Indeterminacy, inference, iconicity and interpretation: Aspects of the grammar-pragmatics interface

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Abstract

Every utterance is processed both grammatically and pragmatically. Accordingly, in offering an account of linguistic phenomena, the burden of explanation may be on the grammar or on the pragmatics; and if on the grammar, the account may invoke one sub-module or another. We describe a number of examples where the overall theory is simplified if the account is switched from one (sub)module to another. Our main example concerns topic and focus fronting, where we claim that there are no dedicated Topic and Focus heads; rather, two semantically trivial heads, GAP and ΦON, can be exploited to front phrases which may be pragmatically interpreted as topic or focus.

Keywords: modules, modularity, explanation, resultatives, Split Signs, topic, focus, pragmatics, syntax, iconicity, inference, conditionals, NPIs, fronting

1. Introduction

In this paper, we consider a number of linguistic phenomena whose correct treatment raises potential demarcation disputes. Specifically, given some linguistic fact, should it be treated by appeal to the grammar or by appeal to pragmatics and, if the grammar is responsible, which component(s) — phonology, morphology, lexicon, syntax or semantics — should be invoked?

As background, we presuppose some version of modularity and sub-modularity in the various senses of Chomsky (1984), Fodor (1983) and, more particularly, Tsimpi and Smith (1998). That is, we assume that the mind is compartmentalised into a number of partially autonomous systems (modules), including “input systems” in Fodor’s sense, a language faculty in Chomsky’s sense, and a
variety of “quasi-modules”, including, \textit{inter alia}, a number faculty, a faculty of moral judgement, and so on, which jointly constitute a substantial part of the central system. Further details and discussion can be found in the references cited and in Smith (1999, in press). By “sub-modularity” we refer to the various parts of the Computational System for human language of Chomsky (1995).

We begin with an example of interpretive indeterminacy of the kind illustrated in (1) with its possible interpretations in (2), as opposed to (3), with its possible interpretations in (4):

(1) Nelson was blind in one eye
(2) a. Nelson was blind in his left eye
     b. Nelson was blind in his right eye
(3) Englishmen love Greeks more than Italians
(4) a. Englishmen love Greeks more than they [Englishmen] love Italians
     b. Englishmen love Greeks more than Italians love Greeks

It is intuitively clear that the choice of interpretations offered by (1) is not the responsibility of the grammar: it is a function of our encyclopaedic knowledge; whereas that in (3) may well be the responsibility of the grammar. The intuition is corroborated by the existence of independently needed syntactic structures underlying (4a, b) while no such structures underlie (2a, b).

We assume that these examples are straightforward, but data do not always wear their analysis on their sleeve so clearly. Moreover, it’s usually not a question of “either the grammar or pragmatics” but of “both the grammar and pragmatics”: every utterance of any sentence requires both a grammatical and a pragmatic analysis. Further, in every theory of grammar sentences are described in terms of more than one kind of representation; minimally in terms of phonology and syntax, at Phonological/Phonetic Form (PF) and Logical Form (LF), perhaps also at some morphological and semantic levels, and conceivably others. It follows that the intonationally distinct (5) and (6), with or without the parenthetical additions, are different sentences, just as are (27) and (28), on which we concentrate below:

(5) I don’t lend my books to (just) anybody  [Fall-rise intonation on “anybody”]
(6) I don’t lend my books to anybody (at all)  [High fall intonation on “anybody”]

Given all this, there are conceptual and empirical issues involving the allocation of responsibility for dealing with particular phenomena: both as regards the choice between the grammar and (pragmatic) interpretive processes, and as
regards the choice between the syntax, morphology, phonology, and semantics. That is, there are often alternative ways (some right, some wrong) of solving the equations in a ‘perfect’ system (one satisfying legibility conditions in the sense of Chomsky 2000a: 9, 2000b: passim).

To make clearer what is intended, consider some examples of the trading relations we are referring to, where there is possible variation in the responsibility of one part of a grammar vis-à-vis another.¹

2. Syntax or morphology?

The first example is provided by the division of responsibility as between morphology and syntax. In a discussion of blocking effects, Ackema and Neeleman (2001) raise the analysis of paired examples like driver of trucks and truck driver, where the same head-complement relation can be realised by a (syntactic) phrase or by a (morphological) compound. By contrast, only the syntactic sequence to drive trucks is possible, apparently blocking the morphological *to truck-drive. They argue that this asymmetry is due to a “competition” between syntax and morphology, in which the former is systematically preferred to the latter. Corroborative evidence in favour of this analysis is provided by the fact that comparable (morphological) N-V compounds are possible when there is no syntactic V-N structure with the same semantics. Thus to Chomsky-adjoin is acceptable, as the combination to adjoin Chomsky does not have the required meaning.

3. Syntax or phonology?

An example involving the relation between syntax and phonology is provided by Szendrői (1999), who argues that the syntax can be simplified by appealing to phonology. In the standard account of focus fronting (Brody 1990, Rizzi 1997), a phrase moves to the specifier of the Focus head on the left periphery of the sentence in order to check its [+focus] feature. In Hungarian clauses with Focus, phonological processes dictate that main stress falls on the specifier of Focus. Szendrői’s claim is that rather than being triggered by the [+focus] feature, fronting of a focussed phrase in Hungarian is triggered by the requirement that the focussed phrase be given main stress; the focussed phrase is thus constrained to move, and the uninterpretable [+focus] feature is redundant.

An example of a somewhat different kind, but still involving the relation be-

¹ The examples are illustrative; we do not necessarily endorse the analyses given.
between syntax and phonology, is given in recent work by Neeleman and Weerman (2000), who reanalyse the Head direction parameter. This is usually seen as involving a parameter within syntax, but they argue that its effects should be obtained rather by postulating that a language makes a parametric choice relating to the ordering of complements in relation to heads, where the parameter involves defining government according to either phonological or to syntactic requirements. Assuming that both phonological and syntactic information is accessible at the PF interface, they argue that there is some conceptual priority to using phonological information as definitional of the domain in which government, and hence the head direction parameter, is stated. In other words, syntactic information will only be used if phonological information is inadequate. Accordingly, they define head government in terms of an algorithm that yields prosodic domains from a syntactic bracketing. In English, this algorithm gives the correct result, and predicts the adjacency of the verb and its object. In Dutch and other OV languages, however, this algorithm would fail to accommodate any objects at all, and hence a more complex, syntactic, definition of the domain for head government is exploited.

4. Syntax or pragmatics?

The kind of trade-off we are discussing also covers the relation between syntax and pragmatics. For instance, secondary predication shows an interesting asymmetry between depictives and resultatives that has been ascribed to syntax,² but can be explained by appealing to pragmatics, and specifically to an iconicity requirement, as argued in Cormack and Smith (1999b). In particular, whereas depictives in English can be either subject-oriented or object-oriented, as in (7), resultatives can only be object-oriented, as in (8).

(7) a. John left the room drunk [Subject depictive]
b. John left the room unpainted [Object depictive]
c. John left Mary angry [Subject or object depictive]

(8) a. John licked the plate clean [Object resultative]
b. John laughed himself silly [Object resultative]
c. John ate his supper full [*Subject resultative: (8c) cannot mean “John ate his supper and as a result became full”]

² See, for instance, Neeleman (1994, ch. 4), and discussion in Levin and Rappaport Hovav (1995, ch. 2).
This asymmetry in English and many other languages has often led to the claim that subject resultatives are universally impossible. This is incorrect, as witness the Nupe and Chinese examples in (9), where in each case the secondary predicate is a verb rather than an adjective:

(9) a. *u gí nyagící funin
   he ate food be-satisfied
   ‘he ate the food till he was satisfied’

b. Taotao zhuí-lei-le Youyou le (Li, 1995: 256)
   Taotao chase-tired-Aspect Youyou PARTICLE
   ‘Taotao chased Youyou and as a result Taotao/Youyou got tired’

We do not have the space to present a full account here, but our explanation rests on the battery of assumptions listed below:

A. The existence of an asymmetric conjunction operator $\$, which may be phonologically null (Cormack and Smith 1994, Cormack and Breheny 1994, Smith 1999b).

B. Parametric variation in the distribution of this operator: in English it is head-initial, in Nupe it is head-final.

C. The categorial distinction between V and Adj.

D. A difference in event structure as between single events and multiple events.

E. $\$, like coordinating conjunction, is capable of being interpreted as giving simultaneous, sequential, or causal relations between the conjuncts (see Carston 1993).

F. A requirement on multiple event $\!\!P$ such that they are interpreted according to iconicity at LF.

The operator $\$ is used for a wide variety of constructions, including serial verbs and, in English, quasi-serials of the sort seen in (10a). The contrast between (10a) and (10b) simultaneously exemplifies the contrast between single and multiple events:

(10) a. John ran and fetched the paper/What did John run and fetch?
   [one event]

b. John both ran and fetched the paper/*What did John both run and fetch? [two events]

The analysis we suggest for depictives and resultatives is then illustrated in (11) and (12) respectively:

(11) a. John left the room drunk
'John left the room and John was drunk at the time'

b. John [[[[$[drunk]] [left the room]]]

(12) a. John ate his supper full (=8c))
   b. John [[[[$[full]] [ate his supper]]]

The iconicity requirement on resultatives means that (12) is iconically suitable for a depictive but not for a resultative. By contrast, the head-direction difference manifest in Nupe ensures that (13a), with the simplified analysis in (13b) is well formed:

(13) a. u gi nyagiici funin (=9a),
   he ate food be-satisfied
   'he ate the food till he was satisfied'
   b. [Process [[[State] $]]]

In this example, the State is given by a verb, but in Korean, for example, subject-oriented resultatives are available with adjective States. In general, subject-oriented V-V and V-A resultatives are grammatical wherever $ is head-final; the claim that they are universally unavailable is false.

There are many cases where the semantics or syntax can be simplified by exploiting pragmatics in ways that are, anyway, independently needed. One instance is provided by Breheny's (2000) "Strongest justified meaning hypothesis" - a pragmatic revision of Krifka’s (1996) "Strongest meaning hypothesis". In this context, "strongest" refers to the interpretation of a definite description, such as the windows, as equivalent to a universally quantified phrase, such as all the windows, rather than the weaker interpretation some of the windows. The examples in (14) provide a plausible basis for such an interpretation, as indicated by the elaborations in square brackets to the right.

(14) a. The burglar couldn't get in because the windows were shut [all the windows]
   b. Every farmer who vaccinated the cows he owns received a certificate from the Commission [all the cows]

By contrast, Breheny points out that such an interpretation is crucially dependent on context and knowledge of the world, as illustrated in the examples in (15), where the more plausible interpretation of the definite descriptions is precisely one equivalent to existential, rather than universal quantification:

(15) a. The burglar could get in because the windows were left open [some of the windows]
b. Every farmer who abused the cows he owns was prosecuted
   [some of the cows]
c. It was naughty of Johnny to feed the elephants chocolate
   [some of the elephants]

5. Syntax, or semantics, or pragmatics?

Lest it be thought that pragmatics is being used as a panacea, it is worth citing
at least one case where, by an appeal to some other domain, the pragmatics can
be left uncomplicated. In a perceptive paper, Larson, den Dikken and Ludlow
(1997) argue that the overall lexical and compositional semantics may be sim-
plicated by complicating the syntax of intensional transitives. Their argument in
favour of a syntactic account also pre-empts a possible alternative treatment
based on pragmatic enrichment of LF to obtain a representation of the propo-
sition expressed. Consider the relation between (16) and (17):

(16) John wants a unicorn
(17) John wants to have a unicorn

Despite the obvious syntactic difference between (16) and (17), Larson et al.
argue that (16) is equivalent to, and syntactically derived from, something very
close to (17), but with overt V-incorporation of have into want. Their argument
builds on the contrast between the examples in (18) and (19):

(18) a. John saw Eric Blair
    b. John saw George Orwell
    c. John saw a unicorn

Assuming that Eric Blair and George Orwell are the same person, (18a) entails
(18b) and, in our sad world without unicorns, (18c) must be false. By contrast,
(19a) does not entail (19b) and, even in a world without unicorns, (19c) may be
true.

(19) a. John thought that Eric Blair was in the garden
    b. John thought that George Orwell was in the garden
    c. John thought that a unicorn was in the garden

Both (17) and, more interestingly, (16), pattern for inference with the
opaque (19c) rather than with the transparent (18c). This is simply explained if
(16) underlyingly has a clausal complement as in (17). Further, there are several
other phenomena that are hard to explain unless (16) has a clausal analysis
parallel to (17), including the possibility of VP ellipsis, as in (20a). Such VP ellipsis requires a linguistic antecedent (Hankamer and Sag 1976); in this case, the retrieved VP is as in (20b) (Larson et al. 1997: 6):

(20) a. A: Do you want another sausage?
    B: I can’t [_{\text{VP } \emptyset}], I’m on a diet

b. A: Do you want to have another sausage?
    B: I can’t have another sausage, I’m on a diet

The clausal analysis of this and other cases of apparent transitive opacity leads to the claim that “All opacity can be assimilated to clausal complementation”.

This permits a dramatic economy in the overall power of the language faculty, as spelled out in Larson et al. (1997: 6).

6. Grammar or processing?

Finally, we consider two cases where the explanation for apparently linguistic data arguably falls outside both the grammar and pragmatics.

Consider children’s ‘repairs’ of the kind given in (21) which apparently violate the Communicative Principle of Relevance (Smith, 1989: 80-81, citing examples of Karmiloff-Smith): ⁴

(21) “This boy and girl are playing outside. He’s gone to the river and he’s going to catch some fish. So he tries to steal the girl’s bucket but she won’t... the girl won’t let go of it so he just grabs it out of her hand and the girl starts to cry.”

[child of 6 or 7 years]

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³There are exceptions of two kinds to this. In both kinds, the antecedent, although not linguistically overt, arguably exists as a representation. The first kind, mentioned by Hankamer and Sag (1976: 409, footnote 19), involves non-declaratives.

(i) [Hankamer brandishes cleaver, advances on Sag]
    Sag: Don’t! My God, please don’t!

Wilson and Sperber (1988) argue that non-declarative utterances are instances of interpretive use (see footnote 12). This entails that they are re-representations of already existing representations—in this case, Sag’s thought that Hankamer is going to attack him. The other cases (due to Deirdre Wilson, p.c.) are those where the antecedent, although not linguistically overt, is ostensively communicated:

(ii) A: (pushes a box of chocolates towards B)
    B: I really shouldn’t [_{\text{VP } T}].

Here too, we may assume that as A intends, B has formed a representation of A’s offer that B take a chocolate.

⁴The published version, Karmiloff-Smith (1992: 60), gives other examples.
If the Communicative Principle of Relevance demands that you get some extra cognitive effects in return for the burden of processing extra (or more complicated) material, it is hard to see why the child should repair the utterance from the simple and unambiguous she to the more complex the girl. Karmiloff-Smith herself suggests an explanation in terms of the "thematic subject constraint", but an adult would not necessarily eschew the pronoun here. Nonetheless, an explanation in terms of ease of processing is probably on the right lines. In particular, an antecedent must be accessible, both in terms of being not too far away, and in terms of syntactic accessibility. If the child has more stringent requirements than an adult in these matters, or is learning to take account of them, corrections are explicable. Possessives are not syntactically accessible, as witness the inability of it successfully to take the dog as its antecedent in (22):

(22) I felt lonely when I came home. I looked in the dog's kennel, but it wasn't there.

Presumably in (21), the child rejects the immediately preceding possessive as not an appropriate antecedent for a pronoun (note the use of the full noun phrase again after her hand later), and considers that the initial reference to the girl is too far away.

Our second example concerns adult processing. There are good grounds for requiring that and and if be analysed semantically exclusively truth-functionally, with no need to appeal to ambiguity. We have already mentioned pragmatic accounts of the apparent diversity of meaning of and. Despite the "paradoxes of material implication" (Smith 1983), we want an equally parsimonious account of if. We discuss just one of the "paradoxes" here. Consider (23), where (a), (b) and (c) are uttered by successive speakers A, B and C respectively, talking together:

(23) a If Montague is coming, the party will be a success.
   b If Montague is coming and Capulet is coming, the party will not be a success.
   c Montague is coming and Capulet is coming. 7

5 The "thematic subject constraint" is of doubtful validity. Ariel (1990: 19) reports that in a collection of texts she looked at, a pronoun is used (rather than a demonstrative or a definite description) to refer to a non-topic same-sentence anaphor almost 90% of the time.

6 Syntactic accessibility is determined by a variety of factors, possibly including scope possibilities and depth of embedding. As suggested by Ariel (1990: 225, footnote 2), it seems to correspond to the Keenan and Comrie (1977) hierarchy: Subj > DObj > Obj > Obl > Gen > OComp.

7 The somewhat unnatural form of (b) and (c) is to sidestep additional questions about constituent conjunction.
In standard logic, this example allows the derivation of the contradiction in (24):

(24) \[ P \rightarrow Q, \quad (P \& R) \rightarrow \neg Q, \quad P \& R. \]

Therefore \[ Q \& \neg Q^8 \]

Smith (1983) offered a pragmatic account. The idea was that the contradiction derived in (23) can be eliminated by a process of pre-emption, whereby a conditional with a conjoined antecedent takes precedence over one with a simple antecedent — assuming that the speaker C is conforming to the Communicative Principle of Relevance, then his utterance must be intended to be processed in conjunction with B’s utterance rather than A’s, since for A’s utterance to be used, a simpler statement, “Montague is coming” would suffice. We suggest however that the correct explanation is more general than this.

There are reasons for suspecting that the pragmatic explanation is not sufficient. First, consider a conversation of the same pattern as that above, but where the consequents in the (a) and (b) utterances are not incompatible.

(25) a  If Amahl is coming, we will need white wine
       b  If Amahl and Anne are coming, we’ll need an extra place setting
       c  Amahl and Anne are coming

Intuitively, C expects to convey as contextual effects of (25c) both that an extra place setting is needed, and that white wine is needed. The pragmatic account offered for (23) suggests that only the first consequence would be conveyed as a contextual effect. Second, the information provided in (a) to (c) of (23) and (25) might not be obtained in a single conversation. Instead, we can envisage that (a) and (b) are background knowledge, and (c) is newly obtained. In this situation, the Communicative Principle of relevance does not apply, but exactly the same inferences will be made as in the situation where the propositions are derived from a conversation.

It might be argued that propositions such as that in (23a) are simply false, if (23b) is true, so that no inferences should be drawn using it. However, intuition tells us that we do store and use generalisations that may, or are known to, have exceptions. Where the exception does not apply, the generalisation is useful. This might suggest that humans utilise a non-standard logic in their inference system, such that when conflict arises, as in the case of (23a) and (23b) in the light of (23c), resolution of the conflict is in favour of the conclusion drawn from the proposition maximising the use of the information supplied by (23c). The

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8 We have used the simplest possible representation that will demonstrate our problem. It is commonly the case that conditionals are correctly seen as involving universal quantification, taking scope over logical implication.
account would thus fall within the Central System.

We think this explanation is still insufficiently general. The *ceteris paribus* approach to conflicting generalisations in representation of knowledge is paralleled by “Elsewhere” conditions in representations in morphology and phonology (see for instance Kiparsky (1973), Anderson (1992: 132), Halle and Marantz (1993: §2)). An example is given in (26), where (26a) is the “Elsewhere” condition.

(26) a Vowels are non-nasal
    b Vowels are nasal in the environment /—Nasal

If the input information is that the vowel is in a /—Nasal environment, we get exactly the sort of conflict we had in (23) (the vowel is both nasal and non-nasal), and we require the same resolution (in favour of the maximum use of the input information). We suggest then that the “Elsewhere” or *ceteris paribus* exploitation of generalisations and exceptions is a general property of the storage and utilisation of information in the human brain, rather than being a principle belonging to any one (sub)module.

7. Syntax, semantics and pragmatics

We have adverted on a number of occasions to the greater simplicity of dealing with a particular phenomenon in terms of appeal to one component rather than another. It should be emphasized that in general ‘simplification’ is not quite accurate: it’s more a question of what is the right analysis. Consider **TOPIC** and **FOCUS**, on the informal interpretation given below.

**TOPIC:** what the clause is about

**FOCUS:** that portion of the sentence that could plausibly provide the “new” material in an answer to a question, or supplies contrastive information.

The difference can be (and usually is) marked intonationally, as indicated in (27) and (28):

(27) This tie, *Fred* bought

\[
\begin{array}{llll}
H & LH & H^* & L\
\end{array}
\]

(notation as in Pierrehumbert, 1980)\(^9\)

(28) *This tie, Fred* bought

\[
\begin{array}{llll}
H^* & L & H & L \\ H & L & H^% \\
\end{array}
\]

\(^9\) We use this notation for convenience only; we are not committed to all aspects of Pierrehumbert’s theory, according to which the representation in (28), for instance, would be ill-formed. We are grateful to Amalia Arvaniti for pointing this out to us.
Despite the widely accepted analysis in terms of two dedicated syntactic heads, Topic and Focus (Rizzi 1997, Chomsky 2000b:11), whose specifiers are to host the fronted phrases, we wish to claim that there are no such heads. Rather there are two different syntactic heads, each of which can be used to license inter alia either fronted topics or foci. The two heads are $\Phi_{ON}$ and $\text{GAP}$, and both license ‘fronted’ phrases (for further details, see Cormack and Smith 2000b). $\Phi_{ON}$ is morphologically incomplete, and has to be associated with the PF part of some other head. $\text{GAP}$ assigns [+Case], and is associated with a ‘gap’ (trace) in the TP. Their analysis is illustrated in (29) and (30):

(29) a. LF: $[\Phi_{ON} \text{IDENTITY} ]_{[\text{TP} \text{RED} [_{[\text{PAST}]} \text{VP} [_{[\text{BUY}]} \text{DNP THIS TIE]}]]}$
   b. PF: $[\Phi_{ON} \text{this tie} ]_{[\text{TP} \text{RED} [_{[\text{PAST}]} \text{VP} [_{[\text{BUY}]} \text{DNP THIS TIE]}]]}$

(30) LF: $[\text{GAP} \text{P} \text{DNP THIS TIE} ]_{[\text{GAP} \text{ID} ]_{[\text{TP} \text{RED} [_{[\text{PAST}]} \text{VP} [_{[\text{BUY}]} \text{DNP TRACE}]}]]}$
   PF: $[\text{GAP} \text{P} \text{DNP this tie} ]_{[\text{GAP} \text{ID} ]_{[\text{TP} \text{RED} [_{[\text{PAST}]} \text{VP} [_{[\text{BUY}]} \text{DNP TRACE}]}]]}$

Our analysis presupposes the “Split Signs” account, whereby the PF-part of some sign may be merged at a position distinct from that of its LF-part (Cormack and Smith, 1997, 1999a, 2000a). For current purposes, a traditional interpretation in terms of movement can be substituted for ease of interpretation.

It is clear from the representation in (29a) that the semantic value of $\Phi_{ON}$ is the identity element. Despite this apparently trivial semantics, its use may still play a role in pragmatic interpretation by manipulating the accessibility list, raising the salience of some object or proposition, on that list.

$\text{GAP}$ has two functions: it forces the insertion into the structure of the fronted phrase, and it guarantees the presence of a ‘gap’ in the TP (given by a trace), so that some theta-role is available for the fronted phrase to discharge. The effect is to produce an ‘argument-predicate’ structure, with the fronted element as the argument.

As there is no obvious greater simplicity in having $\Phi_{ON}$ and $\text{GAP}$ rather than having $\text{Topic}$ and $\text{Focus}$, we need evidence for our innovation. Consider in this context (31)\(^{10}\).

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\(^{10}\) A number of people have objected either that they do not share our intuitions as to the well-formedness of (31b) (and subsequent) examples, or that reliance on such ‘unnatural’ sentences vitiates our analysis. We remain unmoved. On the former point, it is sufficient that there be a consistent natural language (such as our own dialect) in which the judgements go as indicated; on the latter, it is frequently the case, in the hard sciences as well as in linguistics, that only ‘extreme’ examples are sufficient to decide between alternative theoretical positions. Dialects in which (31b) is impossible have a different lexical entry for nothing from that which we have.
(31) a. Nothing did I eat $t/T$ for breakfast\footnote{There are two varieties of trace possible. We argue in Cormack and Smith (2000b) that the higher type trace, shown as $T$, is needed to account for cases where a fronted quantifier is interpreted as reconstructed to the trace position. In the examples in (32), only the higher type trace is shown, because temporal phrases such as never before must be within the scope of $T$ (tense). For discussion and arguments for, or against, Semantic Reconstruction, involving introducing higher-type traces into representations, see Cresti (1995), Lechner (1998), and Sauerland and Elborne (1999).}

b. Nothing, I ate $e$ for breakfast

On traditional definitions, (31a, b) are both focus, but they clearly must have different structures: we claim that (31a) exploits the head GAP, and (31b) exploits the head $\Phi$ON. GAP is filled by an inverted auxiliary in negative inversion structures such as (31a) and (32a). In example (32), (32b) shows that the inversion cannot be into the C position:

(32) a. Never before have they $t_{aux}$ $T$ seen reindeer in the wild

b. He said that never before had they $t_{aux}$ $T$ seen reindeer in the wild

This provides some preliminary evidence for the need for two heads, neither of which is dedicated exclusively to the traditional focus (or topic). In fact, there is a wide variety of other kinds of evidence which point in the same direction. Consider the examples in (33) to (37), where the (a) examples use GAP and the (b) examples use $\Phi$ON. We have given a simplified logical representation to the right, and provided a paraphrase of one relevant interpretation below each example. The examples in (33) show that, with two quantifiers, there are scope differences depending on the choice of head:

(33) a. Nothing did everyone eat $t$ $\neg \exists [\forall$

(That is, there is no item that everyone ate, but everyone may have eaten something)

b. Nothing, everyone ate $e$ $\forall [\neg \exists$ (That is, no one ate anything)

c. Everyone ate nothing $\forall [\neg \exists$ (the only reading for most speakers)

The examples in (34) demonstrate that there are systematic differences in the licensing of negative polarity items depending on the choice of head. That is, fronting of nothing before GAP licenses Negative Polarity Items, fronting of nothing into $\Phi$ON does not:

(34) a. Nothing did anyone eat $t$ $\neg \exists [\exists$

b. *Nothing, anyone ate $e$

c. *Anyone ate nothing

The examples in (35) show that the choice of head can determine the ambi-
guity or univocality of the sentences containing them. That is, for (35c), the baby is to fast or, with interpretive use, there is nothing in particular that the baby must eat, but it may eat something or other. If the fronting were simply PF movement, the readings should be identical — they are not:

(35) a. Nothing must the baby eat $t/T$ $\Box [-\exists, or with an echoic interpretation, $\neg \exists [/]

b. Nothing, the baby must eat $e$ $\Box [-\exists

c. The baby must eat nothing $\Box [-\exists or with an echoic interpretation, $\neg \exists [/]

Comparable remarks pertain to the reconstruction effects illustrated in (36), where (b) and (c) have different readings. That is, if the gap is in a tensed subordinate clause, reconstruction is impossible, but with fronting induced by $\Phi_{ON}$, reconstruction, below say and the modal, is obligatory.

(36) a. Nothing did he say the baby could safely eat $t$ $\neg \exists [SAY [\exists

b. Nothing, he said the baby could safely eat $e$ $SAY [\exists [-\exists

c. He said the baby could safely eat nothing $SAY [-\exists [\exists or $SAY [\exists [-\exists

(the reading $\neg \exists [SAY[\exists...]' is possibly available for some speakers)

Finally, we even find differences in the licensing of parasitic gaps, as shown in (37). That is, parasitic gaps are licensed by $\text{GAP}$ but not by $\Phi_{ON}$.

(37) a. No letters did I file $t$ without reading $g$

b. *No letters, I filed without reading $g$

We think this range of empirical effects speaks in favour of our postulation of the two new heads, but there are also wider, theoretical, implications. In particular, the examples in (38) constitute evidence against the Copy Theory of movement that treats them as the same at LF. Yet, (38a) is well-formed and (38b) is ungrammatical: a mystery on the Copy Theory account (Chomsky 1995: 202). Comparable remarks pertain to the similar contrast illustrated in (34) with regard to the licensing of negative polarity items.

(38) a. Nothing must anyone eat $\Box [-\exists [\exists

b. *Nothing, anyone must eat $* \Box [-\exists [\exists

c. *Anyone must eat nothing $* \Box [-\exists [\exists

We argue that instead of Copy Theory, with or without movement in the PF component in addition, we need a form of “Semantic reconstruction” together with Split Signs.

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12 An utterance is used interpretively if it represents some state of affairs indirectly as an interpretation of someone’s thought or utterance (Sperber and Wilson 1995: 224ff.).
8. Conclusions

We began by presupposing notions of modularity and sub-modularity. We would like to finish by emphasizing the need for the working linguist to transcend such modularity. We do not mean that the concept of modularity in its various guises is misconceived: we still think it is essential. However, it is equally essential to avoid the dangers of specialisation that modularity can lure you into. It is too easy to be a grammarian or a pragmatist, a syntactician or a phonologist. One of the things we hope to have shown in this paper is that one needs a general overview drawing on all domains of the language faculty if one is going to select appropriately among possible treatments of even the simplest data.

References


