NOMINAL APPOSITIVES IN GRAMMAR AND DISCOURSE

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In this article, we develop a theory of the form and interpretation of nonrestrictive nominal appositives (NAPs) by combining two recent syntactic and pragmatic approaches. Following Ott (2016), we assume that NAPs are independent elliptical speech acts, which are linearly interpolated into their host sentences in production. Building on insights in Onea 2016, we argue that NAPs make their pragmatic contribution as short answers to discourse-structuring potential questions. We show how these two assumptions combine to yield a comprehensive theory of NAPs that captures their central syntactic, semantic, and pragmatic properties and furthermore sheds light on the mechanisms that govern their linear interpolation.*

Keywords: apposition, questions, ellipsis, parenthesis, syntax, pragmatics, discourse

1. INTRODUCTION. This article is concerned with the form and interpretation of nominal appositives (henceforth NAPs), as exemplified by the boldface phrases in 1a and 1b. NAPs appear within a host clause, which contains a constituent (italicized below) that functions as the NAP’s associate, which we refer to as the anchor.

(1) a. She met Skylar Garcia, an old friend, at the pub today.
   b. She met Skylar Garcia, an old friend, at the pub today.

A comprehensive theory of NAPs should meet the following desiderata: it should elucidate their syntactic status relative to their host clause, explicate their discursive function, and account for their distribution. This article develops such a theory, building on key ideas in Ott 2016 and Onea 2016.

To illustrate our analysis in a nutshell, suppose a speaker utters 2. The addressee may follow up with a variety of discourse moves, including the questions in 3, which in turn license the short answer in 4.

(2) She met an old friend at the pub today.

(3) a. Who is the old friend you are talking about?
   b. Which old friend did she meet at the pub?
   c. Who was it?

(4) Skylar Garcia.

Since such follow-up questions are fairly predictable, the speaker may decide to provide an answer in the absence of an explicitly uttered question, in an act of proactive cooperativeness or as part of some other rhetorical strategy that acknowledges the

* We are indebted to Language editor Andries Coetzee and especially our associate editor Ezra Keshet for their patience and thoughtful feedback on our manuscript, which led to various significant improvements in the final product. Thanks also to three anonymous Language referees for their constructive commentary, as well as to those individuals and audiences mentioned in the acknowledgments of Ott 2016 and Onea 2016. Last but not least, we would like to thank Malte Zimmermann for making us aware of each other’s work, thus kickstarting a collaboration that culminated in this paper. EO acknowledges financial support from the Austrian Science Fund (grant nr. I 4858). DO acknowledges financial support from the Basque Foundation for Science (Ikerbasque) and the Social Sciences and Humanities Research Council (grant nr. 430-2018-00305).
situational plausibility of a potential question. The resulting speech acts can be produced in a consecutive order (5a) or interleaved (5b), the latter equivalent to 1a.

(5) a. She met an old friend at the pub today: Skylar García.
   b. She met an old friend, Skylar García, at the pub today.

The general thrust of our analysis is thus to take NAPs to be responses to questions raised by their host that interrupt the latter’s linear production, in order to facilitate accommodation of the relevant implicit question. The backdrop against which this idea is developed is provided in §2 and §3.1, where we present slightly updated versions of the syntactic and pragmatic analyses of NAPs in Ott 2016 and Onea 2016, respectively.

In this article, we suggest that there are two ways in which implicit questions license elliptical responses: either the relevant implicit question is rendered highly salient by the context, or else the elided material is sufficiently semantically generic to be recovered ex nihilo. With regard to the first case, we build on Onea 2016 in suggesting that questions that correspond to alternatives computed during the semantic processing of the host utterance are salient enough to license short answers. For 6, these are the questions in 6a,b.

(6) She met an old friend at the pub today.
   a. Q: Which old friend did she meet at the pub today?
   b. Q’: Who did she meet at the pub today?
   c. A: She met Skylar García at the pub today.

The fragment in 6c can follow the host as an afterthought (= 5a) or appear as a NAP (= 5b).

The alternative criterion of semantic lightness is met by questions with a copular structure that inquire about relevant properties of the anchor’s referent. In 1b, only questions such as those in 7a,b can be accommodated, licensing the response fragment in 7c.

(7) She met Skylar García at the pub today.
   a. Q: Who is Skylar García?
   b. Q’: What relevant properties does Skylar García have?
   c. A: He is an old friend.

As before, the fragment can be used in sequential juxtaposition or linear interpolation (= 1b).

Adopting Ott’s (2016) terminology, we will speak of reformulating NAPs (r-NAPs), where the question addressed by a NAP is a specificational question about the anchor, as in 6. By contrast, we dub NAPs deriving from copular clauses, as in 7, predicative NAPs (p-NAPs). The central novel contribution of this article is twofold. We develop in detail the idea that both r-NAPs and p-NAPs can be analyzed as responses to different kinds of potential questions in discourse, yielding a principled distinction between the two types as involving distinct rhetorical strategies (§§3.2–3.3). Furthermore, we argue in §4 that this analysis naturally leads to the hypothesis that the linear interpolation of NAPs amounts to the resolution of a rational-coordination problem: NAPs are positioned so as to facilitate the addressee’s task of resolving the implicit question to which the fragment responds.

2. NAPs are speech acts. This section summarizes Ott’s (2016) evidence for the claim that NAPs are independent root clauses and thus speech acts;¹ along the way, we

¹ A related claim is developed in Truckenbrodt 2014 for p-NAPs; however, Truckenbrodt denies the speech-act status of r-NAPs, claiming that these, unlike p-NAPs, are incompatible with sentence adverbs. As shown below, we believe this claim to be mistaken.
also highlight some crucial empirical evidence for the r-NAP/p-NAP distinction. These arguments form part of the necessary background for the theory developed below; for more detailed discussion and references, the reader is referred to Ott’s paper.

2.1. Interpretive independence. NAPs denote propositions that are truth-functionally independent from their host clause. Consider the following examples of an r-NAP and a p-NAP, respectively (the latter from Potts 2005).

(8) *One of Mary’s brothers, Emre, has a girlfriend.*
    a. One of Mary’s brothers has a girlfriend.
    b. Emre has a girlfriend.

(9) *Lance Armstrong, an Arkansan, won the 2002 Tour de France.*
    a. Lance Armstrong won the 2002 Tour de France.
    b. He is an Arkansan.

Each utterance asserts both propositions in (a) and (b), and in each case (b) can be false while (a) is true (and vice versa) without rendering the overall sentence incoherent. This shows that NAPs are not ordinary constituents that enter into the composition of their hosts’ truth conditions but rather denote independent propositions. On Ott’s (2016) analysis of NAPs, this follows from their syntactic status as elliptical root clauses: the NAPs in 8 and 9 are simply elliptical versions of 8b and 9b, respectively.

(10) a. *One of Mary’s brothers [r-NAP Emre has a girlfriend] has a girlfriend.*
    b. *Lance Armstrong [p-NAP he is an Arkansan] won the 2002 Tour de France.*

Host and NAP are independently generated expressions and hence not compositionally related; interpolation of the NAP fragment occurs in production.

Ott shows further that NAPs and their hosts are not only truth-conditionally independent, but indeed independent speech acts. Speaker-oriented sentence adverbs, which evaluate the content of a proposition from the speaker’s perspective, can appear inside NAPs, in which case their scope is restricted to the propositional content conveyed by the NAP.

(11) a. *He met an old friend, probably Skylar García, at the pub today.*
    b. *I met Skylar García, frankly a rather dull character, at the pub today.*

These facts show that NAPs are autonomous illocutionary objects: for instance, the adverb *frankly* performs the same function in 11b as in the nonelliptical sentence *He is frankly a rather dull character* underlying this p-NAP, without expressing any kind of attitude toward the proposition denoted by the host clause.

This conclusion is corroborated by the fact that NAPs can include modal particles in languages such as German, which likewise function as illocutionary modifiers (Zimmermann 2011), and can even diverge from their hosts in illocutionary force (Acuña-Fariña 1999).

(12) a. *Is Jane, (allegedly) the best doctor in town, already married?*
    b. *He called someone—perhaps his dad?—right before it happened.*

As argued in Ott 2016, these facts fall into place once NAPs are understood to have the illocutionary autonomy of independently generated root clauses. This is not to deny that there is a meaningful relation between host and NAP, but, as explicated in §3, it is rhetorical rather than compositional.

2.2. Syntactic independence. Ott’s (2016) analysis of NAPs as speech acts qua elliptical root clauses entails the following generalization.

(13) No syntactic dependency can relate X and Y, where X is a subconstituent of the host clause and Y is a (subconstituent of a) NAP.
This generalization is directly supported by the impossibility of subextraction from NAPs and their invisibility to syntactic agreement, illustrated in 14a and 14b, respectively.

(14) a. *What did John read something, a book about t₁, last semester? b. The loot, fourteen pure diamonds, was/*were worth millions.

In terms of Ott’s analysis, this is simply due to the impossibility of computing the relevant dependencies across independent sentences (Ott 2023).

Ott shows that case properties of NAPs lend further support to the validity of 13. This is obvious in the case of p-NAPs, which surface with invariant nominative case regardless of whatever case is assigned host-internally to their anchor (see 15a), matching predicate nominals in copular clauses (see 15b).

(15) a. Ich habe dem Emre, (übrigens) ein Linguist, mein Auto verkauft.
    ‘I sold my car to Emre, a linguist (by the way).’

b. Er ist (übrigens) ein Linguist. \[p-NAP er ist (übrigens) ein Linguist\]
    ‘He is a linguist (by the way).’

By contrast, r-NAPs systematically match the case of their anchors (see 16a). In accordance with 13, Ott (2016) argues that this case connectivity follows from the parallel abstract structure of the sentential reformulation underlying the r-NAP shown in 16b, which necessarily contains an identical case assigner.

    ‘I sold my car to an old friend, (namely) Emre.’

b. \[r-NAP ich habe dem Emre mein Auto verkauft\]
    ‘I sold my car to Emre.’

Note that r-NAPs and p-NAPs differ with regard to adverbial-modification options: while the latter naturally accommodate übrigens ‘by the way’ as a marker of ancillary information, only r-NAPs permit specification markers such as nämlich ‘namely’, analogously to corresponding nonelliptical sentences.

Converging with their case properties, r-NAPs are seemingly transparent to binding and scope relations, in apparent violation of 13. Thus, in 17a the host-internal QP every inmate appears to bind the r-NAP-internal pronoun his, and in 18a the r-NAP appears to be within the scope of negation. Ott (2016) argues that these facts follow again from the parallelism of the host clause and the clause underlying the NAP, in full compliance with 13.

(17) a. [Every inmate], calls a (particular) relative, his mother, once a week.

b. \[r-NAP every inmate], calls his, mother once a week\]

(18) a. She didn’t invite one of her best friends, Emre, to the party.

b. \[r-NAP she didn’t invite Emre to the party\]

2 Throughout this article, non-English examples are from German. We frequently rely on optional definite articles to indicate the case of proper names; given their semantic vacuity, we gloss these articles as mere case-markers.
Conversely, when host and NAP clause are not parallel, as is the case with p-NAPs, no such apparent connectivity obtains. This is shown by the absence of condition C violations (see 19) and impossibility of quantificational binding (see 20), as well as the fact that p-NAPs are uniformly interpreted outside of the scope of a host-internal negation (see 21).

(19) a. John, met Mary, now John’s wife, in a Paris café.
    b. [p-NAP she is now John’s wife]

(20) a. *[Every reporter], believes that Ames, often the subject of his, columns, is a spy.
    b. [p-NAP he is often the subject of his columns]

(21) a. She didn’t invite Emre, one of her best friends, to the party.
    b. [p-NAP he is one of her best friends]

Thus, to the extent that NAPs appear to show syntactic integration into their host clauses, this is entirely due to the underlyingly parallel structure of r-NAPs; no such indications are found for p-NAPs. This striking asymmetry receives a principled explanation on an analysis of NAPs as structurally independent root clauses.

2.3. Prosodic independence. NAPs, like parentheticals generally, are intonationally isolated insertions flanked by prosodic breaks (‘comma intonation’). Ott (2016) argues that this prosodic isolation follows from the fact that root clauses map onto intonation phrases (IPs; cf. Nespor & Vogel 1986), expressed by mapping principles such as Selkirk’s (2011) MATCH CLAUSE.

(22) MATCH CLAUSE: A root clause with illocutionary force is matched by an IP in phonological representation.

A further consequence of their status as IPs is the fact that NAPs are domains of sentence-stress assignment. Sentence stress is computed independently for host clause and NAP, such that the resulting compound utterance largely preserves the independent intonation contours of the sentences involved (small capitals indicate words bearing pitch accents, small italics deaccentuation).

(23) a. (I met an old FRIEND at the PUB)IP (I met Skylar GARCÍA at the PUB)IP
    b. (I met an old FRIEND)IP (I met Skylar GARCÍA at the PUB)IP (at the PUB)IP

(24) a. (I met Skylar GARCÍA at the PUB)IP (He is an old FRIEND)IP
    b. (I met Skylar GARCÍA)IP (he is an old FRIEND)IP (at the PUB)IP

The analysis of NAPs as elliptical root clauses and hence IPs explains not only why NAPs cannot realize their hosts’ sentential stress but also why each portion of the host separated by the interrupting NAP must be stress-bearing (see also Truckenbrodt 2014). Ott (2016) notes that the need to coherently ‘chunk’ the host utterance into ad hoc IPs constrains NAP interpolation, in that each utterance portion so created must be capable of forming an independent IP. An inherently unstressed verb particle, for instance, cannot do so, precluding NAP interpolation and requiring juxtaposition as in 25a. That this preference is due not to syntactic constraints but to purely prosodic preferences is shown by the fact that addition of a stress-bearing adjunct in the rightmost IP, as in 25b, renders interpolation felicitous.

(25) a. #Ich rufe morgen einen FREUND, (#den EMRE), an (den EMRE).
    I call tomorrow a. ACC friend the. ACC Emre up
    b. Ich rufe morgen einen FREUND, den EMRE, vom BÜRO aus
    I call tomorrow a. ACC friend the. ACC Emre from. the. ACC office out
    up

‘I’m going to call a friend from the office tomorrow, Emre.’
The observation that the linear insertion of NAPs into their hosts is in part prosodically conditioned (as is the case with other kinds of parentheticals; Ross 1984, Peterson 1999) complements our discourse-pragmatic account of NAP interpolation developed in §4.

**2.4. Interim summary.** This section served to summarize Ott’s (2016) key arguments for the conclusion that NAPs are autonomous speech acts, a direct corollary of his ellipsis-based analysis of NAPs adopted here. At this juncture, it is worth pointing out that the arguments for elided sentential structure marshalled in favor of the root-clause status of NAPs apply equally in the case of short answers to questions, as in the following.

(26) Q: Who did you meet at the pub today?
  A: Skylar García. (= I met Skylar García at the pub today.)

(27) Q: Who is Skylar García?
  A: An old friend. (= He is an old friend.)

Their obvious structural, prosodic, and illocutionary independence aside, such short answers match their anchors in case and show other connectivity effects revealing silent structure (see Merchant 2004, Weir 2014). We argue in what follows that NAPs are not only syntactically equivalent to short answers, but functionally equivalent as well; the only difference with the scenarios in 26 and 27 is that the relevant question remains implicit.

**3. NAPs as responses to potential questions.** Consider a speaker who utters 28a and, having done so, realizes that their addressee will likely entertain certain questions of further clarification, such as 28b, which in turn invite a (short) answer such as 28c.

(28) a. I met an old friend yesterday.
  b. Which old friend did you meet yesterday?
  c. I met Sam yesterday.

In this scenario the speaker may choose to provide the answer to 28b in passing, so as not to interrupt their general discourse plan or make the question more discourse-prominent than necessary. This can be achieved by addressing the question by means of a NAP, which, as we saw, constitutes an autonomous speech act.

(29) I met an old friend, I met Sam yesterday, yesterday.

Building on ideas in Ott & Onea 2015 and Onea 2016, we suggest that the only fundamental difference between the utterance in 29, on the one hand, and a sequence assertion (28a) < question (28b) < response (28c), on the other, is the linear arrangement of the speech acts involved (juxtaposed vs. intertwined) and the way in which the question licensing the short answer is raised (explicit vs. implicit/accommodated).

In what follows, we flesh out this conception of NAPs as short answers, couched within the general framework of question-based discourse pragmatics originally proposed by Roberts (2012 [1996]) and developed in much subsequent work (e.g. Farkas & Bruce 2010, Onea & Volodina 2011, Onea 2016). To develop our claim that NAPs respond to implicit questions, we adopt Onea’s (2016) definition and motivation of the notion of potential questions. Going beyond Onea’s analysis, we then show how to account for the differences between r-NAPs and p-NAPs in terms of the kinds of ques-

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3 See Dillon et al. 2014 for converging psycholinguistic evidence, showing that NAPs are processed independently of their hosts.

4 Merchant makes the additional, orthogonal assumption that deletion is fed by syntactic movement. We do not adopt this assumption here, given that it raises a host of as yet unresolved questions and problems and is furthermore not directly relevant to our concerns here. See Weir 2014, Ott & Struckmeier 2018, and Griffiths 2019 for discussion.
tions they address. Finally, we discuss more complex cases in which the distinction between r-NAPs and p-NAPs is prima facie less evident, and expound a number of non-trivial predictions of our approach.

3.1. The question under discussion and short answers. This section introduces the basic discourse-pragmatic devices that are needed to analyze NAPs as short answers to PQs. Conceptually, this section follows Onea 2016; however, the technical implementation improves on and extends the model developed there in a number of central respects.

**BACKGROUND.** Following Stalnaker (1978, 2002), we assume that the information state of a given discourse at any point $i$ in its development is captured by the context set $c_i$ that contains the worlds that are still compatible with the mutually accepted commitments of the discourse participants. The standard update procedure by some new and unchallenged assertion $u$ involves the establishment of the new context set $c_{i+1} = c_i \cap \{w\mid u\text{ is true in } w\}$. Following Roberts (2012 [1996]) and related work, we assume that at any point in the development of discourse there is a question under discussion (QUD), whose resolution the interlocutors tacitly accept as a discourse goal. We represent a discourse state $s_i$ as a tuple $\langle c_i, q_i \rangle$, where $c_i$ is the context set and $q_i$ is the current QUD. The QUD may be an overt question but can just as well remain implicit.

Following Hamblin (1973), we model the meaning of assertions as sets of possible worlds, and the meaning of questions as the relevant set of alternative answers, that is, sets of sets of worlds (cf. Onea & Zimmermann 2019). Types of questions are distinguished by the sets of alternatives they determine. To illustrate, 30b represents the set of alternative propositions denoted by 30a, which we can formally express as in 30c (where $C$ includes all contextually salient individuals including sum individuals).

\begin{align*}
(30) \text{a. Who danced?} & \quad \text{b. } \{\text{Jesse danced, Riley danced, Ashley danced, … everybody danced}\} \\
& \quad \text{c. } \{\lambda w. \text{danced}(x, w)\mid x \in C\}
\end{align*}

We stipulate two simple rules for discourse update.

\begin{align*}
(31) \text{Discourse update of } \langle c_i, q_i \rangle \text{ by the assertion } u & \\
\quad a. \text{ An assertion } u \text{ needs be congruent to the QUD } (u \sim q_i). \\
\quad b. \text{ The resulting update yields the discourse state } \langle c_i \cap [u], q_j \rangle, \text{ where } q_j \neq q_i.
\end{align*}

The standard account of question-answer congruence in alternative semantics states that an assertion is congruent to a question if the focus alternatives of the question stand in a superset relation to the question alternatives (Rooth 1992, Roberts 2012 [1996]). For the question in 32, this is the case with 32a but not 32b, if the set of alternative functions $f$ is restricted to natural ones.

\begin{align*}
(32) \text{Who loves Asa?} & \quad \text{QAlt} = \{\lambda w. \text{loves}(x, A, w)\mid x \in C\} \\
\quad a. \text{ Valentine loves Asa.} & \quad \text{FocAlt} = \{\lambda w. \text{loves}(x, A, w)\mid x \in D_e\} \\
\quad b. \text{ #Valentine loves Asa.} & \quad \text{FocAlt} = \{\lambda w. f(A)(V)(w)\mid f \in D_{e, (e, (e, s, t))}\}
\end{align*}

However, this account is somewhat too restrictive in that it rules out cases such as 33, where a short answer contains an illocutionary modifier, and 34, where the response is itself a question.

\begin{align*}
(33) \text{Q: Which old friend did he meet at the pub today?} & \\
\quad \text{A: Probably/Perhaps/Maybe Skylar García.}
\end{align*}

\begin{align*}
(35) \text{Q: He called someone right before it happened.} \\
\quad \text{B: (Yeah,) Perhaps his dad?}
\end{align*}

5 Assertions do not automatically lead to updates but can be the subject of negotiation between interlocutors (cf. Farkas & Bruce 2010). We largely ignore this complication here for reasons of space and stick with the idealized standard model.
Permitting such fragments as congruent answers/follow-ups is important for our purposes here, since, as we saw in §2.1 above, they can likewise appear as NAPs. Therefore, we depart from Onea 2016 and adopt the laxer definition of congruence suggested by Büring (2003:517), according to which

\[ A \text{ is an answer to a question } Q \text{ if } A \text{ shifts the probabilistic weights among the propositions denoted by } Q. \]

In cases where the focus alternatives of \( A \) are a superset of the alternatives denoted by \( Q \), this requirement will be met trivially; but in addition, we permit responses such as those above. The prediction is that any possible fragmentary response to an overt question can function as a NAP to a suitable anchor in an appropriate context.

Finally, we postulate that alternatives that are known to be true or false given the common ground do not enter into the QUD.

\[(35) \text{ If } \langle c_i, q_i \rangle \text{ is a discourse state, then for all } p \in q_i, c_i \not\models p \text{ and } c_i \not\models \neg p.\]

It follows that at any discourse state \( \langle c_i, q_i \rangle \), the current QUD \( q_i \) cannot be identical to the QUD \( q_{i-1} \) of a previous discourse state \( \langle c_{i-1}, q_{i-1} \rangle \). This is because in transitioning from \( s_{i-1} \) to \( s_i \), \( q_{i-1} \) has already been addressed; hence, at least one alternative is known to be true or false in \( c_i \).

Thus far, we make no predictions regarding discourse structure and coherence. These depend on how \( q_{i+1} \) is determined given an update of \( s_i \) by \( u \). We argue, following Onea (2016) but making a weaker statement here, that there must be a set \( R \) of discourse-structuring rules as defined in 36, which map a discourse event \( x \) and a discourse state onto a new discourse state.

\[(36) \text{ Let } R \text{ be the set of discourse-structuring rules such that for any } R \in R, R(\langle c, q \rangle, x) \text{ is a discourse state and } R(\langle c, q \rangle, x) \neq \langle c, q \rangle.\]

Such discourse rules serve two main purposes. First, they determine what \( q_{i+1} \) will be, given an update of \( s_i \) by \( u \). Second, they allow accommodation of questions and information where required for a discourse update of \( s_i \) by \( u \) to succeed. While no rule can violate the constraints given in 31, the range of possible discourse rules is evidently vast and mostly not germane to our interests here.

**Potential Questions.** Onea (2013, 2016) proposes potential questions (PQs) as a supplement to Roberts’s (2012 [1996]) QUD framework, which attempts to explicate the ways in which questions structure the rational development of strategic discourse. PQs are proposed as a means of capturing nonstrategic elements of discourse development. Onea (2016:119) provides the following semi-formal definition.

\[(37) \text{ An utterance } u \text{ licenses a PQ } q \text{ with the (existential) presupposition } p \text{ in a discourse with information state } c \text{ iff } c+u \models_{\text{def}} p \text{ and } c \not\models_{\text{def}} p \text{ and } q \text{ is open in } c+u.\]

In 37, the symbol \( \models_{\text{def}} \) refers to the notion of defeasible entailment defined in Asher & Lascarides 2003; that is, \( a \models_{\text{def}} b \) if from \( a \) one can conclude \( b \) under normal circumstances. Furthermore, 37 assumes that wh-questions have an existential presupposition, as illustrated in 38b for 30a, repeated as 38a.

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6 We are indebted to Ezra Keshet for pointing out to us the relevance of Büring’s definition for our purposes.

7 Indeed, nothing in this analysis restricts appositives to nominal categories, and we believe that it readily extends to cases of interpolated PPs, adverbials, and other categories; see Ott 2016 and Döring 2014 for discussion of some of these cases, along the (syntactic) lines suggested here. In this article, we deliberately focus narrowly on the case of nominal appositives given that these constitute the most widely discussed type, and in the interest of keeping the discussion manageable.

8 A more precise definition is provided in Onea 2016:127, but for our purposes the informal statement suffices.
(38) a. Who danced at the party?
   b. existential presupposition: Someone danced at the party.
   formally: $\bigcup \{ \lambda w. \text{danced}(a, w, \text{party}) | a \in C \} = \lambda w. \exists x, x \in C \land \text{danced}(x, w, \text{party})$

With this in mind, consider the illustration of PQ licensing in 39. We assume an initial context with virtually no common ground, that is, the context set is the set of all possible worlds, and a QUD of no further relevance. The existential presupposition of 39c is that someone danced; this cannot be defeasibly inferred from the context set. However, once the information in 39b is added, it defeasibly follows that someone danced: 39c is licensed by 39b in the neutral context 39a.

(39) a. starting context: $\langle W, q \rangle$
   b. assertion: There was a wild conference party yesterday with a famous DJ.
   c. PQ: Who danced at the party?

By contrast, a statement such as There was a funeral service for the fallen soldiers yesterday does not license the PQ in 39c, since there is no significant likelihood of anyone dancing at such an event.

PQs licensed by some utterance are questions that may but need not be addressed in subsequent discourse. We adopt the discourse-structuring rule R1 stated in 40 (which remains deliberately neutral regarding alternative coherent discourse continuations).

(40) R1: If $u$ updates $\langle c, q \rangle$ to $\langle c', q' \rangle$, then $q'$ is a PQ licensed by $u$ in $c$.

Any given utterance licenses a multitude of PQs, some more salient than others; selecting a PQ of low salience is detrimental to discourse coherence. We assume, again following Onea (2016), that there is an internal ordering of PQs licensed in discourse, which involves various psychological and cultural considerations in addition to linguistic factors. Those questions highest among the PQs licensed by some utterance are considered likely PQs.

Some of the likely PQs at any given discourse state form a subclass that Onea (2016) refers to as primary potential questions (PPQs): these are questions that denote alternatives computed during the compositional evaluation of the licensing utterance. We assume, following a large body of literature (e.g. Kratzer & Shimoyama 2002, Ciardelli & Roelofsen 2015, Onea 2015, 2016), that indefinites are not mere existential quantifiers but denote, or at least render salient, sets of alternatives, as shown in simplified form in 41a. This then leads to the specification question in 41b. Similarly, focus generates alternatives of the same type as the focused constituent (Rooth 1992, Chierchia 2013), thus licensing as a PPQ a subquestion of the QUD addressed by the host (cf. Groenendijk & Stokhof 1984, Roberts 2012 [1996]), as shown in 42.9

(41) Someone danced.
   a. alternatives: $\{ a \text{ danced} | a \in D_e \land \text{human}(a) \}$
   b. PPQ licensed: Who danced?10

9 Given our assumption that a PPQ raised by an utterance $u$ can in fact be a subquestion of the QUD addressed by $u$, as in the case of 42, a clarification is in order as to how PQs differ from plain QUDs. The crucial difference, as argued in Onea 2016, 2019, is that QUDs are used to analyze strategic discourse, while PQs are designed to capture specifically its nonstrategic elements, that is, questions that do not not strictly serve the goal of resolving the main QUD. This does not exclude the possibility of PQs licensed by an utterance to be identical to questions that are part of the overall discourse strategy.

10 We ignore here the complication of constraining the alternatives denoted by PPQs of this kind such that each alternative proposition makes explicit reference to the referent introduced by the specific indefinite, as...
(42) John danced.
   a. QUD: Who danced?
   b. focus alternatives: \{a danced|a ∈ D_c\}
   c. PPQ licensed: Who else danced?

PPQs thus constitute a salient possible discourse goal, and the fact that they are conventional makes them particularly easy to predict: speakers and addressees are likely to accommodate PPQs instantaneously and can safely assume the same about their interlocutors.

**Short answers to PQs.** Overt wh-questions license elliptical responses. A key claim of Onea 2016 that we develop in this section is that implicit questions do so as well, provided that they are sufficiently salient at a given discourse state.

(43) Short answers to q in a discourse state \(\langle c, q \rangle\) are licit if q is salient enough to permit elided material to be unambiguously recovered by the listener.

Let us explicate in some more detail what exactly 43 predicts. While the QUD is assumed to be tacitly accepted as the common current discourse goal by the interlocutors, it is not always known by the addressee prior to the answer that addresses it. On the basis of an assertion, the addressee usually has enough material to accommodate a focus-congruent QUD (at least to a sufficient approximation; the addressee may not know, for example, the exact domain of alternatives) and thus to agree to, or protest against, the QUD ex post. However, a fragment in isolation usually does not give the addressee sufficient information to infer the QUD intended by the speaker. It must be the case, then, that only those QUDs that are entertained or expected by the addressee even before the response fragment is provided qualify as licensors of short answers. As per 43, this is the case if and only if the relevant implicit question is maximally salient.

Where a question is explicitly asked, the licensing condition in 43 is trivially satisfied. We suggest that PPQs attain a similar degree of salience due to the fact that they involve compositionally computed alternatives: the answer space defined by these alternatives is known to both speaker and hearer, rendering the PPQ sufficiently salient for ellipsis resolution to succeed. We illustrate with 44a and its plural counterpart 44b, where the indefinite subject introduces the alternatives that constitute the implicit PQ addressed by the specifying fragment. As shown in AnderBois 2014, the PQ-licensing potential of indefinites is voided by operators such as negation: the contrived but truth-conditionally equivalent double-negation paraphrase of 44a in 44c fails to give rise to a salient PPQ; consequently, the afterthought fragment is not licensed, unlike a nonelliptical continuation.

(44) a. Someone danced, (namely) Emre. (PPQ answered: Who danced?)
    b. Some people danced, (namely) Emre’s friends. (PPQ answered: Who danced?)
    c. It’s not the case that no one danced, (#(namely) Emre’s friends)). (no PPQ)

Recall that indefinites are not the only means of evoking salient implicit questions. PPQs corresponding to focus alternatives are a further suitable device, as shown in 45.

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explicated in Beaver & Onea 2015 in terms of dynamic semantics. Ignoring the specifics of their proposal, the idea can be expressed as follows for 41: Someone, danced \(\sim g(i)\) danced \(g(\in G \land human(g(i)))\), the latter roughly corresponding to the question *Who is the person that danced?* (to which the NAP is focus-congruent). This complication is immaterial for simple cases but is relevant to the discussion of 52a below.
Peter tanzt. Maria auch.
‘Peter is dancing. Maria is too.’
a. focus alternatives: \{a danced|a ∈ D_e\}
b. PQ licensed: Who else is dancing?
c. short answer: Maria auch. ‘Maria (is dancing) too.’

Note that we are not suggesting that PPQs are the only kind of implicit question capable of licensing short answers: while PPQs are always maximally salient, questions of lower salience may still be salient enough to license a short answer. It is for this reason that we do not require the relevant question to be a PPQ as long as it can be easily accommodated in other ways. The following examples illustrate this case.

Skylar (pointing at the person next to him): That is my partner.
PQ: Who is that (person)?

b. Ashley won the gold medal. She is my daughter!
PQ: Who is Ashley (in relation to you)?

Intuitively, ellipsis resolution—and, by the same token, PQ accommodation—succeeds here because all that is elided is a pronoun and a semantically vacuous copula. That the question addressed is not a PPQ is particularly evident in cases such as 46a, where the elliptical utterance is used discourse-initially.

Having said this, the ellipsis-licensing potential of PQs that are not PPQs is very limited; not every salient PQ, even if likely, licenses short answers. In the context of 47, both 47a(i) and 47a(ii) are salient and likely PQs; however, only 47a(i) is a compositionally derived PPQ. Accordingly, the continuation 47b(i) is perfectly natural, whereas that in 47b(ii) is not, as opposed to its nonelliptical counterpart 47b(iii).

Someone fell out of a first-floor window …
a. (i) Who fell out of the window?
   (ii) What did he break?

b. (i) John fell out of a first-floor window!
   (ii) He broke his legs!
   (iii) He broke his legs!

Contrasts of this sort suggest that only those questions that a speaker can safely assume to be considered salient by the addressee will license short answers, and in general this will be true of questions computed in tandem with the interpretation of the current utterance (i.e. PPQs). For elliptical copular constructions as in 46, however, this constraint does not apply, since resolution is trivial (cf. Merchant 2004).¹¹

3.2. R-NAPS AND P-NAPS AS ANSWERS TO PQs. In this section, we flesh out the idea that r-NAPs and p-NAPs answer different types of PQs. While this claim has its origins in Ott & Onea 2015 and Onea 2016, we provide a simpler formalization (most notably by forgoing Onea’s speech-act operator), present novel evidence, and discuss in detail additional predictions.

R-NAPS AND PQs OF SPECIFICATION. We first return to r-NAPs and show how they can be analyzed as elliptical responses to a PPQ licensed by their host utterance. For now, we abstract away from the linear positioning of NAPs; that is, we consider pairs such as 48a and 48b entirely on a par, leaving the issue of linear interpolation to §4.

¹¹ For independent additional arguments for the general availability of copular sources in clausal ellipsis, see further Barros 2014, Barros et al. 2014, and Ott & de Vries 2016.
(48) a. One of Ashley’s friends, (namely) Fazeen, speaks Urdu.
b. One of Ashley’s friends speaks Urdu, (namely) Fazeen.

Take \( p_2 \) to be the semantic content of the elliptical NAP (Fazeen speaks Urdu), which functions as an answer to a PPQ raised by \( p_1 \) (the host). The relevant discourse update proceeds as shown in 49. In the first step, the discourse is updated with \( p_1 \); in the second step, it is updated with \( p_2 \) by way of the NAP.

(49) a. starting discourse state: \( \langle W, q_0 \rangle \)
b. update with host
   (i) prerequisite: \( host \sim q_0 \)
   (ii) result: \( \langle p_1, q_1 \rangle \)
   where \( q_1 = \{ \lambda w. \text{speaks-Urdu}(x, w) \mid x \in D_e \land \text{friend}(A, x, w_0) \} \)
   and \( q_1 \) is a PPQ licensed by \( p_1 \) in \( \langle W, q_0 \rangle \)
c. update with NAP
   (i) prerequisite: \( NAP \sim q_1 \)
   (ii) result: \( \langle p_1 \cap p_2, q_2 \rangle \)
   where \( q_2 \) = some question

A few explanations regarding the operations in 49 are in order. First, we make no particular assumptions about the information structure of the host and \( q_0 \). Whatever the focus-background partitioning may be, there will always exist some suitable \( q_0 \) that is focus-congruent to the host. Second, the result of the update contains a new context set that equals \( p_1 \). This is because updating an empty common ground with a proposition is equivalent to making that proposition the new common ground \( (W \cap p_1 = p_1) \). Moreover, we assume that the QUD arising after update with the host is \( q_1 \), which is a PPQ licensed by the host. Since PPQs license short answers, the NAP is indeed a licit discourse move as an answer to \( q_1 \); since the nonelided part of short answers is focused, the update requirement in 49c(i) is also trivially satisfied. Finally, the result of the update via the NAP is a new discourse state with some QUD \( q_2 \), that is, whatever other questions interlocutors may consider conducive to the subsequent development of discourse.

Having so far followed the general line of reasoning in Onea 2016, we now turn to some further ramifications of the approach not discussed there. By analyzing r-NAPs as short answers to \( wh \)-questions, we predict that they should come with the full range of interpretations supported by such answers. Specifically, by default r-NAPs are interpreted as exhaustive answers to PPQs of specification, as in 50a; they can convey nonexhaustive answers, however, when explicitly marked as such, as in 50b.

(50) a. Some of my friends—Ashanti, Ariel, and Neo—recently bought a house.
   exhaustivity inference: No other friends of the speaker bought a house.
b. Some of my friends, {for example/including} Eden and Gul, recently bought a house.
   nonexhaustivity inference: Other friends of the speaker bought a house.

As expected, in contexts where a PQ is licit but does not qualify as a PPQ, no r-NAP is licensed. Note that, as in the case of 44c, the host sentences in 51 are truth-conditionally equivalent; but only the host in 51a, whose indefinite anchor invokes alternatives, gives rise to a PPQ.

(51) a. I met someone, my old friend Skylar Garcia, at the pub today.
b. It’s not the case that I met no one (#my old friend Skylar Garcia) at the pub today.

We conclude this section by considering two cases that serve as useful illustrations of the crucial role of PPQs in the licensing of NAPs. In each case, the interpretation of a
NAP is found to be more constrained than that of a corresponding sentence that follows the host sequentially in discourse—a direct corollary, we claim, of the NAP’s distinctive PPQ anaphoricity. Consider first 52. A referee observes that 52a is not synonymous with the sequence of sentences in 52b: in a scenario where 40% of the inmates call their mother and another 40% call their father, the first sentence is true but the second is false. By contrast, 52a is judged to be false in this scenario.\(^{12}\)

(52) a. [Most inmates] call a relative, their mother, (once a week).
   b. Most inmates call a relative. [Most inmates/They], call their mother.

Given that the indefinite *a relative* takes scope under the quantifier *most inmates*, the intended interpretation of the host/initial sentence is standardly analyzed as a functional wide-scope reading involving an existentially bound function from inmates to (their) relatives (see Ebert 2021). The difference in interpretation could then be explained as follows: in 52a, the NAP *their mother* specifies this function, whereas the second sentence of 52b, as a subsequent statement, permits a variety of interpretations. On our account, however, the NAP is not an identity statement but a reformulation; we must therefore derive the observed asymmetry from the way in which the interpretive relation between host and NAP in 52a is mediated by a PPQ. We adopt the aforementioned standard analysis of the host’s interpretation as a functional wide-scope reading. The wide-scope existential quantifier over functions induces alternatives and thus licenses a question of specification; the PPQ licensed by 52a is thus about functions from inmates to relatives (ways of assigning relatives to inmates), or ‘types’ of relatives. Furthermore, taking into account the complication mentioned in n. 10, this PPQ references the particular functional discourse referent introduced by the indefinite anchor *a relative*. We state the analysis informally as follows, using paraphrases and indices.

(53) a. host: [Most inmates] call [a relative] = [There is a way to assign relatives to inmates] such that [most inmates] call the person assigned to them.
   b. PPQ: [What (type of) relative] do [they] call?
   c. NAP: [They] call [their mother].

Given that 53b is the only plausible PPQ answered in 52a and that this question is about the very function introduced by the host, we correctly predict the overall interpretation of 52a to amount to an identification of the intended function from inmates to their relatives by the NAP. By contrast, in 52b the rhetorical link between the first and the second sentence can be of any kind; in particular, the continuation need not answer a PPQ. This permits a wider range of readings compared to 52a, yielding the observed meaning difference in the given context and highlighting the essential role of PPQs in the licensing and interpretation of r-NAPs.

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\(^{12}\) In fact, we share Ezra Keshet’s (p.c.) judgment that on the most salient reading of 52a, it is true only if all inmates who call relatives weekly call their mother when they do so; that is, even in a scenario where 70% of the inmates call their mother and another 10% call their father, 52a appears to be false. While we are not entirely sure what the pragmatic status of this stronger reading is, we would like to make a tentative suggestion as to how this intuition could be accounted for. Anticipating the discussion below, we could capture the stronger reading of 52a by means of a maximalization procedure that ensures that the PPQ raised is about the maximal function that assigns relatives to inmates such that most inmates call the person assigned to them. Maximality operators of this kind are typically postulated to deal with plural anaphora (see e.g. Brisson 1998), and one might assume that they can also apply to functional readings, although to the best of our knowledge this extension has not been properly explored in the literature.
As a second illustration, consider 54a, a variant of 17a that includes the adverb typically. Ezra Keshet (p.c.) observes that 54a can be paraphrased as asserting that every inmate calls the same relative each week, and for most of the inmates, this relative is their mother. By contrast, 54b can be construed as stating that every single inmate calls his mother, and that this typically happens once a week. As with the previous case, the contrast would be surprising if 54a were a mere surface variant of 54b.

(54) a. [Every inmate], calls a (particular) relative, typically his, mother, once a week.
   b. Every inmate calls a (particular) relative once a week. Every inmate typically calls his mother once a week.

Again, the key difference is that the r-NAP of 54a is necessarily construed as responding to the PPQ in 55a, while the rhetorical connection between the two sentences in 54b is not constrained in this way. For the sake of the argument let us assume a simplified focus-sensitive semantics for typically, roughly following Beaver and Clark (2008): 
\[ \text{typically } \alpha \text{ holds true iff the set of subquestions } Q' \text{ of } Q \text{ (the QUD) such that } [\alpha] \text{ correctly answers all questions in } Q' \text{ is larger than the set of subquestions } Q'' \text{ such that } [\alpha] \text{ incorrectly answers all questions in } Q''. \]
Since the number of subquestions correctly answered by \( \alpha \) directly depends on the number of individuals who have the property \( \alpha \), the interpretation of the NAP in 54a is as (verbosely) stated in 55b.

(55) a. Which relative does every inmate call once a week?
   b. The set of inmates who call their mother once a week is greater than the set of inmates who do not call their mother once a week.

By contrast, the interpretation of the continuation in 54b is not determined by the PPQ in 55a: given an appropriate context, the question addressed could be about the number of calls per week made by inmates to their mothers. As with the previous case, this illustrates how the dependence of r-NAPs on PPQ for their licensing explains not only their reformulative-elliptical form, but also their constrained interpretation.

P-NAPS AND COPULAR PQS. We now turn to p-NAPs as exemplified in 9, repeated in 56. As argued above, the NAP contributes the meaning of a copular construction (Lance Armstrong is an Arkansan) that is offered as supplementary information to the referentially specific host.

(56) Lance Armstrong, an Arkansan, won the 2002 Tour de France.

Intuitively, the most appropriate question the addressee of 56 would assume the NAP to be answering is 57a, but indeed all of the following qualify as PQs that would license p-NAP answers.

(57) a. Where is Lance Armstrong from?
   b. What is Lance Armstrong like?
   c. How is Lance Armstrong?
   d. What about Lance Armstrong?
   e. Who is Lance Armstrong?

We suggested in §3.1 that accommodation of a PQ addressed by a p-NAP is enabled by easy recoverability of the elided material; the question resolved by a p-NAP merely needs to be a licit PQ, but not necessarily a particularly salient one. Onea (2016) argues that the use of referential expressions gives rise to a range of PQs about the intended referents, owing to the fact that referential expressions, including proper names, intro-

\[ \text{Onea (2016) argues that the use of referential expressions gives rise to a range of PQs about the intended referents, owing to the fact that referential expressions, including proper names, intro-} \]
duce an existential presupposition—there is someone called Lance Armstrong in the case at hand—that will be either anaphorically bound to an existing antecedent in discourse or else accommodated (cf. van der Sandt 1992, Kamp et al. 2011).

Since a referent whose existence has been established is likely to have certain (relevant) properties, such existential presuppositions give rise to PQs about these properties. We thus analyze p-NAPs as answers to PQs licensed by the existential presupposition of referential expressions. Note that since presuppositions persist under negation, in this case no effect analogous to that in 51 is observed (see 58); by contrast, the absence of an existential presupposition expectedly precludes relevant PQs, as shown in 59.

(58) It is not the case that Lance Armstrong, an Arkansan, won the 2002 Tour de France.

(59) No one (#an Arkansan) won the 2002 Tour de France, because of the doping scandal.

Indefinites are a natural testing ground for this generalization. Specific indefinites have been analyzed as either involving a bona fide existential presupposition (e.g. in Geurts 2010) or sharing relevant properties of presuppositional expressions (Abusch 1994, Jäger 2007, 2010, Onea 2015). By contrast, nonspecific indefinites are standardly analyzed as involving an existential quantification at the assertion level, thus lacking an existential presupposition. While ambiguous specific/nonspecific construals may exist for plain indefinites (von Heusinger 2011), we correctly predict that unambiguously nonspecific indefinites, such as irgendjemand ‘someone or other’, do not license p-NAPs, while expressly specific indefinites, such as those including ein gewisser ‘a certain’, do. As shown by the following, the prediction is borne out.

(60) a. #Irgendjemand aus New York, (übrigens) eine berühmte Ärztin, hat gestern angerufen.
   'Someone or other from New York, a famous doctor (by the way), called yesterday.'

b. Eine gewisse Freundin aus New York, (übrigens) einen berühmten Ärztin, hat gestern angerufen.
   'A certain friend from New York, a famous doctor (by the way), called yesterday.'

In short, where there is no existential presupposition, there are no PQs about a discourse referent; and where there are no such PQs, there can be no p-NAPs.

In order to implement this licensing mechanism for p-NAPs, we need to modify the discourse-update rules provided in 31 as follows.

(61) **Discourse update of** $(c_i, q_i)$ **by the assertion** $u$ **with presupposition** $p$

a. Precondition: the assertion $u$ is congruent to the QUD; $u \sim q_i$.

b. The resulting update will be the discourse state $(c_i \cap p \cap [u\parallel q_j])$, where $q_j \neq q_i$.

c. $q_j$ may be a PQ licensed either by $u$ in $c_i \cap p$ or by $p$ in $c_i$.

The above set of rules captures the intuition that the asserted material needs to be at issue (in the sense of Simons et al. 2010 and subsequent research);\textsuperscript{14} in addition, and impor-\textsuperscript{14} We return to the notion of at-issueness in relation to NAPs in §3.3.
tantly, the rule permits presuppositions to license PQs independently of what is asserted. Taking this into account, the discourse updates brought about in 56 are as follows.

(62)  a. starting discourse state: \( \langle W, q_0 \rangle \)

b. update with host
   (i) prerequisite: host \( \sim q_0 \)
   (ii) result: \( \{ w | \exists x. x = LA(x, w) \} \cap p_1, q_1 \) where \( q_1 \) is a subquestion of \( \{ \lambda w. P(LA(w), w) | P \in D(e_i, e_j) \} \), i.e. a PQ licensed by \( \lambda w. \exists x. x = LA(x, w) \)

c. update with NAP
   (i) prerequisite: NAP \( \sim q_1 \)
   (ii) result: \( \langle p_1 \cap p_2, q_2 \rangle \) where \( q_2 \) = some question

The analysis is analogous to that in 49, the only difference being in the nature of the question addressed by the NAP: the PQ in 62b(ii) is a subquestion (in the sense of Roberts 2012 [1996]) of the most general question about the anchor (What are the properties of the individual referred to by the anchor?), raised by the existential presupposition of the host.15 We thus argue that p-NAPs target subquestions of the overall PQ What properties does R have? (for some referent R); particular subquestions—such as Where is R from? in the case of 56—can be rendered salient by specific contextual cues. We take the underlying assumption that speakers can transition freely from superquestions to subquestions to be unproblematic.

A clarification is in order concerning our claim that the PQ addressed by a p-NAP may be licensed by a presupposition of the host instead of its propositional content. The analysis in 62 assumes the order of update presupposition < host < PQ < p-NAP. However, an alternative update mechanism presupposition < PQ < p-NAP < host is readily conceivable and plausibly exploited in cases such as 63a, where resolution of the pronoun’s reference appears to depend on a prior update by the NAP; compare the unnaturalness of coreference in 63b.16

(63)  a. John, a guy who nearly killed [a woman], with his car, visited her, in the hospital.

b. #John visited her, in the hospital. He is a guy who nearly killed [a woman], with his car.

The alternative update order is indeed available without any modification of the update rules in 61. This is so because condition 61b can be met in one of two ways: either by accommodating \( p \) as part of the update with \( u \), or by accommodating \( p \) as an independent discourse move in its own right. In this case, \( c_i \) will already entail \( p \), and the PQ licensed by \( p \) will potentially be answered by the NAP, such that \( c_i \) already entails the NAP before the actual update with the host happens. In this case, \( q \) may not be the PQ addressed by the NAP, simply because that question would have already been answered.

Onea (2016) assumes that general PQs about the properties of some discourse referent \( R \) are licensed only upon first mention of \( R \), leading us to expect p-NAPs to be fully felicitous only at the point where the relevant discourse referent is first introduced. However, this prediction appears to be too strong: speakers may freely pretend, for rhetorical purposes, that some referent is new or old regardless of its actual status in discourse, as in the following case.

15 Modeling the existential presupposition as \( \lambda w. \exists x. x = LA(x, w) \) is a significant simplification, but a discussion of the intricacies of the semantics of proper names and related issues would take us too far afield.

16 We thank a referee for pointing out the relevance of such cases, and Ezra Keshet for valuable discussion.
(64) In 2002, Lance Armstrong won the Tour de France. No one had expected him, an Arkansan, to achieve this incredible feat.

This delayed use of the NAP serves the purpose of highlighting that Lance Armstrong’s provenance is in some way relevant to his defying expectations and winning the Tour, triggering accommodation of the PQ Who is Lance Armstrong (again)? or some equivalent request for further relevant properties (roughly paraphrasable as What about Lance Armstrong led people not to expect him to win?). Save for such special rhetorical strategies, Onea’s (2016) account correctly captures the fact that (noncontrastive, non-deictic) pronominals generally make for poor p-NAP anchors, and we take it to be suggestive that we did not find even a single example of a p-NAP attaching to a pronominal anchor in the German Reference Corpus.17

3.3. More on distinctive properties of p-NAPs and r-NAPs. So far, we have developed a theory of the licensing of NAP speech acts that capitalizes on their discourse function as short answers, drawing on and extending ideas in Onea 2016. In this section, we introduce a range of novel data illustrating distinctive properties of p-NAPs and r-NAPs, in order to arrive at a more nuanced picture of their respective uses and distribution.

R-NAPs and conceptual covers. While we have emphasized the differences between r-NAPs and p-NAPs in our discussion thus far, the distinction appears to be blurred in certain specific cases. As shown in 65, NAPs can actually serve a dual purpose of referentially identifying the intended individual and providing a contextually relevant description by way of attributive predication.

(65) A friend of mine, the famous cancer specialist I mentioned earlier, is currently in town.

Intuitively, the PQ addressed by the NAP in this case could be either 66a or 66b, showing that the NAP is ambiguous with regard to the r-NAP/p-NAP distinction.

(66) a. (Q: Which friend of yours is currently in town? (A: The famous cancer specialist I mentioned earlier is currently in town.)

b. (Q: Who is this friend of yours? (A: She is the famous cancer specialist I mentioned earlier.)

This ambiguous resolution of the NAP as either r-NAP or p-NAP is predicted by our analysis and is unproblematic, given that both readings are available. Thus, while r-NAPs and p-NAPs have distinctive formal properties (as discussed in §2), the distinction may collapse in the absence of relevant morphosyntactic cues. In 65, for instance, both construals are possible because English provides no surface indications of case marking.18

By contrast, consider the German minimal pair in 67, where the same referential anchor is followed by a nominative p-NAP in one case but a case-matching r-NAP in the other.

(67) a. Die Präsidentin überreichte dem Emre, (übrigens) ein sehr kluger Typ, den Pokal.

The president gave the trophy to Emre, a very clever guy (by the way).


18 These observations echo analogous findings for sluicing in Barros 2014, where it is shown that languages such as English permit a wider range of sources for sluicing (in particular, copular clauses or clefts in so-called ‘pseudo-sluicing’) than languages such as German or Russian, where case morphology of the remnant wh-phrase typically identifies a single source.
b. Die Präsidentin überreichte dem Emre (also) einem sehr klugen Typen, den Pokal.

‘The president gave the trophy to Emre, (i.e.) a very clever guy.’

In 67a, the nominative p-NAP expresses a property presented as peripheral information (as highlighted by the optional inclusion of übrigens ‘by the way’). By contrast, the case-matching r-NAP in 67b is most naturally employed when the speaker assumes that the proper name in and of itself does not suffice to provide a sufficiently clear answer to the question addressed by the host (as highlighted by the inclusion of also ‘that is’). How does this latter use square with our analysis of NAPs as responses to PQs?

From the perspective of the classical logical treatment of proper names as rigid designators (Kripke 1980) and our simplified model, in which an information state does not differentiate between speaker and hearer knowledge, it makes little sense to ask the question Who is R? when R has been referentially identified, let alone reformulate a question that has already been exhaustively resolved by means of referring. Nonetheless, in actual discourse a proper name or some other referential expression does not automatically resolve all questions to which the individual so identified would count as the true answer. As discussed at length in Aloni 2001, speakers may use a proper name without necessarily assuming that the hearer knows who it refers to, or in a situation in which that name is not the most relevant or useful description for the communicative purpose at hand. But to explain why the r-NAP is felicitous in 67b, it does not suffice to assume that a question of specification is in some sense still available; one would need to show that such a question is a PPQ, that is, the result of conventionally derived alternatives. However, the assumption that proper names conventionally raise alternatives of specification is at variance with the many semantico-pragmatic differences between indefinites and other types of referential expressions that have been discovered (cf. Ciardelli & Roelofsen 2015, Onea 2015). That some such distinction needs to be maintained is also shown by the fact that markers that serve to indicate that a question of specification is being addressed, such as German nämlich/und zwar ‘namely’ (Onea & Volodina 2011), are infelicitous in NAPs such as that of 67b.

We would thus like to pursue a different route and suggest that it is not the anchor per se that raises a reformulating PPQ in cases such as 67b, but rather focus. In discussing example 45, we already noted that focus can give rise to PPQs that are subquestions of the current QUD. These questions cannot be answered by a NAP, as illustrated by 68a. That the infelicity of 68a is not due to a general incompatibility of additive particles and NAPs is shown by 68b: additive particles can be included in NAPs, where they give rise to so-called inclusive readings (Butschety 2019). This suggests that the question addressed by the NAP in 68b is not 68c(i), but rather 68c(ii).

(68) Who danced?
   a. #Ashley, Sam too, was dancing.
   b. All the children, Sam and Sally too, were dancing.
      (inclusive reading: Sam and Sally are children)
   c. (i) impossible PPQ: Who else was dancing?
      (ii) possible PPQ: Who was dancing (from a different pragmatic perspective)?

In other words, focus can license PPQs that are not more specific subquestions of the current QUD but rather equivalent questions posed from an alternative pragmatic perspective.
To make this idea more precise, we follow Aloni (2001), who argues that questions can be interpreted relative to conceptual covers. A conceptual cover is understood as a particular method of identifying (‘covering’) individuals by assigning them individual concepts. To illustrate, assume a scenario in which there are two cards on the table. One conceptual cover would identify them as the card on the left and the card on the right, whereas another would identify them as the winning card and the losing card. Identification by proper name is thus but one of many possible conceptual covers. This means that a question as in 69 does not simply denote all propositional alternatives over all relevant individuals, as in 69a, but it does so relative to a certain conceptual cover that is mostly pragmatically determined. We model this in 69b by using concepts c instead of individuals and requiring that those concepts not be randomly selected but belong to some conceptual cover $C_n$ (e.g. naming). A simple question giving rise to two distinct question meanings (sets of answers), as argued by Aloni, is illustrated in 70.

   a. standard question semantics: \{P(x)|x \in D\}
   b. questions under conceptual cover n: \{P(c)|c \in C_n\}

(70) Which card do you have?
   a. conceptual cover 1: \{I have the winning card, I have the losing card\}
   b. conceptual cover 2: \{I have the card on the left, I have the card on the right\}

In order to reconcile this perspective with the question-congruence rule in 32, let us assume that focus alternatives do not involve simple individuals but rather individual concepts. These individual concepts are not limited to some specific contextual cover $C_i$; hence, for our example, both the card on the left and the winning card constitute natural focus alternatives even if they belong to different conceptual covers. The alternatives to names are thus all possible concepts.

(71) FocAlt(Name$_F$ P) = \{P(c)|c \in C\}

With this in mind, let us return to r-NAPs associating with referentially fully specific anchors, as in 67b. Focus on the anchor automatically renders the QUD salient (again), since the focus alternatives include the alternatives denoted by the QUD. On the assumption that the host expresses an informative answer to the QUD, the NAP cannot be said to resolve it sensu stricto. However, the focus alternatives are a superset of the QUD and will contain the very same question under any other conceptual cover, given that the alternatives are not restricted to a particular cover (as per 71). We suggest that those questions that involve contextually relevant conceptual covers should be considered PPQs: after all, they are compositionally derived, highly salient, and their existential presupposition is satisfied. This licensing potential is exploited by the NAP in 72; by contrast, no analogous NAP is licensed in 73, where no relevant alternatives are invoked due to focus on the subject.

(72) Q: Who did Mary meet at the pub?
   A: Maria hat den PETER, meinen besten FREUND, in der Kneipe
       Maria has ACC Peter my.ACC best.ACC friend in the pub
       getroffen.
       met
       ‘It was Peter, my best friend, who Mary met at the pub.’

19 The notation in 69 rests on a number of simplifications; some of these are nontrivial, but digressing into formal details of the framework is not conducive to our goals here. See Aloni 2001 for details and discussion.
20 The judgment is particularly clear when the nonfocal anchor in A’s response is pronominalized. We use German examples to control for p-NAP construals. The examples are somewhat contrived due to the absence of ellipsis; reducing the host clause to its focus preserves the contrast.
Q: Who met Peter at the pub?

A: Maria hat *den Peter / ihn* (#meinen besten Freund) in der Kneipe getroffen.

‘It was Mary who met Peter (him), my best friend, at the pub.’

Focus on the anchor in 72 renders the PPQ highly salient, whereas its salience is strongly diminished when the anchor is part of the host’s background, as in 73. The contrast is thus analogous to that in 51.

We propose, then, that r-NAPs as in 67b are answers to PPQs that reinstate the QUD addressed by the host under a different conceptual cover. If this analysis is on the right track, it follows not only that r-NAPs are licensed by hosts that provide a proper-name anchor, but also that r-NAPs ought to be generally preferred over p-NAPs whenever the speaker intends to draw attention to such an alternative conceptual cover. The contrast in 74 shows that this prediction is indeed borne out. In a scenario where the speaker’s principal rhetorical point, and thus the most relevant answer to the QUD, is that an estate was bequeathed to a dog rather than a person, the r-NAP in 74b is decidedly more felicitous than the p-NAP in 74a.

(74) a. #Er hat *dem WALDI, (übrigens) ein* seniler DACKEL, sein gesamtes Vermögen vermacht. ‘He bequeathed Waldi, a senile dachshund by the way, his entire estate.’

b. Er hat *dem WALDI— (also) einem* senilen DACKEL! sein gesamtes Vermögen vermacht. ‘He bequeathed Waldi, that is to say a senile dachshund, his entire estate.’

More precisely, in 74b, the host answers the QUD under the conceptual cover of naming, whereas the r-NAP answers the QUD under a different conceptual cover, that of kinds/species. This renders the p-NAP unnatural: responding to an independent QUD (Who is Waldi?), the description of Waldi is presented as purely supplemental and thus rhetorically neutral; as a result, 74a implausibly suggests that the speaker does not consider it particularly noteworthy that the heir is a doting canine.

In sum, not only does our theory correctly capture the formal and semantico-pragmatic differences between p-NAPs and r-NAPs, but it also generates welcome predictions regarding their use where either type is formally licensed: in such cases, r-NAPs are preferred when the intended PQ is a reformulation of the question addressed by the host under a different conceptual cover, whereas p-NAPs serve to provide ancillary information.

**Stacking and iterated licensing.** A further possibility correctly predicted by our analysis is the possibility of multiple sequential NAPs,21 either by stacking, where mul-

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21 We limit our attention below to two-member sequences, although both processes to be discussed are in principle unbounded.
tiple NAPs are licensed by a single anchor; or by iterated licensing, where one NAP acts as the licensor of a subsequent NAP. Stacking is illustrated by the following examples.

(75) a. Angela hat einen Kollegen, den Thomas, (also) meinen besten Freund, aufs Übelste beschimpft.
    ‘Angela insulted a colleague, Thomas, (that is) my best friend, in the worst way possible.’

b. Angela hat den Thomas, den Lehrer aus Köln, ein netter Kerl (übrigens), aufs Übelste beschimpft.
    ‘Angela insulted Thomas, the teacher from Cologne, a nice guy (by the way), in the worst way possible.’

In 75a, each r-NAP answers a PPQ that restates the original QUD (e.g. What did Angela do?, Why are you mad at Angela?, or Who did Angela insult?) under a different conceptual cover. Similarly, in 75b the p-NAP responds to an implicit request for relevant properties of the referent of the host-internal anchor. That both cases are instances of stacking rather than iterated licensing is shown by the fact that neither NAP depends on the other for its licensing.22

This is different in sequences resulting from iterated licensing, as in the following.

(76) a. Ich habe einen Freund, (nämlich) den Miroslav—(übrigens)
    I have a friend namely the Miroslav by the way
ein Spezialist für solche Fälle—gebeten, die Akten zu vernichten.
    a specialista specialist for such cases asked the files to destroy
    ‘I asked a friend, Miroslav—a specialist for cases of this sort (by the way)—to destroy the files.’

b. Angela hat den Thomas, ihren Kollegen aus Köln —
    Angela has Thomas her colleague from Cologne
(übrigens) meine Heimatstadt!—aufs Übelste beschimpft.
    (by the way) my hometown on the worst insulted
    ‘Angela insulted Thomas, her colleague from Cologne—my hometown (by the way)!—in the worst way possible.’

In these cases, the second NAP depends for its interpretation on the first; the p-NAPs are licensed not by PQs about a referential anchor in the nonelliptical host sentence, but

22 Stacking that yields p-NAP × r-NAP sequences is somewhat odd compared to the r-NAP × p-NAP sequence in 75b. We believe this to be due to a markedly higher processing load: an initial p-NAP requires accommodation of a likely PQ about the anchor (Who is Thomas?), whereas a subsequent r-NAP reverts to a reformulation of the host. Intuitively, this ‘back and forth’ requires additional effort to resolve compared to an initial reformulation and a subsequent simple PQ. We leave further exploration of this matter to future research.
by PQs about the referent specified by the first NAP (in 76a) and a referential expression contained within the first NAP (in 76b), respectively.\(^{23}\)

From the perspective of our analysis, both stacking and iterated licensing are expected and unremarkable. As indicated above, stacking is enabled by multiple possible restate-
ments of the same question under different conceptual covers (for r-NAP < r-NAP sequences) and the coincidence of r-NAP-licensing PPQs and p-NAP-licensing presup-
positions (for r-NAP < p-NAP sequences). Iterated licensing is equally expected given the fact that elliptical answers generally license NAPs.

(77) A: Who fed the dog?
   B: \textit{Francesca, her owner}.

Since elliptical answers, like their nonelliptical counterparts, update the discourse state and thus license PQs that can be addressed by NAPs, our analysis accounts for iterated licensing straightforwardly.

NAPs AND AT-ISSUENESS. Since Potts 2005, it has commonly been assumed that NAPs are inherently not at-issue and systematically projective, in the sense that they are not tar-
geted by entailment-canceling operators that appear to outscope them (Simons et al. 2010, Koev 2013, Tonhauser et al. 2013, Schlenker 2021). While we cannot provide an in-depth discussion of this matter here,\(^{24}\) a few clarifying remarks are in order as certain aspects of our proposed analysis coexist somewhat uneasily with the received wisdom.

Claims about the non-at-issueness of NAPs are based chiefly on examples such as 78, where the host-internal negation fails to cancel the entailment engendered by the NAP.

(78) It is not the case that Erin, a famous director, married a dancer.
   a. entails: Erin is a famous director.
   b. does not entail: Erin married a dancer.

The general validity of this claim has not gone unchallenged (see Koev 2013).\(^{25}\) Be this as it may, with regard to p-NAPs, we have nothing to add to the existing literature on at-
issueness; in fact, their non-at-issue status can be viewed as a corollary of our theory, according to which a p-NAP answers a question (\textit{Who/What is R?}) that is markedly dif-
ferent, in most contexts, from the general QUD addressed by its host.

Our analysis of r-NAPs, however, does bear directly on the at-issueness discussion. This is so because most of the literature, including Potts 2005, fails to properly recog-
nize the distinction between r-NAPs and p-NAPs, typically analyzing NAPs of both types as predicative expressions of sorts. However, we established above that a p-NAP

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\(^{23}\) We set aside here cases of iterated licensing that involve interpolation of an additional NAP into the host NAP (as opposed to simple juxtaposition), as in the following.

(i) Ich habe den Peter, (also) den Typen der Maria, \textit{meine} beste
I have ACC Peter that.is the.ACC guy.ACC who.NOM Maria my.NOM best.NOM Freundin, wegen einer anderen verlassen hat, gestern friend.FEM because.of a.FEM.DAT other.FEM.DAT left has yesterday in der Stadt getroffen.
in the city met

‘Yesterday I ran into Peter, (that is) the guy who left Maria, my best friend, for another woman, in the city.’

Such cases are straightforwardly accounted for by our approach to linear interpolation developed in §4 below; however, we refrain from discussing them explicitly for reasons of space.

\(^{24}\) Which is muddled by the fact that there are multiple definitions of at-issueness in the literature; see Koev 2018 for a review.

\(^{25}\) For more nuanced discussion of this issue see also AnderBois et al. 2015, Syrett & Koev 2015, and Snider 2018.
as in 79a contributes the predicational meaning in 79a(ii), whereas an r-NAP as in 79b expresses the reformulation in 79b(ii).

(79) a.  
(Ashanti, a friend of mine, loves Bo.  
   (i) Ashanti loves Bo.  
   (ii) Ashanti is a friend of mine.  

b.  
(A friend of mine, Ashanti, loves Bo.  
   (i) A (specific) friend of mine loves Bo.  
   (ii) Ashanti loves Bo.

The common conflation of r-NAPs and predicative expressions appears to rest on the fact that sentences such as 79b give rise to inferences such as A (specific) friend of mine (who loves Bo) is Ashanti. However, if our analysis of r-NAPs is on the right track, such inferences are merely derivative. To settle the question of at-issueness, we thus need to consider the actual propositional contribution of r-NAPs.

With this in mind, it is easy to see that r-NAPs do, in fact, standardly express at-issue content. This is not surprising given that, as we have shown, these NAPs target the same question as the host, expressing a more specific reformulation of the latter. In fact, where R-NAPs are licensed by a focal anchor, they must address the QUD. Consider again 74b, repeated below and embedded within a suitable context. There is a clear sense in which B’s question is fully resolved only by the NAP, as indicated by the fact that A’s retort does not require B to be familiar with the fact that Waldi is a mentally feeble dog.

(80) A: Uncle Bob was crazy, right up to his death.  
     B: Why, what did he do?  
     A: Er hat dem Waldi, also einem senilen Dackel, sein gesamtes Vermögen vermacht.  
            he has the dat Waldi that is a dat senile dachshund his entire estate  
            ‘He bequeathed Waldi, that is to say a senile dachshund, his entire estate.’

The crucial information is thus supplied by the r-NAP (without it, the question would not be resolved in a satisfactory manner), which, as we have argued, addresses B’s question under an alternative conceptual cover.

Moreover, even r-NAPs licensed by indefinite anchors can be at issue, as shown in 81. In this example, the host in B’s response addresses A’s question only partially, whereas the r-NAP addresses the more specific subquestion Does Emre have a dog?, thereby resolving the QUD.

(81) A: Do Tim and Emre both have a dog?  
     B: One of them, (namely) Emre, does not.

Again, the fact that A’s question would remain partially unresolved were it not for the addition of the r-NAP shows that the latter contributes at-issue content.

Furthermore, we saw in cases such as 18a above that r-NAPs are nonprojective under negation (owing to their reformulative function), unlike p-NAPs as in 78 (also 8b). Finally, recall that r-NAPs can license subsequent p-NAPs (as in 76), which would appear to be a tell-tale sign of their at-issueness. What seems clear to us is thus that claims about the non-at-issue status of NAPs rest on an overly monolithic view of NAPs that fails to recognize the nuances our two-pronged analysis is designed to account for.

That said, we are not committed to the claim that r-NAPs necessarily express at-issue content. This is clearly not the case whenever r-NAPs are employed for purely rhetorical purposes, that is, without contributing to the actual resolution of the QUD, as in the following.
(82) A: Why is your suitcase so heavy?
   B: Ich habe ein sehr dickes Buch, Atlas shrugged, mit eingepackt.
       ‘I packed a very thick book, Atlas shrugged.’

Given that the book’s title is immaterial to A’s immediate concerns, B’s inclusion of the r-NAP will plausibly be received as a mere gratuitous expression of her self-image as a philosophically inclined intellectual. Such purely expressive NAPs cannot be said to be at issue in any relevant sense of the term, showing that the distinction is orthogonal to our differentiation of NAPs into reformulating and predicative types.

We conclude, then, that non-at-issueness is not a defining property of NAPs, but rather a reflection of certain rhetorical strategies underlying their use in a subset of cases (p-NAPs and rhetorical uses of r-NAPs). R-NAPs, in particular, are commonly used to convey information that is key to the resolution of the QUD.

3.4. Interim summary. In this section, we developed a theory of the licensing of NAPs based on Onea 2016, capitalizing on their discourse function as short answers. We followed Onea in arguing that r-NAPs answer salient PPQs of specification and furthermore showed that they can serve to highlight alternative conceptual covers of the QUD. By contrast, in our novel analysis of P-NAPs these were argued to express supplementary properties of presupposed referents, prompting accommodation of a copular question (What/Who is R?) or some contextually relevant subquestion thereof. As we showed, this dual approach sheds light on a wide range of uses of NAPs, including occurrences of r-NAPs that prima facie resemble p-NAPs.

4. Linear interpolation. If NAPs are independent speech acts rather than syntactically integrated constituents of their hosts, why and how do they come to be articulated internal to the latter’s linear sequence? Our goal in what follows is to outline an answer to this question in largely intuitive terms, leaving a detailed formal model to future research. Nevertheless, we will show that our hypothesis makes nontrivial, welcome predictions.²⁶

Before we proceed, a clarification is in order. When describing the host-internal positioning of NAPs, we use the term interpolation rather than linearization since we take the latter to exclusively refer to the ‘flattening’ in the phonological component of hierarchical objects generated by the narrow-syntactic procedure (Chomsky et al. 2019). On Ott’s (2016) and our analysis, a NAP and its host never form a single syntactic object; they are therefore not linearized sensu stricto relative to one another any more than sequential sentences in discourse are. We consider this conclusion unproblematic; there is no reason to suppose that speakers could not interleave speech acts in discourse, akin to the co-linearity of gestures and verbal expressions.

Against the backdrop of the theory developed so far, two main questions arise with regard to the linear interpolation of NAPs: why do speakers use NAPs at all (as opposed to sequentially realized sentences), and how is their interpolation achieved? Our answer to the question of where NAPs can occur will turn out to rationalize both how they are used and why speakers use them in the first place.²⁷

²⁶ The seeds of the proposal in this section can be found in Ott & Onea 2015, where a version of the approach is briefly sketched but not developed.

²⁷ We consider these issues orthogonal to the question of why NAPs are elliptical, which we take to be due to general communicative desiderata of redundancy avoidance. See Ott 2016 on the optionality of ellipsis in p-NAPs vs. its apparent obligatoriness in r-NAPs, shown there to be illusory.
Two key facts mark the point of departure for this section: interpolation of NAPs into their host clauses is not unconstrained, and the interpolation options for p-NAPs and r-NAPs are not identical. We mostly illustrate these points with German examples in what follows, exploiting the perspicuous distinction of the two types in the language’s case morphology.

An asymmetry between r-NAPs and p-NAPs emerges when we consider the interaction of NAP interpolation and extraposition. Both types of NAPs can appear right-adjacent to their anchors, but where a clause-final verb is followed by extraposed material, r-NAPs but not p-NAPs can appear right-adjacent to the verb (i.e. clause-finally). The overall situation is illustrated in 83 and 84, where in each case the relevant NAP can be felicitously interpolated at the positions marked ✓ but not those marked ✗.

(83) a. r-NAP: Ich habe den Emre gestern gebeten, die Akten zu vernichten.
   'I asked Emre yesterday to destroy the files.'
   b. Ich habe einen Freund gestern gebeten, die Akten zu vernichten.
   'Yesterday I asked a friend to destroy the files.'

(84) a. p-NAP: Emre ist (übrigens) ein alter Freund.
   'Emre is an old friend (by the way).'
   b. Ich habe Emre gestern gebeten, die Akten zu vernichten.
   'Yesterday I asked Emre to destroy the files.'

These data exemplify the following generalizations.

(i) NAPs can appear host-finally (as ‘afterthoughts’).
(ii) NAPs can appear right-adjacent to their anchor.
(iii) R-NAPs can appear between the host clause and extraposed material; p-NAPs cannot.

We submit that these generalizations are best explained in terms of a decision problem the speaker faces when employing a NAP: in deciding on its linear positioning, they

28 This is a useful idealization. Ultimately, NAP interpolation is a fluid process, as is the case with parenthetical insertion in general: when the speaker observes confusion or inquisitiveness on the part of the addressee, they are at liberty to interrupt an ongoing speech act with a NAP at virtually any point to offer clarification (at least provided that the anchor has been mentioned; see below); whether the utterance is then continued where it was interrupted or restarted appears to depend on performance, which we do not attempt to elucidate here. When we say that a NAP is ‘infelicitous’ at a certain position, we thus mean ‘infelicitous under normal circumstances’. Further support for this general perspective derives from cases in which multiple anchors ‘compete’ for the same NAP, as in (i). While the r-NAPs in (ia) and (ib) unambiguously identify the friend and the teacher, respectively, sentence-final positioning of the NAP as in (ic) yields ambiguity.

(i)  a. I introduced a friend, namely Jessica, to one of my teachers during the party yesterday.
   b. I introduced a friend to one of my teachers, namely Jessica, during the party yesterday.
   c. I introduced a friend to one of my teachers during the party yesterday, namely Jessica.

Such ambiguous construals can be disambiguated on the basis of world knowledge. For instance, if the addressee happens to know that the speaker is not on a first-name basis with her teachers, then the NAP in (ic) will be reflexively interpreted as specifying the first anchor, whereas contrastive stress on one of my teachers renders it the NAP’s natural associate.

29 This is assuming that the extraposed material is prosodically heavy enough to constitute its own intonation phrase; recall the discussion in §2.3. Accordingly, r-NAPs will generally follow very light extraposed PPs.
seek to facilitate the interpretation of the NAP for the addressee. While our discussion of this decision problem in this article will remain informal, we believe that the strategies employed by speaker and hearer to achieve equilibrium (in the sense explicated below) could be readily implemented in formal game-theoretic terms, a task we leave to future research.

Recall that we analyze NAPs as short answers to PQs licensed by the host. In order to correctly interpret a NAP, the addressee is thus required to accommodate the question the speaker intends to address with it. For r-NAPs we can conceive of two candidate strategies; for p-NAPs only one strategy will apply. For present purposes, it will be helpful to think of questions as composed of two principal components, one we call the **propositional background (PB)** and another we call the **alternative-generating expression (AGE)**. The PB is some statement; by replacing one expression in this statement with another drawn from a set, we obtain a question denotation such that the PB entails the disjunction of all question alternatives. The AGE is the expression that is actually replaced in the PB in order to yield the desired question. For example, the disjunction of all question alternatives of 85a is entailed by the PB given in 85b. Moreover, if we replace the AGE in 85c with a suitable wh-phrase, we obtain the question in 85a.

\[(85)\]
\[
\begin{align*}
\text{a. Which dog chased a cat?} \\
\text{b. PB: } & A \text{ dog chased a cat.} \\
\text{c. AGE: } & a \text{ dog}
\end{align*}
\]

The above considerations are not meant to be a substantive theory of questions; rather, we wish to highlight the fact that the meaning of a question is determined jointly by its PB and AGE.

Faced with the task of accommodating a PQ a given NAP is addressing, the addressee will (ideally) have some information provided to them while other pieces must be inferred. To illustrate, consider 86. Suppose that the addressee has processed the first assertion and is now interested in finding the question answered by the NAP following it. While they know the question’s PB, which is the host itself, they need to determine whether the AGE is a dog or a cat, each option giving rise to different implicit questions (86b vs. 86c).\[30\]

\[(86)\]
\[
\begin{align*}
A \text{ dog chased a cat, Jack.} \\
\text{a. PB: } & A \text{ dog chased a cat.} \\
\text{b. AGE: } & a \text{ dog} \\
\Rightarrow & \text{PQ: Which dog chased a cat? } \{ \exists y. \text{cat}(y) \land \text{chased}(x, y)|\text{dog}(x)\} \\
\text{c. AGE: } & a \text{ cat} \\
\Rightarrow & \text{PQ: Which cat did a dog chase? } \{ \exists x. \text{dog}(x) \land \text{chased}(x, y)|\text{cat}(x)\}
\end{align*}
\]

Focus and concomitant prosodic prominence of either NP can resolve the ambiguity, given that such focusing is tantamount to the invocation of relevant alternatives.

The inverse scenario is the situation in which the addressee has identified the AGE but has yet to reconstruct the PB in order to arrive at the intended question. To this end, each newly processed term of the PB must be integrated into the set of alternatives. This is the state of the addressee immediately after processing the anchor NP and subsequent NAP in 87. At this point, marked ★ below, the addressee can conclude that it is a dog that will be replaced by a wh-phrase in the question to be determined (i.e. that it is the AGE), but the PB of the question is yet to be completed.

\[30\] We ignore world variables for simplicity.
A dog, Jack, ★ chased a cat.

We can conceive of the reconstruction of the PB as an incremental, constituent-by-constituent procedure, as indicated in 88a–b; an alternative ‘all-at-once’ strategy as in 89a–b would use a dummy variable for the background and wait for the entire parse to be complete before computing the result.

(88) incremental strategy
a. step 1: Which dog ... {x | dog(x)}
b. step 2: Which dog chased ... {λy. chased(y) | dog(x)}

(89) all-at-once strategy
a. step 1: Which dog ... {λg. g(x) | dog(x)}
b. step n: g = λx. ∃y. cat(y) ∧ chases(x, y)

Both mechanisms are computationally costly, requiring either constant revision of the targeted PQ (incremental) or inference of the potentially complex function g (all-at-once). We leave a detailed formalization and resolution of this issue to future work, and therefore do not commit to either option. The important point for present purposes is that the addressee must employ some rational strategy to cope with a temporary lack of information. From the perspective of the (cooperative) speaker, then, placement of the NAP is guided by the motivation to mitigate as much as possible the challenge of identifying the appropriate implicit question on the basis of either the PB or else the AGE.

Consider now the abstract representation in 90, modeled on a verb-final language such as German. Let us assume that the speaker intends XP_i to be the anchor of an r-NAP, and that the four positions ➀ ... ➃ are considered for interpolation.

(90) XP_{i-1} ➀ ... XP_i ➁ ... XP_{i+1} ➂ ... V ➃ (...) Position ➀, which precedes the anchor, can be discarded out of hand: placing the NAP before the anchor would not provide the listener with any useful information concerning the PQ to be recovered, given that at this point they do not have even partial knowledge of either its AGE or its PB; hence, ➀ is not an option considered by speaker or addressee. In general, the addressee can rely on the assumption that whenever they encounter a NAP, the PQ it addresses will not inquire about an expression that has not already been encountered at this point. This rules out the first two positions in 83 above.

By contrast, position ➁ has the immediate benefit of indicating to the hearer which expression is to be replaced by a wh-phrase in order to reconstruct the relevant PQ. In other words, the addressee promptly gains knowledge of the AGE, but the PB remains to be reconstructed. To achieve this, the addressee needs to process the host in its entirety in order to determine the set of alternatives invoked by the AGE, relying on either one of the strategies in 88–89. While this will necessarily incur computational cost, completion of the host automatically results in identification of the implicit PQ; consequently, position ➁ emerges as an optimal option. In other words, the customary linear interpolation of a NAP to the immediate right of its anchor is motivated by the goal of facilitating identification of the AGE, which in turn renders reconstruction of the overall PQ near-trivial. This explains the felicity of position 3 in 83.

Consider now the sentence-final position ➃, corresponding to position 7 in 83 above. This position has a different but equally clear advantage: when encountering the NAP here, the addressee has already processed the host sentence, which enables them to infer the PB of the PQ addressed by the NAP. The only decision left to make concerns the AGE, that is, the NAP’s anchor as intended by the speaker. While there may not be a unique solution to this task (recall the ambiguity of cases such as 87), in many cases identification of the anchor will be facilitated by explicit markings of focus and/or case.
Overall, this makes position ➃ an alternative, highly conducive choice for the positioning of an r-NAP.

Finally, consider the infelicitous interpolation position ➄, to the immediate right of an XP that is not the NAP’s intended anchor. Interpolating the NAP at this position provides no reliable cues to the addressee as to the PQ to be accommodated: it neither identifies the AGE (given the lack of linear adjacency), nor does the addressee at this point know the intended question’s PB. What is more, position ➄ not only fails to provide cues about the AGE but even misleads the addressee about its identity, given that this position is an optimal choice just in case the intended anchor is in fact $XP_{i+1}$ (for the reasons given above); placement of a NAP in this position while intending it to associate with the nonadjacent anchor $XP_i$ would thus amount to active obfuscation of the speaker’s own rhetorical strategy. Barring such irrational self-sabotage, speaker and addressee will discard position ➄ in the case at hand as an uncooperative choice (especially given that cooperative alternative choices are readily available) that offers no benefits at best and is potentially misleading at worst. As far as r-NAPs are concerned, then, generalizations (i) and (ii) are straightforward corollaries of rational communicative behavior, and we correctly rule out positions 4 and 6 in 83 above.

Recall now that p-NAPs address PQs that do not derive compositionally from the host. This means that recovering the question addressed by a p-NAP does not rely on any further knowledge of the host sentence’s content beyond the anchor itself, regardless of whether the host has been parsed in full or only partially. Generalization (ii) thus follows even more naturally for p-NAPs, given that all the addressee needs to infer is what it is that the NAP expresses a property of. The relevant PQ is raised by the anchor itself, which, as we have argued, gives rise to a range of questions of the general type What (relevant) properties does $R$ have? (where $R$ is the anchor’s referent). One of these questions is addressed ‘on the spot’, that is, by means of a NAP linearly interpolated to a position right-adjacent to the anchor. This is even clearer once we take into account the fact that the referent of a p-NAP’s anchor is usually presupposed: presuppositions are plausibly processed independently of the host/anchor at least to some degree (as assumed in models of compositional semantics using partial denotations, such as Beaver & Krahmer 2001, Onea 2015); recall our observation in §3.2 that this is why p-NAPs can update the discourse before their host.

The alternative strategy of sequential, post-host (‘afterthought’) positioning follows equally naturally for p-NAPs qua independent speech acts (albeit with the familiar potential for ambiguity). Other positions are ruled out as invariably less informative; thus, given that anchor-adjacent interpolation or post-host positioning is always an option, any other choice would again amount to deliberate obfuscation of the discourse strategy employed by the speaker. In the case of 84, this leaves positions 3 and 7 as the only felicitous options.

The above considerations raise the question of why the reconstruction of the PB of the PQ addressed by the NAP ought to be so crucial for NAP interpretation. After all, whenever the NAP is encountered within the host, the addressee could simply apply the incremental strategy adumbrated in 88 and safely assume that the speaker will, at some point, articulate the host in full, at which point the intended PQ will emerge. This being the case, why can’t we ignore the role of the PB? We submit that such a strategy is too risky to justify the computational load it incurs, due to the fact that material that effects significant alterations or revisions of the parse of the host can occur at any point as long as the sentence is not yet complete. An illustrative example is given in 91, where the quantifiers following the NAP may drastically affect the interpretation in ways that could not be anticipated at the point of NAP interpolation.
A friend of mine told (\#NAP) …

b. A friend of mine told (\#NAP) nobody everything about himself for many years.

Hence, we continue to assume that knowledge of both the PB and the AGE is vital in adjudicating potential NAP positions in cooperative discourse. By contrast, the issue of ‘violated expectations’ in the reconstruction of the NAP-licensing PQ is moot in the case that the addressee can safely predict that no material yet to be processed will require significant adjustments of the parse. This leads us directly to generalization (iii), which describes precisely this latter situation.

For concreteness’ sake, assume that extrapolation leaves behind a trace/copy (as per Büring & Hartmann 1997). Note that unlike PPs and CPs, quantifiers do not readily extrapose.

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(92) a. Aisha hat einen Freund (am Montag) mehrfach
   ‘Aisha called a friend several times on Monday.’

b. Aisha hat einen Freund (jeden Tag) mehrfach
   ‘Aisha called a friend every day multiple times.’

Given this, parsing extrapolated material will not lead to any significant revisions of the parse previously constructed. As a result, the incremental strategy of inferring the question addressed by an r-NAP can be applied before processing the extrapolated material, requiring only existential closure to bind the trace left by extrapolation. That is, upon encountering the NAP in 93a the speaker can safely postulate the PQ given in 93b even before the extrapolated material is supplied.

(93) a. Ich habe einen Freund gestern tCP gebeten, den Emre, …
   ‘I asked a friend yesterday, Emre, …’

b. \{∃y, e.asked(e, S, x, y) ∧ yesterday(e)||friend(S, x)|

It is for this reason that position 5 in 83 constitutes a cooperative choice: interpolation of an r-NAP in a non-anchor-adjacent position between a clause and extrapolated material does not differ substantially from its sentence-final positioning, as either strategy permits reliable recovery of an appropriate host-derived PQ. Furthermore, just like anchor-adjacent positioning, interpolation of the NAP in this position serves as a disambiguating device whenever the extrapolated PP/CP contains potential alternative anchors.\(^{31}\) By contrast, for P-NAPs this sort of interpolation yields no additional benefits and is thus avoided, given that PQs addressed by P-NAPs do not derive from the structure of the host itself. This captures precisely the asymmetry with regard to position 5 in 83 vs. 84 above.

\(^{31}\) As expected in the light of the above discussion, if an r-NAP is construed as specifying an anchor contained in an extrapolated PP/CP, it must follow this constituent (or else appear right-adjacent to the anchor). This rules out position 6 in 83.
5. Conclusion. In this article, we have developed an analysis of parenthetical nominal appositives as elliptical speech acts that meets the theoretical desiderata stated in the introduction. Our central claims can be summarized as follows:

• Following Ott (2016), we argued that NAPs divide into two types, reformulating (r-NAPs) and predicative (p-NAPs). NAPs of either type constitute independent speech acts, even when they surface within the linear sequence of their host.

• Building on Onea’s (2016) general framework of potential questions, we argued that the two species of NAPs are distinguished by the kind of implicit question they respond to:
  – r-NAPs constitute elliptical answers to salient primary PQs that derive compositionally from the host sentence. As such, they serve to provide responses to the QUD under alternative conceptual covers, or are used for purely rhetorical effect.
  – p-NAPs respond to PQs about their anchor’s referent’s properties that are considered relevant in the context of the content asserted by the host. Such likely PQs are recoverable by virtue of their copular structure, requiring nothing more than their anchor’s referent’s presupposed existence.

• NAPs are optionally interpolated into their hosts in discourse, in order to aid the addressee in recovering the implicit PQ addressed by the NAP. Linear positions not conducive to this goal are discarded.

In developing these ideas, we have no doubt left a number of empirical and theoretical questions unresolved, and much of what we have proposed calls for further formalization and integration with a comprehensive theory of rhetorical relations. Despite these limitations, we are optimistic that our contribution can lay a fruitful foundation for future investigations.

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[revision invited 12 August 2020;\]
[revision received 31 March 2021;\]
[revision invited 14 August 2021;\]
[revision received 18 November 2021;\]
[accepted pending revisions 13 December 2021;\]
[revision received 20 December 2021;\]
[accepted 21 December 2021]