than one NP-internal constituent seems to have been deleted. We will now argue that apparent cases of deletion of individual constituents are actually the result of NP-ellipsis after N-to-n raising. In other words, there is no individual

deletion of dependents of N at all; only projections of N can undergo deletion. In the previous subsection, we saw examples with the E-feature on D, Num or the functional head introducing adjectives. N-stranding NP-ellipsis obtains if the E-feature is located on the head the noun moves to, viz. n (or some higher functional head). Thus, an N-stranding NP-ellipsis analysis of an example like (23) would look as follows:<sup>4</sup>

(24) ... der [<sub>NP</sub> Respekt<sub>1</sub>+n [<sub>NP</sub> jedes Studenten<sub>i</sub>       <sub>1</sub> für seinen<sub>i</sub> Professor]]

Evidence against individual deletion comes from the following observations: First, unlike postnominal material, prenominal modifiers, viz., adjectives and numerals, cannot be deleted and recovered if N is pronounced (and contrastive):

- (25) a. \*Ich habe das schönste Auto und du [<sub>DP</sub> das schönste Motorrad]  
 I have the prettiest car and you the prettiest motorbike  
 Intended: 'I have the prettiest car and you the prettiest motor bike.'  
 b. \*Ich las diese zwei Bücher und du last [<sub>DP</sub> diese zwei Romane]  
 I read these two books and you read these two novels  
 Intended: 'I read these two books and you read these two novels.'

The examples in (25) only allow an interpretation without deletion of the adjective/numeral.<sup>5</sup> Thus, ellipsis inside the noun phrase is clearly constrained by the grammar. The same can be illustrated on the basis of the following contrast: Prenominal genitives cannot be deleted and recovered, (26-a), while PPs bearing the same thematic role but occurring postnominally can, (26-b) (note that prenominal genitives are incompatible with determiners, while postnominal PPs are not):

- (26) a. \*Ich schätze Goethes Romane aber du bevorzugst  
 I appreciate Goethe.GEN novels but you prefer  
 Goethes Gedichte  
 Goethe.GEN poems  
 intended: 'I appreciate Goethe's novels but you prefer Goethe's poems.'  
 b. Ich schätze Goethes Romane aber du bevorzugst die  
 I appreciate Goethe.GEN novels but you prefer the  
 Gedichte von Goethe  
 poems by Goethe  
 'I appreciate Goethe's novels but you prefer the poems (by Goethe).'

If constituents of the noun phrase could simply be deleted individually, the facts in (25) and (26) would be completely unexpected. They do follow, however, under the assumption that the E-Feature can only be located on certain heads and, in the

<sup>4</sup>For the post-nominal modifiers to be affected by ellipsis, they will have to attach to a projection below the head effecting ellipsis, viz., below n. If we assume instead (as discussed above) that head-movement in fact targets a head above nP, they can be adjoined to NP or nP to be affected by deletion.

<sup>5</sup>As far as we can tell, the facts are the same in English. Collins (2015, 61) argues that prenominal adjectives can undergo individual deletion, but only in comparatives, not in coordination.



normal case, this entails deletion of that head's complement. Thus, if the highest head the E-feature can be located on is D, a prenominal genitive as in (26-a), which resides in Spec,DP, can never be deleted.<sup>6</sup> Similarly, prenominal adjectives can normally only be deleted if the E-feature is on Num or D, but then, the noun should be deleted as well (as is the case in (14) and (15) above).

In our discussion of the examples in (6) above, we observed that deletion (and recovery) of postnominal constituents under N-stranding NP-ellipsis is possible once the noun is focused/contrastive. This also holds for the examples in (19)-(23) as well as the English examples, see Collins (2015, 60) for some discussion. To understand the restrictions on N-stranding NP-ellipsis, let us again look at an example where N-stranding NP-ellipsis is not possible, in that the genitive argument cannot be recovered (the example would be fine with deletion of the noun in addition):<sup>7</sup>

- (27) \*Ich saw die erste Zerstörung Roms und du sahst die zweite  
 I saw the first destruction Rome.GEN and you saw the second  
 Zerstörung Roms  
 destruction Rome.GEN  
 'I saw the first destruction of Rome and you saw the second destruction.'

This is initially unexpected if the E-feature is located on the head the nouns moves to. While the reasons for this are not fully clear to us, the correct generalization seems to be that the E-feature can be on n only when the noun is contrastive (and in fact has to be on n if N is contrastive). If the noun is not contrastive, the E-feature must be on a higher head. Now, in (27), the adjectives contrast but the nouns do not. Hence, the E-feature must be on a higher head in (27), viz., the head introducing the ordinal adjective, as a consequence of which the noun will be deleted alongside

<sup>6</sup>This also explains the observation in Collins (2022) that appositive relative clauses cannot be deleted:

- (i) At the party, I saw John, who was late, and Mary.

(i) does not imply that Mary was late. Given the standard assumption that appositive relative clauses are attached at a higher level than restrictives, viz., to DP, they are outside the scope of the highest head that could bear an E-feature, viz., D, and hence cannot be affected by ellipsis.

<sup>7</sup>This is suggestive of a MaxElide effect. However, this cannot be the whole story since ellipsis in the noun phrase does not require the material in the specifier of the functional head bearing the E-feature to be contrastive: In (i), deletion of the complement of the adjective is possible without the adjective itself being contrastive, it can be identical to the adjective in the antecedent without the example become ungrammatical (even though in both cases, deletion of the adjective would arguably be preferred):

- (i) a. Ich habe drei grüne Äpfel gekauft, aber du hast zwei (grüne) Äpfel gekauft  
 I have three green apples bought but you have two green apples bought  
 'I have bought three green apples but you have bought two green ones.'  
 b. Ich las das neue Buch über Chomsky und du das (neue) Buch über Churchill  
 I read the new book about Chomsky and you the new book about Churchill  
 'I read the new book about Chomsky and you the new one about Churchill.'

See Lipták & Saab (2014, 1263) for similar examples from Spanish and Dutch. Examples of this type clearly argue against approaches where given material would be automatically deleted.

the genitive argument. The same holds for the example in (5): Since the noun is not contrastive, the E-feature will have to be on a higher head, viz., Num, causing deletion of the noun and the PP.

Our analysis predicts that once the noun is contrastive and ellipsis applies, all postnominal constituents should be deleted. The following examples show that this prediction is borne out. If one of two postnominal modifier remains, the second cannot be recovered, suggesting that there is no NP-ellipsis at all in that case, (28-a). If the first PP-modifier is absent as well, an analysis in terms of N-stranding NP-ellipsis becomes possible, and indeed, both modifiers can be recovered as shown in (28-b), repeated from above:

- (28) a. \*Die Angst von jedem Studenten<sub>i</sub> vor seinem<sub>i</sub> Professor ist grösser  
the fear of every student of his professor is greater  
als der Respekt von jedem Studenten<sub>i</sub> vor seinem<sub>i</sub> Professor  
than the respect of every student of his professor  
‘Every student<sub>i</sub>’s fear of his<sub>i</sub> professor is greater than every student<sub>i</sub>’s  
respect.’
- b. Die Angst von jedem Studenten<sub>i</sub> vor seinem<sub>i</sub> Professor ist grösser  
the fear of every student of his professor is greater  
als der Respekt von jedem Studenten<sub>i</sub> vor seinem<sub>i</sub> Professor  
than the respect of every student of his professor  
‘Every student<sub>i</sub>’s fear of his<sub>i</sub> professor is greater than the respect.’

Given the presence of a bound variable, examples like (28-b) again show that the cases that look like the deletion of individual constituents cannot be reduced to mere pragmatic recovery (a version with the bound pronoun replaced by an anaphor would be grammatical as well).

We conclude that N-stranding NP-ellipsis exists in German (and arguably beyond). Ellipsis within the noun phrase always affects an XP, which can differ in size depending on the location of the E-feature. Individual deletion of subconstituents is an illusion, as it results from N-stranding NP-ellipsis.<sup>8</sup>

As a last point, recall that N-stranding NP-ellipsis is possible if the nouns contrast. This in turn implies that there is no nominal identity condition. This is expected if the head-movement involved takes place in syntax so that, as with phrasal movement, mismatches become possible, see Gribanova (2020) for discussion of how different types of head-movement have different consequences for the identity condition in verb stranding VP-ellipsis. In addition, while gender mismatches are normally not possible in nominal ellipsis because nominal ellipsis always necessarily includes the projection hosting the gender features (Saab 2019, Merchant 2023), such mismatches do become possible in our N-stranding NP-ellipsis data precisely because there is syntactic movement out of the ellipsis site (cf. the gender mismatch in *I know which boy they praised* ⟨*which boy*⟩, *but not which girl they*

<sup>8</sup>In Benz *et al.* (2024), we provide evidence that while ellipsis in the noun phrase always targets an XP, focused/contrastive constituents can survive ellipsis without having to undergo evacuation movement (which we argue is problematic because it makes incorrect predictions w.r.t. freezing effects and would affect otherwise immobile constituents).

*praised* (~~which girl~~).

### 3 Conclusion

We have provided evidence in favor of the existence of N-stranding NP-ellipsis based on new data from German. We have shown that the original data used in Lipták & Saab (2014) to argue against N-stranding NP-ellipsis become fully grammatical once the noun is contrastive. In fact, given the widespread assumption that the noun undergoes short movement across its arguments, the existence of N-stranding ellipsis is actually expected. This specific counterargument does not affect the validity of the general argument in Lipták & Saab (2014), which is nevertheless useful in probing the existence of head-movement operations. We have also provided data that argue against deletion of individual constituents within the noun phrase (as proposed in Collins 2015, the same goes for scattered deletion as in Ott & Struckmeier 2018, where what is elided is mainly regulated by discourse factors). It can be shown that deletion is grammatically constrained, which we argue is best captured by assuming that different (functional) heads within the noun phrase can bear the E-feature. Given that the deleted constituents can include bound anaphors/variables, our examples cannot be reanalyzed as instances of pragmatic recovery.

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