
Exophoric VP Ellipsis

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1 Introduction

The question addressed in this paper emerged 35 years ago out of a classic paper by Jorge Hankamer and Ivan Sag (1976) and a response to it (Schachter 1977; see also Schachter 1978).¹ Hankamer & Sag drew a distinction between **deep anaphora** and **surface anaphora**. A central claim of their paper was that deep anaphoric devices can be used either endophorically (i.e. anaphorically if linked to an earlier antecedent or cataphorically if the antecedent follows) or exophorically (with no linguistic antecedent). Exophoric uses are interpreted either through ostension or via inference from the nonlinguistic context. Surface anaphoric devices, on the other hand, were claimed to require endophoric linkage to an antecedent identical in form (with the exception of minor inflectional variation) to the material that is ellipped or pronominalized away.

In subsequent work, these hypotheses were modified. Sag (1976)

¹We are pleased to dedicate this paper to our good friend Ivan Sag, whose insightful work on ellipsis and many other topics has influenced and enlightened us for more than three decades. An earlier version was presented (by Pullum, to an audience including Sag) at the 2012 LSA meeting in Portland and (by Miller) at the 2nd conference on Topics in the Typology of Elliptical Constructions in Paris. We thank Chris Barker, Francis Cornish, Jonathan Ginzburg, Liliane Haegeman, Dan Hardt, Philip Hofmeister, Polly Jacobson, Anne Jugnet, Laura Kertz, Jason Merchant, Hannah Rohde, Jeff Runner, Tom Wasow, Bonnie Webber, and an anonymous reviewer for their very useful constructive comments on earlier drafts. They are of course not responsible for the opinions expressed or the errors that remain.

showed that it was logical form (albeit a fairly surface-similar level of logical form) that was crucial for surface anaphors, not syntactic surface structure; Sag and Hankamer (1984) proposed that it is not the external nonlinguistic context itself that contributes to the interpretation of deep anaphors, but instead elements of the discourse model built up by the hearer as a discourse proceeds. They therefore proposed to call the ‘deep’ kind of anaphora **model-interpretive** anaphora and the surface kind simply **ellipsis**.

We concentrate here on what is very often called ‘VP Ellipsis’, though that is a very poorly chosen term (as Hankamer 1978: 66n points out), because it is neither necessary or sufficient that it should involve ellipsis of a VP.² Here we follow Sag’s terminological suggestion (1976: 53) that it should be called **Post-Auxiliary Ellipsis (PAE)**. The defining characteristic is not that a VP is omitted but that a constituent or constituent sequence immediately following an auxiliary is missing.³ Example (1a) is an instance of PAE that does have a missing VP; and (1b) and (1c) are instances that do not (in (1c) the ellipted sequence does not even form a constituent according to classical constituency tests; for example, it cannot be clefted). In (1d), we see an ellipted VP that is not an instance of PAE—it illustrates Null Complement Anaphora (NCA), a construction of the deep-anaphoric or model-interpretive type (Hankamer and Sag 1976 discuss the properties distinguishing NCA and PAE).

- (1) a. We don’t want to cancel the parade, but we could
 [_{VP} ~~cancel the parade~~]. [PAE]
 b. You think I’m dumb, but I’m not [_{AdjP} ~~dumb~~], you know. [PAE]
 c. He said there would be results quite soon, and indeed there
 were [_{NP} ~~results~~] [_{AdvP} ~~quite soon~~]. [PAE]
 d. I couldn’t reach him, though I tried [_{VP} ~~to reach him~~] several
 times. [NCA]

Further examples of PAE are given in (2). The underlined part is the antecedent and the counterfactual location of the missing material represented as ‘—’ is (like the struck-out parts in (1)) merely an expository device, not a suggested syntactic or semantic analysis.

²It may not be necessary to assume any ellipsis at all. Schachter (1978) argues that the auxiliaries simply function as “propredicates” in these constructions. Jacobson (2003: 74–76), similarly, argues that “missing material is supplied in roughly the same way as for the case of free pronouns.”

³We assume (with e.g. Gazdar et al. 1985) that infinitival *to* is a defective non-finite auxiliary verb. This analysis is not endorsed in Huddleston et al. (2002), but is robustly and convincingly defended by Levine (2012).

- (2) a. Be back at six if you can ____ . [tautosentential anaphoric PAE]
 b. I rebooted the server. I had to ____ . [discourse-anaphoric PAE]
 c. If we must ____, we'll break in. [tautosentential cataphoric PAE]
 d. A: Did you remember to get the milk?
 B: Yes I did ____ . [discourse-anaphoric PAE]

Hankamer & Sag claim that PAE is an instance of surface anaphora, and that in consequence it can never be exophoric ('deictic' or 'pragmatically controlled' in their terms). They contrast it with anaphoric VP substitutes like *do it*, *do this*, or *do that*, and the Null Complement Anaphora construction of (1d), all of which they claim instantiate deep anaphora, and thus can freely be exophoric. These constructions also allow an **antecedent-trigger** that is not identical to the necessary antecedent.

By 'antecedent' here we mean the actual segment of text that if substituted for the anaphor or ellipsis site would achieve the same reference. We take the term 'antecedent-trigger' from Cornish (1999), who uses it to designate the segment of text allowing one to construct the antecedent (he uses 'antecedent' to refer to the discourse-model representation making interpretation of the anaphor or ellipsis possible). For instance, in (8b) below, *survival* is an antecedent trigger, not an antecedent. The antecedent would be *survive*, which does not actually appear in the text. In cases where the antecedent-trigger and antecedent are identical, we will usually use the shorter term 'antecedent'.

Hankamer & Sag present many striking contrasts; for example (with the prefix '#' signaling, throughout this paper, discourse infelicity in the given context):

- (3) [Context: Sag raises a cleaver and prepares to hack off his left hand.]
 a. Hankamer: #Don't worry, he never actually does ____ . [PAE]
 b. Hankamer: Don't worry, he never actually does it. [*do it*]

Schachter (1977) responded to Hankamer & Sag with a series of counterexamples (not very different from a number of examples that were actually noted in footnotes to their paper, e.g. p. 409, fn. 19), arguing that PAE can be freely exophoric, though a certain pragmatic difficulty often attends the recovery of a PAE interpretation from the context. The reply by Hankamer (1978) claims that all of Schachter's examples are independently explicable in a way that does not challenge the general claim of impossibility for exophoric PAE.

In our view, what is needed in a resolution of this debate is not just an answer to the boolean question of whether or not PAE can freely be exophoric, but also an explanatory account embracing two counterposed facts:

- (4) a. The Hankamer–Sag ban seems too general in that it disbars exophoric PAE by a hard syntactico-semantic constraint: We need an explanation of why Schachter was able to exhibit any examples that seemed even remotely acceptable.
- b. Schachter’s claim that PAE can freely be exophoric seems too general in that it allows exophoric PAE anywhere and everywhere: We need an explanation of why exophoric instances of PAE are so rare and restricted.

Hankamer’s response to Schachter concentrated on two key points:

- (5) a. The range of exceptional cases of deictic uses of PAE is very limited and semantically conventionalized — much more restricted than the range of readings available for the corresponding clause where the post-auxiliary material is expressed.
- b. The fact that in cases where PAE is unacceptable you *can* pick up the same antecedent with *do it / this / that* shows that the antecedent is indeed recoverable from context.

So Hankamer’s answer to (4a) is that there is no general phenomenon of exophoric PAE at all. The anomalous apparent exophoric PAE utterances are few in number and virtually lexicalized: they represent a few scattered idioms, based on the syntactic form of anaphoric PAE sentences, that would need to be included in a comprehensive phrasebook for English, such as those in (6).

- (6) a. Shall we? [Courteous invitation to dance.]
- b. May I? [Polite request for permission to invade a person’s space, e.g. by taking away an unoccupied chair or performing some action that involves touching them.]

Pullum (2000) argued that Hankamer’s position could be supported on purely quantitative grounds: the number of plausible cases of exophoric PAE that had been gathered or even invented (and it was mostly the latter) was minuscule compared to the number of potential ones. Hankamer & Sag themselves drew attention to (7a, b); Schachter suggested contexts for (7c–j); and Pullum additionally suggested contexts for exophoric uses of (7k–p).

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|-----|----|--------------------------|----|--------------------|
| (7) | a. | Don't! | i. | Please do. |
| | b. | You didn't! | j. | If you can, I can. |
| | c. | Does she or doesn't she? | k. | You wouldn't! |
| | d. | You mustn't! | l. | Don't you dare! |
| | e. | I shouldn't. | m. | Must you? |
| | f. | Shall we? | n. | Shall I? |
| | g. | You shouldn't have! | o. | Should I? |
| | h. | May I? | p. | Dare we? |

These very few intuitively plausible cases need to be set against the entire range of grammatical combinations of auxiliary verb sequence with subject pronoun, with or without negation and/or inversion. The number of such combinations is in the thousands; 1,500 would be a conservative figure. Most of them have never been attested in exophoric use. This amounts to an informal kind of Bayesian argument: if Schachter were right, it would be extremely improbable that the evidence would look this way, and the improbable nature of the observed corpus supports Hankamer's thesis. Moreover, many of the cases in (7) do show some signs of having a special meaning or restricted context of use when they are exophoric, as Hankamer claimed.

We have nothing to say against the idea that some exophoric PAE uses may be fixed formulae with unpredictable restrictions of sense. It is entirely compatible with our position that there might be such quasi-idiomatic formulae. However, it is a little suspicious that (to our knowledge) not a single one of them has ever been recorded in a standard dictionary. Moreover, we show later (see sections 3.2 and 3.3) that Hankamer was wrong about some specific examples, and more generally we argue that it is by no means a requirement that exophoric cases of PAE should have special idiomatic meanings.

Various studies in the literature since 1978 (e.g. Webber 1979, Dalrymple et al. 1991, Hardt 1993, Kehler 2000, Jacobson 2003, Jacobson 2008, Jacobson 2009, Kertz 2010) have questioned the idea that PAE was a case of surface anaphora as Hankamer & Sag defined it. They exhibited examples where there was no syntactically identical antecedent in the discourse, but rather a distinct antecedent-trigger from which the relevant antecedent could be inferred, as in (8a), with a switch from active to passive and the attested example (8b), where the antecedent is a derived nominal.

- (8) a. Actually I have implemented it [= *a computer system*] with a manager, but it doesn't have to be [~~implemented with a manager~~]. (Kehler 2000: 549, (24))
- b. Mubarak's survival is impossible to predict and, even if he does [*survive*], his plan to make his son his heir apparent is now in serious jeopardy. [COCA: CBS Evening News]

This line of work defended the idea that all anaphors were semantically resolved and hence were all deep anaphors in the sense of Hankamer & Sag. The studies in question tacitly assume that exophoric PAE is possible and cite examples of the same sort as those given by Schachter (see for instance Chao 1987: 83ff.; Hardt 1993: 34, see (108), (109), (110); Johnson 2001, see (120); Jacobson 2003: 79, see (31), (32); Jacobson 2008: 55, see (41); Jacobson 2009: 86, see (4)).

The only authors we are aware of who develop an actual analysis are Jacobson (2003, 2008, 2009) and Merchant (2004: 718–723). Both defend the position that exophoric PAE exists and offer some account of how PAE works semantically. Merchant, furthermore, provides new attested data.

The general idea that exophoric PAE does exist is thus now accepted by many linguists. However, no convincing explanation has been provided for why such a small minority of examples appear to be acceptable, or for the putative fact that exophoric occurrences are so rare.

Merchant has some analytical proposals; we return to his account in section 3.5, where we will explain why we think it is unconvincing.

Our claim is that the debate between Hankamer & Sag on one side and Schachter on the other was fundamentally misframed, because both maintained the implicit assumption that anaphoric uses of PAE and *do it / this / that* are freely interchangeable except for the following two specific constraints on the latter:

- (9) Constraints on *do it / this / that* assumed by Hankamer and Schachter alike:⁴
- (i) *Do it, do this, and do that* contain main verb *do*, so they cannot substitute for stative predicates,⁵ whereas there are no semantic constraints on PAE.
- (ii) Because they are deep anaphors, *do it / this / that* allow their

⁴We will mostly be grouping *do it, do this, and do that* together as '*do it / this / that*', ignoring the various differences between them. As reported in Miller (2011), the difference between the three forms seems very largely parallel to the difference between *it, this* and *that*, as discussed for instance in Gundel et al. (1993).

⁵The exact formulation of this constraint has been under considerable debate, some papers having argued that an agentive or actional predicate is required; see e.g. Houser (2010) for a synopsis.

antecedent-trigger to be very different from the required antecedent, but this is not the case with PAE.

Thus, they are making the assumption that PAE and *do it / this / that* should be freely interchangeable in cases where the antecedent-trigger and antecedent are identical and the antecedent is agentive.

Recent corpus investigation (partially summarized in Miller 2011) has shown, however, that this assumption is radically unsound. There are in fact strong discourse constraints on the choice between verbal anaphors — just as there are for the choice between nominal anaphors, as discussed e.g. in centering theory (Grosz et al., 1995), accessibility theory (Ariel, 1990), and givenness theory (Gundel et al., 1993). Our claim is that Hankamer was wrong about exophoric PAE in that it can indeed be freely deployed in exophoric uses in all the situations where it satisfies the general discourse conditions on its use that apply in anaphoric contexts, too.

It is not even quite correct to say that exophoric PAE is rare. At the very least, it is misleading to say that. Many circumstances prevent the exophoric use of PAE, but it seems to occur as often as the demands of the non-linguistic context happen to motivate it — it is free to occur exophorically within the range of the circumstances that allow it to occur at all.

However, we claim that Schachter was wrong, too. He failed to note that there are quite dramatic discourse constraints on exophoric PAE. It isn't true that speakers can use PAE exophorically anywhere they think they can get away with it. Stringent discourse conditions have to be satisfied, and only in the fairly infrequent situations where non-linguistic context is capable of satisfying them is there, *ceteris paribus*, a chance for an exophoric PAE use to be felicitous.

Schachter's error was to overlook the special discourse preconditions and Hankamer's error was to diagnose a general ban on exophoricity instead of just the effects of the special discourse preconditions.

2 Conditions on the anaphoric use of PAE

There are some syntactic contexts where PAE is the only possible choice, so that there is no alternation with *do it / this / that*: examples include interrogative tags and certain comparative and relative structures. There are also cases where *do it / this / that* can occur but PAE cannot: in American English anyway,⁶ supportive *do* in PAE

⁶Here we set aside the British English VP-substitutive *do* in *I don't know if she lives nearby; she may do*. This is claimed by Pullum and Wilson (1977), Baker (1984), and Miller (2002) to be a non-finite occurrence of supportive *do*.

occurs only in finite forms, whereas the transitive *do* of *do it / this / that* occurs freely in both finite and non-finite forms. The following discussion is limited to those cases where there are no morphosyntactic restrictions on the alternation between PAE and *do it / this / that*.

We distinguish two different types of PAE, which we will call **Auxiliary-Choice** and **Subject-Choice**. Miller (2011) argues, on the basis of a corpus investigation, that the two kinds of PAE have to satisfy distinct discourse requirements. We characterize the two kinds of PAE and state the discourse requirements in (10).

(10) a. **Type 1: Auxiliary Choice**

FORMAL CHARACTERISTICS: The subject of the antecedent is identical with the subject of the PAE construction and the auxiliary is (at least weakly) stressed, signaling a new choice of tense, aspect, modality, or (in the most overwhelmingly frequent case) polarity.

DISCOURSE REQUIREMENT: A choice between the members of a jointly exhaustive set of alternative situations must be highly salient in the discourse context, and the point of the utterance containing the PAE is strictly limited to selecting one member of that set.

b. **Type 2: Subject Choice**

FORMAL CHARACTERISTICS: The subject of the antecedent is distinct from the subject of the PAE construction, and stressed if it is a pronoun.

DISCOURSE REQUIREMENT: A particular property⁷ must be highly salient in the discourse context, and the point of the utterance containing the PAE must be strictly limited to identifying something or someone possessing that property.

At root, the distinction between Auxiliary-Choice and Subject-Choice is the “auxiliary focus” vs. “argument focus” distinction of the important paper by Kertz (2008), also used by Miller (2011), but we want to avoid any suggestion that the technical notion of focus is the key here.⁸

Kertz makes the very significant point that the distinction is relevant

⁷Miller (2011) uses the term ‘open proposition’, following the terminology of e.g. Ward (1988).

⁸There can be cases of dual focus, as in (i), though they are rare:

(i)A: I didn’t think anyone wore bell-bottoms any more.

B: Well, it turns out that Hénry DÓES! / HÉNRY dóes!

The nucleus (marked by small capitals) can be either on the subject or on the auxiliary, depending on speaker intentions. We have not yet investigated the extension of the discourse conditions in (10) to these mixed cases.

for the acceptability of voice mismatches in PAE: auxiliary-focus PAE allows active/passive mismatches (cf. (8a) above) whereas subject-focus cases of PAE do not. In what follows we show that a lot more hangs on the distinction between the two kinds of PAE, and that when the properties of the two kinds of anaphoric construction are understood, the facts about exophoric use can be explained.

2.1 Anaphoric Auxiliary-Choice PAE

In order to clarify the empirical content of the discourse requirement on Auxiliary-Choice PAE we need to state what kinds of contexts can make the choice between the members of a jointly exhaustive set of alternative situations highly salient (the following list is not intended to be exhaustive, but it covers the main cases, extending the results of Miller 2011).

2.1.1 Assertions

Asserting p makes the p vs. $\neg p$ alternative salient in the sense of placing it on the table for the addressee to accept or reject. This sets up the conditions for using Auxiliary-Choice PAE. This context accounts for a large number of typical anaphoric uses of PAE, namely contradiction or confirmation of a previous assertion, which amounts to choosing one of the members of the set. In these contexts, on the other hand, *do it* and *do this* are infelicitous.

- (11) A: He shops in women's.
 B: No, he doesn't. [COCA]
 Compare #*No, he doesn't do it / this / that.*
- (12) A: Her friend grew up in Florida. And in the Northeast, and at the end of the book [she] returns to Vietnam.
 B: She does. I mean, the story is really touching. [COCA]
 Compare #*She does it / this / that.*

Note that, as mentioned in (10a), PAE is only felicitous if the point of the utterance is to choose one of the members of the set of alternatives. If the speaker's intention goes beyond that, PAE becomes infelicitous and *do it / this / that* become acceptable:⁹

⁹As noted by Miller 2011, *do it* is frequently accompanied by a non-contrastive adjunct (60% of the cases in his corpus) whereas this is never the case with PAE.

- (13) A: He shops in women's.
 B: He never does it alone. / He does it all the time. /
 He does it because that's the only place he can find things
 his size.
 #He never does alone. / #He does all the time. /
 #He does because that's the only place he can find things
 his size.

In (13), B's utterances do not simply contradict or confirm A's previous assertion. The focus is not on whether the previous assertion is true or false (p vs. $\neg p$), but rather on the contents expressed by the adjunct (*never ... alone, all the time, because that's the only place he can find things his size*). Thus, the second part of the constraint expressed in (10a) is not satisfied and PAE is not felicitous. On the other hand, *do it / this / that* are felicitous in such contexts, the choice between them being made on the basis of considerations of accessibility/givenness under conditions closely resembling those governing the choice between simple *it / this / that*.

Given this, it should be noted that *do that* (and to a lesser extent *do it* and *do this*) can be used to suggest that the point of the utterance goes beyond a simple choice between the members of the set of alternatives, without explicitly indicating what is at stake. For example, in (11), if B simply uttered *He does that* as an answer (without an additional adjunct as in (13)), it might be taken to suggest that the person referred to as "he" has some other activity contrasting with shopping in women's that she intends to discuss. Or, she might be suggesting, with appropriate intonation, an implicit evaluative comment of the '*Can you believe it?!*' type. Thus, in these and subsequent examples in this paper, any cross-hatch before *do that* (or before *do it / this / that*) should be interpreted as indicating *either* infelicity *or* the presence of a clearly different contextual effect from simple choice between alternatives effected by PAE.

As opposed to actually asserting p , having p as background information in the context causes PAE to become infelicitous and makes *do it / this / that* possible, as in (14a) (adapted from an attested COCA example) where p = "Jake named a dragon after you" is in a relative clause. If we turn the relative clause into an asserted main clause as in (14b), PAE becomes felicitous and *do it / this / that* become less felicitous.

- (14) a. A: The dragon Jake named after you is a real beauty.
 B: He didn't do that.
 Compare #*He didn't*.
- b. A: Jake named a dragon after you.
 B: He didn't.
 Compare #*He didn't do it / this / that*.
- c. Susan is furious over Jake's naming a dragon after you.
 (i) He didn't.
 (ii) He didn't do that.

There are cases, though, where what might seem to be an unasserted proposition p does allow the use of PAE, as in (14c). The question here hinges on the criteria chosen for defining an assertion. Following a suggestion by Francis Cornish (p.c.), we can use Erteschik-Shir's "lie test" (cf. Erteschik-Shir 2007, pp. 39 and 164), as a criterion: if it is felicitous to contradict a phrase or clause in a previous utterance by saying *that's a lie, she/he/... didn't* then that phrase or clause is asserted in that utterance. If the contradiction is infelicitous, on the other hand, then the phrase or clause corresponds to backgrounded and not asserted information. Under normal circumstances, an utterance of a declarative main clause is always interpreted as an assertion in this sense.

This is why *do it / this / that* are infelicitous as an answer in (14b) (except in the cases mentioned above where the point is to go beyond simple choice among the alternatives). On the other hand, the proposition p = 'Jake named a dragon after you' is expressed as a gerund-participial clause in (14c). Depending on the context of utterance, it might or might not be felicitous to contradict it, e.g. by saying *That's a lie, he did no such thing*. This explains why (14c) allows both PAE and *do it / this / that*.

Turning back to (14a), it is clear that trying to continue it with *that's a lie ...* would be completely infelicitous. Such an example cannot be interpreted as asserting that Jake named a dragon after you, and this explains that PAE is infelicitous.¹⁰

¹⁰As Anne Jugnet (p.c.) points out to us, the fact that a p is presupposed (in the classical technical sense) does not automatically make PAE infelicitous. For instance, in (14c) the gerund is presupposed and similarly for the complements of factive predicates as in:

(i)A: *I'm sorry that I can't solve this problem.*

B: *Yes, you can/I'm sure you can do it.*

Thus we conclude that a proposition can be both presupposed and asserted in the relevant sense.

2.1.2 Questions

Asking a polar question with p as content makes the p vs. $\neg p$ choice salient and an answer using PAE chooses one member of the set. This context accounts for a large number of uses of anaphoric PAE such as (15).

- (15) A: Senator Brown, does this bill end too-big-to-fail?
 B: Yeah, it does. [COCA]
 Compare #*Yeah, it does it / this / that.*

Note that in this configuration *do it* and *do this* are again infelicitous, and *do that* triggers the specific contextual effects mentioned above (for instance, *do that* becomes as felicitous as PAE if B's answer continues as follows: *Yeah, it does that. But it also leads to some serious problems for the federal budget in the near future.*).

2.1.3 Permission

A request for permission to make p true (16a), or advice about whether or not to make p true, or directly evoking the possibility or necessity of p (16b), where p is an event under control of the speaker (and possibly other participants including the addressee), makes the p vs. $\neg p$ choice salient and thus makes PAE felicitous. Note that here too, *do it / this / that* would be infelicitous.

- (16) a. 'Can I go now?' he asked. 'Of course you can.' [COCA]
 Compare #*Of course you can do it / this / that.*
 b. A: Before I leave FAO Swartz, there's just one thing I
 really, really have to do. May I?
 B: Of course. [COCA]
 Compare #*May I do it / this / that?*

2.1.4 Directives

Uttering a directive with the propositional content p makes the choice between compliance and non-compliance salient. Anaphoric cases of this type are illustrated in (17). Note again that the variants with *do it / this / that* are less felicitous.

- (17) A: Come here.
 B: No, I won't. [COCA]
 Compare #*No, I won't do it / this / that.*
 (18) A: Let's load it up for you.
 B: Please do. [COCA]
 Compare #*Please do it / this / that.*

- (19) A: Go ahead.
 B: May I? [COCA]
 Compare #*May I do it / this / that?*

2.2 Anaphoric Subject-Choice PAE

Anaphoric cases of Subject-Choice PAE are felicitous if the property denoted by the antecedent of the ellipted material is salient in the discourse context. This is illustrated by (20a, b), the relevant properties being the property of cheering and the property of saying something. Note again that *do it / this / that* are dispreferred in these contexts.

- (20) a. The boys cheered. I did too. [Compare #*I did it / this / that too.*]
 b. She didn't say anything, and I didn't either. [Compare #*I didn't do it / this / that either*]

3 Exophoric uses of PAE

First, a word on data. One of the discoveries that led to our writing this paper was that it is possible to find not just endophoric but also (though this sounds implausible) exophoric instances of PAE in large corpora. Most of the data discussed in this paper come from the extremely useful COCA corpus.¹¹ COCA examples are explicitly marked as such. They were obtained by systematic searches on patterns we thought were likely to yield examples of exophoric PAE, on the basis of the suggestions in the literature and the results on endophoric PAE reported in Miller (2011). Figuring out what the nonlinguistic context was had to be done by hand, as it were, through a sensitive reading of the context and the application of common sense. Further data in what follows are the result of doing controlled manipulations of COCA examples to pinpoint the relevance of certain factors and to make certain intuitively judged contrasts clear. We have used a few invented examples to illustrate cases that we think are acceptable but for which no attested examples could be found.

3.1 Exophoric Auxiliary-Choice PAE

3.1.1 Nonlinguistic context can't assert

Non-linguistic evidence provided by the context for the truth or falsity of p does not make the p vs. $\neg p$ alternative accessible in the same way as asserting p does. In other words, the mere fact that p is obviously

¹¹The Corpus of Contemporary American English [COCA; available online at <http://www.americancorpus.org>] contained, at the time when this paper was written, 425 million words from 1990 to the present. Like all other scholars using it, we are greatly indebted to its creator, Mark Davies.

true does not place p on the table. This explains why it is that mere situational or behavioral indications of the truth of p do not make an exophoric PAE of the following type felicitous:

- (21) [Context: You are doing Toyota jumps and showing other signs of glee]
 #I'm glad you are!

It is thus in general impossible to find exophoric cases corresponding to the endophoric cases of section 2.1.1. And this is what explains the anomaly in (3): the non-linguistic context of Sag raising a cleaver simply cannot raise to salience the choice between “Sag regularly mutilates himself on stage during lectures” vs. “Sag does not regularly mutilate himself on stage during lectures,” so the PAE in (3) is anomalous.

As pointed out to us by Philip Hofmeister, non-linguistic communicative acts (considered as such by the addressee on the basis of recognition of a communicative intent, cf. Grice (1957), who already discusses non-linguistic cases) can parallel linguistically expressed assertions. This explains the acceptability of the following interesting apparent counterexample proposed by an anonymous reviewer:

- (22) [Context: Fred is filthy, and has passed out on the sidewalk. Tom and Bob recognize him. Tom looks at Bob and taps his left forearm twice, clearly suggesting the possibility that intravenous drug use is implicated.]
 Bob: Does he? Does he really?

Clearly, in a case like this, Tom has a communicative intent (note “looks at”) and Bob recognizes it as such. The situation would have been exactly parallel if Tom had said *He's using intravenous drugs*. Note also that this non-linguistic communicative act passes Erteschick-Shir's lie test just as well as the spoken variant: both could have been followed by *You're lying, he'd never touch drugs*. The difference with (21) is that in that example the signs of happiness are not interpreted as having a communicative intent (the lie test fails), at least under normal circumstances. If there is any reason to believe that there is such a communicative intent — e.g. if the person making the signs is an expert mime playing the role of a deaf-mute — then (21) becomes more acceptable.

3.1.2 Nonlinguistic context can't ask questions

Similarly, the non-linguistic context cannot generally simulate a yes/no question speech act. Thus, once again, it is not surprising that we do not find exophoric variants corresponding to the endophoric cases in

section 2.1.2.¹²

3.1.3 Permission

By contrast, a p vs. $\neg p$ alternative can definitely be made salient via a request for permission to do something in a situation where the course of action that the speaker is considering is obvious from the non-linguistic context and is under the speaker's control. In such cases there is a clear fork point in the future and PAE is felicitous, forcing the addressee to choose one branch of the alternative. This is illustrated by Schachter's *May I?* example given in (6b) above. We found 17 clear examples of this type in the spoken section of COCA, as opposed to 9 clear examples of anaphoric uses of the type (16b), as well as the following example of *Can we?*:

- (23) The aisles at the Lakewood Wal-Mart are surprisingly packed at 11 p.m. 'Can we? Can we?' Vanessa tugs at her mother, pointing to a rack of 'Lady and the Tramp' DVDs. Diaz shrugs. OK. [COCA]

Though we have found no examples in COCA, it seems pretty clear that other phrases such as *Can I?*, *Could I?*, *Could we?*, etc. are all acceptable in similar contexts. One can also easily imagine various forms with indirect interrogatives, e.g. *Do you think I can?*, *Do you think we could?*, etc.

Similarly, if the speaker asks for advice on whether or not to do something, or proposes to do something, again in a situation where the course of action that the speaker is considering is obvious from the non-linguistic context and is under the speaker's control, a p vs. $\neg p$ alternative is made salient and PAE is felicitous (note that the action may involve not only the speaker but also the addressee and/or other participants). This is illustrated by examples of the *Should I?* type proposed by Pullum (2000), illustrated in (24a) and in the constructed example (24b) with *Do I have to?* Proposals are illustrated by Schachter's *Shall we?* example, given above in (6a).

¹²Cornish (1999:126) provides the following example from his own experience, and considers it (correctly, we think) to be exophoric. A departmental secretary was about to leave at the end of the working day. The photocopier was supposed to be turned off at night, as was well known. The secretary gave "a quizzical look" toward the photocopier and then toward Cornish, who happened to be the last person in the office that evening. Cornish said: "I will, don't worry!" Note that it is the quizzical look towards the photocopier, and the local policy, which made the alternatives ("turn it off" vs. "not turn it off") salient in a way exactly parallel to the yes/no question in (15). This example is thus very similar to (22) in that it involves a non-linguistic communicative act. On the role of "quizzical looks" and other factors that can boost the salience of abstract entities, see also Gundel et al. (2003).

- (24) a. Once in my room, I took the pills out. “Should I?” I asked myself. [COCA]
 b. [Entering a construction site, A hands a helmet to B].
 B: Do I have to?

One might object that (24a) represents an internal monologue, so the speaker would have a linguistic antecedent available in an earlier thought and it is therefore not a clear exophoric case. But note that the example seems to remain felicitous if one replaces *myself* by *him*, imagining that the speaker is holding the pills in her hand. In similar contexts, one can easily imagine utterances like *Should we?* or *Dare I?* or *Dare we?* or *Shall we?* — and again, some of the indirect interrogative variants (like *Do you think I should?* or *Do you think I have to?*) are clearly acceptable.

It should be emphasized again that in all of the cases discussed, PAE would have been just as felicitous if the course of action, for which the speaker requests permission or advice, or makes a proposal, had been conveyed by linguistic means, making the examples anaphoric. For instance, in (23), Vanessa might have said *I want to buy a DVD. Can we?* There is nothing special about these exophoric instances.

3.1.4 Directives

Another type of case where exophoric PAE is felicitous involves situations where it is obvious that the addressee(s) (or the addressee(s) and some other participants) has performed an action, or is performing it, or is about to do so, and the speaker utters an opinion about whether they should or should not have done so (or be doing so, or do so). This makes explicit that there were/are two options available, p or $\neg p$. Thus the speaker’s very utterance forces the addressee to accommodate the p vs. $\neg p$ alternative and makes it salient. This situation covers the second major group of regularly occurring exophoric cases of PAE, which include Hankamer & Sag’s *Don’t!* and *You didn’t!*, Schachter’s examples *You mustn’t!*, *You shouldn’t have!*, *Please do!*, *How could you?*, and Pullum’s examples *You wouldn’t!*, *Don’t you dare!*, and *Must you?* These are illustrated in the following examples.¹³

- (25) Mabel shoved a plate into Tate’s hands before heading for the sisters’ favorite table in the shop. “You shouldn’t have.” She meant

¹³Philip Hofmeister (p.c.) points out to us that imminent possibilities might be added as a possible context, as in a situation where two people are watching a race and the participant in whom they have a special interest becomes more likely to beat his opponents. One of them might say *He just might!* This is a variant of our directives context, where it is obvious that some other participant is about to perform an action.

it. The sisters had to pool their limited resources just to get by.
[COCA]

- (26) When the rain began on Thursday, I simply had the kids throw on slickers and use plastic grocery bags to cover backpacks. I rode with them to school, for solidarity, but when we pulled up, an upperclassman looked at them, then me, and said half-accusingly, “How could you?” Our family experiment had suddenly gone from cool and hip to strange and compulsive. [COCA]

The speaker can also comment on his or her own actions or on the actions of a group in which he/she is included: *I musn't!*; *I shouldn't have!*; *How could I!*.

- (27) She phones him very early the next morning. I'm so sorry, V., she says. You're not half bad at it, S., he says. Pulling people's strings. I know, she says, I shouldn't have. You made me feel, he says, like a piece of dirt. Yes, she says. I'm terribly sorry. [COCA]

Finally, though it is harder to find naturally occurring examples, the speaker can comment on the actions of a 3rd person participant if the situation is sufficiently clear, as in the following example.

- (28) Vonnie's first words to her [= Giselle] were “That fucking bastard. How could he?” Confused, Giselle turned to look behind her and then realized that Vonnie was referring to her eye. The shiner... [COCA]

To conclude the discussion of sections 3.1.3 and 3.1.4, it is crucial to note that in all of these cases replacing PAE by (*do it / this / that*) while keeping the context identical makes the examples infelicitous and in some cases uninterpretable:

- (23') #Can we do it / this / that?
 (24a') #Should I do it / this / that?
 (24b') #Do I have to do it / this / that?
 (25') #You shouldn't have done it / this / that.
 (26') #How could you do it / this / that?

This further confirms that the choice between PAE and *do it / this / that* is not free in discourse. When the appropriate discourse conditions are met, PAE does not simply become a possible alternative for the deep anaphors; rather, it is the preferred choice or even in some cases the only possible choice.

3.2 The role of explicitly stated alternatives

At this point, it is worth coming back to the cases discussed in section 3.1.2, asking why a putative case of exophoric PAE of the type illustrated in (29) is systematically infelicitous (in the absence of some non-linguistic communicative act of the type in (22)).

- (29) a. #Does he?
 b. #Did he?

Indeed, one might suggest that by asking the question the speaker forces the addressee to accommodate a p vs. $\neg p$ alternative, making it salient in a way similar to those illustrated in sections 3.1.3 and 3.1.4 above. The problem here is that nothing in the context makes the relevant proposition p accessible to the addressee in a way parallel to what we saw with cases of requesting permission or advice or giving directives. This then leads us to the question of why Schachter's Clairol ad example (30a), which provided the title for his 1977 paper, sounds far better than the simpler (30b), which we judge to be infelicitous.

- (30) a. Does she or doesn't she?
 b. #Does she?

By explicitly setting up the alternative linguistically, the speaker makes explicit a partition of the possibilities and imposes exhaustivity. A search on this type of example shows that Hankamer (1978) was only partially right in claiming that the felicity of the example is due to taboo avoidance and that "The common meaning of the expression in question, of course, is 'Does she or doesn't she screw?'" (Hankamer 1978: 68), the Clairol ad being a deliberate evocation of this idiomatic meaning. But Hankamer is wrong. Consider the following attested example:

- (31) Brock, 27, an advertising rep, adds, "Downloading porn isn't as good as sex, but at least I don't have to stress about pleasing her or worry, Did she or didn't she? It's self-centered, but hey, I'm a guy. That's how we think sometimes." [COCA, from *Cosmopolitan* magazine]

This example is clearly exophoric and involves avoidance of talk about sex, but the meaning is not that suggested as idiomatically fixed by Hankamer, but rather, clearly, 'Did she or didn't she achieve orgasm?' More interestingly, it appears that similar examples are possible without any reference to sexual matters. Consider the following examples:

- (32) a. More to the point, the committee uncovered no evidence linking Palmeiro to steroids use before the hearing. The committee's report, in fact, provides information that could be seen as supporting Palmeiro's contention that he never intentionally – his word – used steroids. At the same time, the report raises questions that create doubt about his stance. In the end, the conclusion one draws from the evidence, having nothing to do with the date of the hearing but with the overall question – did he or didn't he? – will probably vary with the individual viewing the evidence. [COCA, from *The New York Times*]
- b. #...having nothing to do with the date of the hearing but with the overall question – did he? – will probably vary with the individual viewing the evidence.
- c. More to the point, the committee uncovered no evidence linking Palmeiro to steroids use before the hearing. In the end, the conclusion one draws from the evidence, having nothing to do with the date of the hearing but with the overall question – did he or didn't he? – will probably vary with the individual viewing the evidence.

Though (32a) is endophoric, strictly speaking, several points are worth noting. First, replacing the explicit alternative with simple *did he?* as in the constructed variant (32b) clearly makes PAE much less felicitous. This is largely due to the distance between the antecedent (*used steroids*) and the ellipsis site which makes the antecedent insufficiently salient.

Furthermore, it would be possible to remove two sentences in (32a), including the antecedent (*used steroids*), as in (32c), without making the example infelicitous because the segment *evidence linking Palmeiro to steroids* can serve as an antecedent-trigger allowing one to infer the necessary the antecedent (*use steroids*).

What all of this shows is that PAE is really not working under its usual anaphoric conditions in these cases (and clearly could not be analyzed as a surface anaphor in the (32c) variant). Rather, it is accessing the overall cognitive representation (what Sag and Hankamer (1984) call the discourse model, cf. also Cornish (1999)) that the addressee constructs on the basis of discourse and, in the general case, extralinguistic contextual information.

It is interesting to note in this context that we have found several cases where an explicit alternative of this general type (Aux + Pronoun + *or* + Auxn't + Pronoun?) is used as a title or section head in the

press or in information broadcasts. For example:

- (33) Arol Costello, CNN anchor: Will he or won't he? Convicted sniper John Allen Muhammad has been subpoenaed in the trial of alleged accomplice Lee Boyd Malvo, but it is not certain whether he will testify. [COCA: CNN LiveDaybreak]

Such examples are not really cataphoric to the body of the article. Rather, they are a rhetorical device aiming to capture attention by puzzling the reader or addressee. But it should be noted that once again the conditions have to be respected: replacing the explicit alternative by simple *Will he?* makes the title infelicitous, no matter how arrestingly puzzling it might be.

3.3 The relevance of taboo avoidance

Let us now return briefly to Hankamer's idea, mentioned in the previous subsection, that avoidance of taboo topics can exceptionally license exophoric PAE. An example like the following, with a clear case of exophoric PAE after *to*, suggests that there is something correct about this.

- (34) I became aware of what she was doing slower than a sixteen-year-old should have. That she saw me looking changed nothing. On the beanbag, naked, she turned to me and said very simply: Do you want to? [COCA, from *Harper's Magazine*]

However, that does not license us to just dismiss such examples as idiomatic and irrelevant. In other cases, taboo avoidance will be achieved by *do it* rather than PAE. For example, in a context where *A* is a close friend of *B* and *A* knows that *B* went on a date with *C* and that *B* was hoping to have sex with *C*, *B* could start a conversation with *A* on the following day by saying (35a). On the other hand, (35b) would be infelicitous as there is no salient alternative in the context.

- (35) a. We did it!
b. #We did!

It is not simply the case, then, that taboo avoidance makes PAE more likely. It makes anaphoric and elliptical constructions more likely in general. But the choice between PAE and *do it* is based on the same factors as usual in such contexts. Note, in particular, that in (34), we are in a case of the type discussed in section 3.1.3, which we have shown makes exophoric PAE felicitous.

3.4 Exophoric Subject-Choice PAE

As mentioned above, anaphoric Subject-Choice PAE requires a property to be salient in the discourse context. In general, non-linguistic context cannot make a property salient enough.¹⁴

Suppose A is struggling silently to get the lid off a jar, and having no success. It would be unacceptable — indeed, bizarre — for B to say, *Oh, I can; give it to me*. To make it acceptable, somehow the specific property $\lambda x[x \text{ can open the jar}]$ has to become salient in the discourse. It is not simply that someone has to say something; (36) would be just as bizarre:

- (36) [Context: A is struggling to get the lid off a jar.]
 A: They put these damn things on way too tight.
 B: #*Oh, I can; give it to me.*

What has to happen is that the specific property $\lambda x[x \text{ can open the jar}]$ has to become a salient recent part of the discourse, e.g. like this:

- (37) [Context: A is struggling to get the lid off a jar.]
 A: I can't open this damn jar. (property: being able to open the jar)
 B: *Oh, I can; give it to me.*

Here B's utterance is entirely felicitous. It provides a clause with a new choice of subject and asserts that this new subject denotes someone with the salient property.

Schachter (1977) noted one (invented) exophoric case of this type: on seeing someone accomplish something daring one can say, *If you can, I can*. (Note also *I will if you will*, cited in Jacobson 2008: 86.) Here the saliency-enhancing device is in the linguistic material of the PAE utterance itself: what is said has the logical form *if f(x), f(y)*, setting up an explicit alternation between subjects. That is not at all the same as uttering something like *I will*, which would be unacceptable. In its very form, by contrasting $f(x)$ with $f(y)$, it focuses on the choice of subjects and makes the property f salient and thus accessible.

In the jar-lid context discussed above, B could felicitously say something like *Well if you can't, I bet I can* even if A didn't speak.

Once again, contrary to what Hankamer suggests, there is no fixed expression here; numerous variants are possible. Consider this vignette:

¹⁴Independent evidence for the fact that non-linguistic context is usually incapable of making a property salient comes from Ward (1988), who claims that fronting requires a salient open proposition and argues that the reason fronting cannot be used discourse-initially is that non-linguistic context cannot satisfy that requirement.

(38) [Context: *A* and *B* have been eating cherries; a single cherry remains.]

A to *B*: If you don't, I will.

This seems felicitous. But it is the presence of the explicit alternation between subjects that is crucial to achieving felicity. Replacing *B*'s utterance by *I will* would be highly infelicitous.

Finally, it should be noted that in cases like (38), it appears to be possible to get full NP subjects in exophoric PAE. We believe full NPs are infelicitous in endophoric and exophoric Auxiliary-Choice PAE because the alternative situations p and $\neg p$ (which share the same subject) must be highly salient. When this is true, the referent of the subject will also be highly salient in the context, and that will tend to make reference to it by a pronoun the only felicitous possibility (cf. Gundel et al. (1993)). However, there are contexts in which a non-pronominal subject NP can occur in an exophoric PAE utterance. Suppose a third party, Jane, had been enjoying the above-mentioned cherries but had left the room for a minute, and imagine this:

(38') *A* to *B*: If you don't, Jane will.

Examples of the type in (38) suggest a variant on (37) which seems to improve simple Subject-Choice *I can*. Imagine a situation where a group of friends come to a stand at a fair where you are supposed to try to knock down an arrangement of cans by throwing a single baseball. In this case, the stereotypical context of a game based on throwing skills seems to make the property of knocking down all the cans more accessible, and it seems marginally possible, though still not very likely, that one of the group might start a conversation saying (39).

(39) I bet I can.

However, imagine that four members of the group have tried the game and none has yet succeeded. The repetition of attempts with an alternation of players appears to have an effect similar to that discussed in (38), and it would seem much more felicitous for a fifth member of the group to utter (39) at that point. The repeated attempts have raised the discourse profile of the property of knocking down all the cans.

3.5 Exophoric PAE as the ellipsis of *do it*

We would now like to compare our analysis of exophoric PAE to what is, to our knowledge, the most extensive discussion of the phenomenon in the literature since the 1970s, namely that of Merchant (2004), pp. 718-23. Merchant (p. 720) makes the following claim:

In all cases [...] the elided VP is [_{VP} *do it*]. The meaning of this VP is licensed by the discourse relevance of some action; it need not have a determinate propositional content, if by determinate we mean that the hearer can determine precisely what the speaker had in mind [...]. What is linguistically relevant is that actions and participants in those actions can be raised to enough salience to resolve the anaphora involved in the VP expression *do it* (whatever *it* refers to here). Under these conditions, this VP may also be elided, yielding the above examples [i.e. his examples of exophoric PAE, PhM&GKP.]

Merchant attempts to explain the frequent difference¹⁵ in felicity between the unellipted version with *do it* and the PAE version by suggesting (p. 721) that ‘with *do it*, a hearer must accommodate the presupposition associated with the pronoun *it*; in general, this is easily done, and this form of anaphora [...] can be (merely) pragmatically controlled, fairly uniformly across speakers. VP-ellipsis, on the other hand, requires satisfaction of a different presupposition (of e-givenness, on the theory assumed here [...]).’

The idea is thus that PAE must satisfy both the usual constraints on *do it* and a further presupposition of e-givenness, and is thus more constrained. Merchant defines e-givenness as follows (p. 672): ‘an expression E is e-given iff there is an antecedent A which entails E and which is entailed by E, modulo \exists -type-shifting’.

These proposals raise several problems. First, the essence of the original objection to Schachter (1977) by Hankamer (1978) remains applicable to a certain extent: if the non-linguistic context can provide an appropriate antecedent for *do it*, then it is unclear why this antecedent cannot further serve as the ‘A’ in Merchant’s definition of e-givenness and consequently license PAE in all cases. Second, and more crucially, it completely fails to account for one of the central facts which we have discussed above, namely that in some contexts PAE is far more felicitous than *do it*, both in endophoric and exophoric uses, whereas in others, where the antecedent apparently has the same degree of accessibility, the opposite is true.

Consider the following further examples. In (40a), we exhibit an attested example from the soap opera *As the World Turns*; (40b,c) are invented variants.

- (40) a. [Context: Allie and Casey manage to lock Noah and Luke (who have been avoiding each other) together on a roof in a desperate attempt to get them to talk. When they realize that

¹⁵It is important to note that he assumes that the variant with *do it* will always be the more felicitous of the two, if there is a difference.

they have been trapped, the following conversation occurs.]

Noah: Please tell me they didn't.

Luke: They did.

(Compare Noah saying: *#Please tell me they didn't do it.*)

- b. [Context: similar to case (a) except that there are reasons to believe Alley and Casey might be homophobes.]

Noah: Please tell me they didn't do it because we're gay.

Luke: They did.

(Compare Noah saying *#Please tell me they didn't because we're gay.*)

- c. [Context: similar to case (a) except that it's not to get them to talk, it's just a joke Allie and Casey often play on Noah and Luke.]

Noah: Please tell me they didn't do it again.

Luke: They did.

(Compare Noah saying: *#Please tell me they didn't again.*)

It is very hard to see how Merchant's analysis can account for the fact that PAE is so much worse in (40b,c) than in the original (40a). We contend that it is impossible to claim that there is a difference in accessibility of the antecedent between these different cases (if anything, one would expect that the antecedent is more accessible in (40c), where it is an habitual event, than in (40a,b)). Thus, there is no reason to expect that the antecedent is less e-given in one case than another. But it is even harder to see how Merchant's analysis can account for the fact that the variant with *do it* is so much worse than PAE in (40a), since *do it* is supposed to have one less condition on its occurrence than PAE and the very possibility of PAE depends on the prior possibility of *do it*, from which it derives by ellipsis.

On the other hand, the discourse constraints on PAE proposed above in (10) explain the judgments on (40a,b,c) easily. In (40a), the context is one similar to the type discussed in section 3.1.4. It is obvious that the participants Allie and Casey have just performed an action (scheming to get Noah and Luke together on the roof and locking them on it). By uttering *they didn't*, Noah chooses one branch of the alternative p or $\neg p$, where p is the event in question, and forces Luke to accommodate the alternative. By uttering the imperative *Tell me they didn't*, Noah further invites Luke to violate Grice's maxim of quality by uttering an obvious untruth ('They didn't lock us on the roof'). This leads to implicatures of the type 'What they did is unbelievable.' In examples (40b,c) on the other hand, there is an adjunct (the non-contrastive *because we're gay* in (40b) and the contrastive *again* in (40c)), and the

point of Noah's utterance is no longer strictly limited to choosing one branch of an alternative (cf. (10a)). Rather, in (40b) the focus of the question is the reason for Allie and Casey's action and in (40c) it is the repetition. As discussed above in section 2.1.1, this makes the use of PAE infelicitous and that of *do it* felicitous.

The central flaw in Merchant's analysis is that it makes the choice between *do it* and PAE dependent on the accessibility of the antecedent (thus establishing a parallel with the choice of nominal anaphors as analyzed by e.g. Ariel (1990) and Gundel et al. (1993)). Now it is true, as discussed in Miller (2011), that PAE requires a highly salient antecedent. But what should make us immediately suspicious of this idea is that according to theories of accessibility and givenness, *it* requires a highly salient antecedent ('in focus' in the terms of Gundel et al. (1993)), as opposed to e.g. *this* and *that* (which require an 'activated' or 'familiar' antecedent in the terms of Gundel et al. (1993)), so that there is no reason to expect *do it* to allow antecedents that are other than highly salient (as opposed to *do this* and *do that*), cf. Miller (2011). Though it may be the case that PAE requires an even higher degree of salience of its antecedent than *do it*, it is highly unlikely that accessibility or salience of the antecedent is the crucial factor in the choice between PAE and *do it*.

To conclude this section, we would like to argue against one further hypothesis about the choice between PAE and *do it / this / that* that might be suggested, namely that more complex anaphoric forms are dispreferred in general due to something like the Gricean maxim of Quantity and that consequently there would be a dispreference for the more complex *do it / this / that* when you could do without the last word. Once again the contrast in acceptability between (40a) and (40b,c), in which a more complex form is obligatory despite the antecedent being at least as accessible, suggests that this idea is untenable.¹⁶

4 Conclusion

It was an intriguing suggestion by Hankamer & Sag that anaphoric devices come to us partitioned into deep (model-interpretive) anaphora, interpreted via the semantic discourse model built up in the mind of the hearer, and ellipsis, interpreted via access to the syntactic logical form of a sentence. The data that were used to support the suggestion stimulated a great deal of further study and made it appear that

¹⁶This idea is made even less appealing by the evidence in Miller (2011) showing that among (i) PAE, (ii) *do it / this / that*, and (iii) *do so*, it is the third that has the most stringent accessibility requirement, despite its being more syntactically complex than PAE.

exophora and endophora were strikingly distinct. What we have done here is to relate exophora to endophora more closely,¹⁷ explaining both the uncontroversial existence of exophoric Post-Auxiliary Ellipsis and the reasons for its apparent rarity.

The solution lies in seeing that anaphoric and elliptical devices develop highly specialized discourse functions and conditions. Exophoric uses of ellipsis are not banned by a general constraint from which exceptions can only be granted by idiomatization; but if they are to be resolved in meaning they have to meet the very same discourse conditions that they are required to meet when they are used anaphorically.

For nonlinguistic context to satisfy the conditions in the right way, while by no means impossible, is not easy. Hence the illusion of impossibility that misled Hankamer & Sag.

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¹⁷This goes in the direction of the general position defended by Cornish, following e.g. Bühler and Lyons, according to which there is no clearcut distinction between deixis and anaphora, the latter being dependent on the former (see Cornish 1999 chapter 2 for further discussion and references).

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