

"Nonsententialism" and the FLN*

Peter Ludlow
University of Michigan

1. Introduction

Recently there has been a significant amount of literature on the topic of so-called “nonsentential assertion”, but it has not always been clear what it is and what the importance of the topic is supposed to be.¹ In this paper I try to get clear – as best I can – on what the question is all about, offer a possible way to precisify the question, and see whether we can make any headway in finding answers to the question once clarified.

The initial form of the question *seems* simple enough. Some utterances look like full sentences – for example utterances of ‘Theatetus flies’, ‘My dog has fleas’, and ‘Colorless green ideas sleep furiously’ -- while other utterances seem to be, well, smaller. Examples include simple utterances of ‘Theatetus’, or ‘has fleas’, or ‘furiously’. It seems that the question is whether the simple utterances are sentences in disguise.

The problem is that none of these utterances come with their linguistic forms on their sleeves. What our grade school English teacher might tell us about “incomplete sentences” is not based on reliable science, and deducing the actual form corresponding to these utterances is a highly theoretical empirical question that is at the outer edges of our understanding in current linguistic theory.

We know that the sound wave produced in an utterance of ‘Theatetus’ is shorter than that produced in an utterance of ‘Theatetus flies’, but we can’t conclude much from that alone; we don’t know yet whether the language faculty (or, more plausibly, some related perceptual/articulatory system) pairs the phonetic form of an utterance of ‘Theatetus’ with a representation that is “sentential” – whatever ‘sentential’ might mean.

This leads us directly to the first confusion. In theory we can detach the question of nonsententials from talk of utterances. Generative linguists typically take linguistics to be the study of the grammatical knowledge that we have and they further suppose it is a theory of linguistic competence, not performance. The actual role of this linguistic knowledge in the production and perception of utterances (much less written language) is far from well established.

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¹For sample of recent work related to this topic see the papers in Eluguardo and Stainton (2005) as well as Bach (1994, 2000), Barton (1990, 1998), Carston (1988, 2000), Clapp (forthcoming), Fortin (forthcoming), Merchant (2004), Morgan (1973, 1989), Stainton (2005, 2006), and Stanley (2000).

We can sharpen this distinction in the following way. Hauser, Chomsky and Fitch (2002) have distinguished between the faculty of language narrowly construed (hereafter FLN) from the faculty of language broadly construed (FLB). Any investigation of the FLN is an investigation of the system that underwrites our grammatical knowledge in the sense of Chomsky (1986). It is not a theory of speech production but of linguistic competence, and the evidence typically consists of judgments of acceptability (not grammaticality or well-formedness) of linguistic forms. Precisely how this knowledge is exploited remains an open question.

According to Hauser, Chomsky and Fitch, the FLN is a module consisting of basic operations like recursion that provide an optimal solution for computing linguistic forms that are well formed at the Perceptual/Articulatory interface and the Conceptual/Intentional interface. In their terminology, it is a faculty which computes forms that are “legible” to these interfaces (more on what this means later in the paper). A computation that results in a legible representation without “crashing” is said to *converge*.

This immediately introduces a question about what these are legible or converging representations *of*. As we already saw it is not correct to talk of the PF and LF representations or corresponding pair <PF, LF> as being representations of utterances, but it is also peculiar to think of them as being representations of sentences in the relevant sense. For that matter, it is not clear that they are representations *of* anything. It is probably best to just think of them as successfully converging <LF, PF> pairs – pairs of data structures that are successfully computed by the FLN. More generally we could also call them Successfully Converging N-tuples, or SCNs for short.

While in theory we can dispense with talk of utterances, in practice it is not so easy to do so. We will want to talk about particular cases, but if we specify the cases by describing the convergent representations of SCNs we basically beg the question -- that is, a full description will either assign the representations sentential form or not, and at that point the discussion is over. Accordingly, we will use talk of utterances and utterance situations to make certain SCNs salient without establishing in detail their convergent forms at LF and PF, and allow us to ask questions about the representations they contain without question begging. For example, I will talk about an utterance of ‘Theatetus’ and raise the question of what its corresponding SCN might be like. This method of investigation is imperfect, since the link between utterances and SCNs is imperfect, but barring other public ways of designating the relevant SCN this is perhaps the best we can do.

Parenthetically, I should observe that there is no reason to think we have any introspective access to the structure of these SCNs. While we have access to these objects and, I assume, can judge their acceptability, it does not follow that we have introspective access to them under all descriptions – in particular descriptions involving levels of representation, computations, and convergent forms. That sort of description can only come as the product of scientific investigation.

Given this initial stage setting, there are still two questions we could be asking. We could be asking (i) does the FLN compute SCNs in which none of the converging representations have sentential form? This seems like a reasonable question – at least at first blush (as we will see in just a bit, the question is far from clear because we *still* haven't explained what 'sentential' means).

Alternatively we could be asking (ii) does the FLB use nonsentential utterances to communicate? This question is much less clear given that we are in the realm of utterances and it seems implausible to suppose that the FLB is constrained to only produce utterances that are related to the computations of the FLN. The FLB might deploy anything that can be used for communication, and we can use lots of things to communicate, from stick figures to snarls and rolled eyes. One way to restate the question (and show just how uninteresting it is) is by asking whether we can make noises to communicate things (for example anger or desires) even though those noises are not related in an interesting way to SCNs. It is hard to imagine that we can't (dogs certainly can), but so what?

Since I consider the first question about the FLN far more interesting I'll focus on it in the discussion that follows, but even this question stands in need of further clarification, since we still don't have any clear idea of what is meant by 'sentential', even in the context of the representations that are computed by the FLN. The category S in linguistic theory has sometimes been replaced by "functional projections" like IP (inflection phrase) and sometimes by CP (complementizer phrase), but the question of whether the FLN computes IPs or CPs or something else hardly seems to be an interesting question – we want to know whether those functional projections that it computes are special in some way. I suggest that we will be better off retiring the expressions 'sentence' and 'sentential' – or at least leaving them to our grade school grammar teachers -- and looking for a more useful way of describing the question that really seems to have people exercised. I think that the real issue is whether well-formed linguistic representations generated by the FLN have what I'll call "propositional form" at some level of representation. More precisely, the issue is really about whether the representations (data structures) of an SCN must include forms that correspond to the constituents of Russellian propositions – in this case a property or relation and the corresponding arguments of that relation.

Now of course if a linguistic representation has any parts at all there are going to be subpropositional parts, so the question might be reframed as follows. If, following Hauser, Chomsky, and Fitch, we think that the language faculty is designed to construct representations that are "legible" to the interface conditions, and if we suppose that one of the interfaces is with the conceptual/intensional system, the real question is whether an LF representation of an SCN must have propositional form in order for it to be legible.

Once we narrow down the question in this way – presumably just enough to make it intelligible – we again encounter the question of whether very much turns on it, given that the anti-sententialist view is that in the case of nonsentential utterances (notice that we have to slip back into talk of utterances to even set this up), representations with propositional form are not constructed by the FLN, but *are* constructed "downstream" by the pragmatics, via a series of processes that

has been called “free enrichment.” (See, for example, Sperber and Wilson 1986) I’ll argue that not much of *philosophical* import turns on the question, and that it is really an issue of book keeping within cognitive science – to wit: it is a question of whether the propositional form correlated with a so-called non-sentential utterance (or form) is constructed by the FLN or by other faculties in our cognitive psychology.

Now, there are a lot of assumptions required just to get this discussion in motion. First, we need to assume some version of the modularity of mind thesis – at a minimum the idea that there is a dedicated language faculty (the aforementioned FLN) which is tasked with generating representations that are legible to the conceptual/intentional system. We also need to assume that there are such things as propositions and that the contents of our thoughts are propositional in some sense. I won’t argue for any of those assumptions here. I’m just pausing to note that if the assumptions don’t hold up then the questions being discussed here fall apart very rapidly.

2. What is Propositional (Clausal) Form?

As I defined ‘nonsententialism’ above, it referred to the doctrine that the FLN computes SCNs in which *none* of the levels of representation have *propositional form*. Now, what does *that* mean? Per my suggestion earlier, let’s say that a propositional form is a syntactic representation in which, at a minimum, a predicate or relation and its arguments are all represented. We could also call this *clausal form*, and I will use ‘propositional form’ and ‘clausal form’ interchangeably in the discussion that follows. So, for example, given an utterance of ‘Theatetus flies’, a corresponding propositional form – if there is one -- would have a predicate ‘flies’ representing the property of flying, and a name ‘Theatetus’ representing that particular famous Greek (here we set aside the issue of whether there are argument positions for tense and other elements). It will be useful to lapse back into the unhappy talk of utterances for a second to illustrate this idea. Suppose you ask me who was the person who flies, and I answer by uttering ‘Theatetus’. The question we are interested in is whether, in the pair of representations $\langle \text{PF}, \text{LF} \rangle$ corresponding to that utterance, there is a representation – for example, the LF representation – that has syntactic representations for both Theatetus and some property – presumably the property of flying. If the answer is yes, then we say that this representation has propositional or clausal form.

I’ve cast this in terms of Russellian propositions and the assumption that such propositions contain individuals and properties, but this isn’t crucial to the story. One might prefer a story in which referential intentions replace objects or one may choose to replace properties with more benign entities. That’s fine so long as we still have a coherent corresponding notion of proposition, and some grasp of what its corresponding formal representation should look like.

Linguistic forms can also be more complicated of course. Consider again the form(s) associated with ‘my dog has fleas’. In that case the argument ‘my dog’ has a complex propositional structure of its own. There is a possession

relation, and there are arguments corresponding to me and my dog. This is presumably propositional – if not we could easily swap in a relative clause, which would clearly be propositional. A nonsententialist could happily agree that nonsententials *contain* elements that are propositional and still remain nonsententialists, so we need to clarify.

Let's say that the crucial issue here is whether a converging (i.e. legible) LF representation in an SCN must have (not merely contain something with) propositional form – another way to put this is to ask whether it must be of type *t* in categorial grammar, or whether it can be something smaller (type $\langle e,t \rangle$ for example, or perhaps $\langle \langle e,t \rangle, t \rangle$).

From here on I will use the term 'sententialist' to speak of someone who thinks that an LF representation must have propositional or clausal form, and I will use the term 'nonsententialist' to speak of someone who rejects this idea. I will use the terms 'sententialism' and 'nonsententialism' to speak of the corresponding doctrines. From time to time I will speak of utterances and situations involving those utterances, but only as a way to make clear the relevant SCN while leaving open the correct analysis of the SCN (i.e. whether its LF representation has propositional form).

3. Does it Matter?

If the issue of non-sententialism is clarified in this way – replaced with talk of propositional form – we immediately face the question of whether anything turns on the answer. Here is why one might think it isn't a very interesting question; if one adopts a Sperber and Wilson approach to pragmatics, then something with propositional form is constructed at the end of the day anyway – it won't be constructed by narrow syntax (the FLN or whatever you want to call it) but will be the product of what we might call "wide syntax".

Something might have turned on the issue if we were Griceans about our pragmatics, so that the process of "free enrichment" involved general principles of rational communicative behavior or cooperative behavior, but I always think of the Sperber and Wilson notion of free enrichment as being more mechanical.

Even if one is a Gricean it's not entirely clear what the difference would be – you come to entertain a proposition at the end of the day. Sometimes we suppose that semantics is where the rubber meets the road, so you can only run metaphysics off of the pre-pragmatic semantics, but this is an unargued assumption that has never been seriously defended.²

So we are left with this: it looks like this is a matter of bookkeeping in cognitive science. Is the construction of a propositional form driven by narrow syntax, or does the construction happen further downstream (wide syntax)? Not much turns on this for the philosopher, but it is an interesting question, not least because, as I indicated earlier, finding an answer forces us to engage the outer edges of our understanding in linguistic theory.

² And indeed, the assumption is challenged in Josh Brown's forthcoming University of Michigan PhD dissertation.

4. Do “Nonsententials” Have Propositional Structure? (often seem to)

As a first step to answering the question, in section 4.1 I’ll revisit some arguments that I offered in Ludlow (2005) – arguments that were not offered to show that the FLN *must* produce representations with propositional form, but rather to show that many of the utterances which *appear* to lack propositional form correspond to linguistic structures that in fact do have propositional form. In sections 4.2-4.4 I’ll add some further considerations in support of the propositional form hypothesis. In section 5 I’ll move on to evidence that stems from the role of case theory in the minimalist program. In section 6 I’ll extend this discussion to the “derivation by phase” theory of Chomsky (2001) and consider whether alternative accounts of phase boundaries afford us a conception of legibility or convergence that is nonpropositional.

4.1. Nonsententials as Results of Clause Level Processes

Consider the following potential utterances which seem like standard candidates for “non-sententials.”

- (1) Found guilty! (Newspaper headline.)
- (2) Hood sunk. (Famous message sent upon sinking of the battleship Hood.)³
- (3) All in the garden. (Uttered when asked where the children are.)
- (4) All were. (Said when asked if any colleagues were party members.)
- (5) Close tabs. (Said with the intention that the hearer keep close tabs on someone.)

None of these are fully inflected clauses, but that doesn’t mean their corresponding SCNs don’t evince clausal (propositional) form. So, for example, in subordinate clauses we may find the tense inaudible (as in (6)), the subject NP may be inaudible (as in (7)), or, as in Larson, den Dikken and Ludlow (this volume), the verb itself may be inaudible (as in (8)). (Items in all caps and parentheses are inaudible syntactic elements.)

- (6) I asked [Bill to leave]
- (7) I wanted [PRO to leave]
- (8) I wanted [PRO (have) a unicorn]

In addition, objects may be unpronounced as in (9-10).

- (9) What did [Bill see OBJ]
- (10) I promised [PRO (give) OBJ a unicorn]

How far can we go with this? Can we find unembedded clauses of the following form (say corresponding to an utterance of the word ‘slab’, as in Wittgenstein’s example of the construction worker asking for a stone slab)?

³ I take this example to be apparently non-sentential because it is not an inflected clause (it has no tense).

(11) [PRO (give) OBJ [DET slab]]

In Ludlow (2005) I held that not only are such structures possible but that they are predicted to exist within current linguistic theory. The initial round of arguments appealed to the fact that often the sub-clausal fragment that is actually pronounced could not be generated unless it was the product of clause-level operations. I organized this argument around the operations themselves and showed how each of the clause-level operations gave rise to what some authors have mistaken for non-sentential or non-clausal speech. The first round of arguments were couched within a 1970's version of generative linguistics.

4.1.1. *Passives*

Consider an utterance of (1) again.

(1) Found guilty!

The problem with thinking of this as corresponding to a subclausal form is that in a number of standard grammatical theories, passive forms are derived from clause-level processes. So, speculating, a plausible derivation would proceed as follows:

- (1a) The jury found the prisoner guilty (underlying D-structure representation)
- (1b) The prisoner was found guilty by the jury (passivization)
- (1c) The prisoner (aux) found guilty by the jury (aux ellipsis)
- (1d) (NP) (aux) found guilty (PP) (argument ellipsis)

The crucial step is the step from (1a) to (1b), since it involves a clause-level passive transformation. For the non-sententialist, there is no obvious way to explain the derivation of the passive form. Nor can the non-sententialist argue that this passive form is adjectival and not the product of derivational processes, because other examples show that this suggestion is fallacious. To illustrate by way of another example, in World War II, when the Bismark sank the Hood, another British ship transmitted the following simple message.

(2) Hood sunk.

Notice that this is a passive form of 'sink', and in Ludlow (2005) I argued that a plausible story was that (2) undergoes passivization and then deletion as in the following steps.

- (2a) The Germans sank the Hood (underlying D-structure representation)
- (2b) The Hood was sunk by the Germans (by passivization)
- (2c) (det) Hood was sunk by the Germans (by determiner ellipsis)
- (2d) (det) Hood (aux) sunk by the Germans (by aux ellipsis)
- (2e) (det) Hood (aux) sunk (PP) (by argument ellipsis)

What makes this case interesting is that there is also a non-derivational form of the passive form of 'sink' ('sunken' -- as in 'sunken treasure') which is an adjectival passive. But notice that this adjectival passive cannot appear in cases like the above:

(2*) *Hood sunken

I concluded that 'sunk' is not adjectival and is rather the product of clause-level operations.

4.1.2. *Q-float*

Another example I discussed in Ludlow (2005) involved a case where we are at a family reunion and a niece asks where the other children are. We utter (3).

(3) All in the garden.

This looks like a pretty standard example of non-sentential speech, but closer investigation suggests that even a case like (3) is plausibly the product of sentence-level processes -- in this case the operation known as Q-float. In Ludlow (2005) I suggested that (3) is derived from a form in which 'All' occurs in a noun phrase and then "floats" to another position. So, in this case, we begin with the following structure,

(3a) [All the children] are in the garden.

This undergoes Q-float, yielding (3b).

(3b) [the children] are all in the garden.

Then the NP argument and the aux undergo deletion as in the above cases, yielding (3c).

(3c) (NP) (aux) all in the garden

The problem for the non-sententialist should be apparent here. 'All' has to be pulled out of a noun phrase (determiner phrase), but for the non-sententialist there is simply no noun phrase to draw upon. The possibility of the structure in (3) remains mysterious.⁴

⁴ Rob Stainton (p.c.) has suggested to me that this case may stem from another construction -- one in which 'all' occurs as a stylistic substitute for 'everyone' or 'everything'. In effect, it would be in the same family of constructions as 'All were lost'. I'm not sure to say about this proposal except that 'All in the garden' isn't arch like 'All are in the garden' or 'All was lost'.

4.1.3. *Aux Inversion and Ellipsis*

Sag (1978) discussed the case of aux inversion and ellipsis, and noted that we cannot have an elided VP following an inverted auxiliary. His example of an inverted auxiliary was the following, where the ordering of 'all' and 'were' is reversed.

- (4a) They all were socialists.
- (4b) They were all socialists.

Sag's crucial observation was that the inverted case cannot appear in the following ellipsis construction.

- (12a) Most of them were socialists and perhaps they all were
- (12b) *Most of them were socialists and perhaps they were all

To illustrate the non-sentential case, I suggested we consider the circumstance where several of our friends sit before a congressional committee accused of being socialists. As we watch the proceedings on television, you look at us and raise an eyebrow as if to ask how many of them were in fact socialists. We utter (4).

- (4) All were

Note that in this case (or any other) we could not have uttered (4*).

- (4*) *Were all.

But why not? For the non-sententialist there is no explanation for why one order should be possible and the other not, but for the sententialist there is a straightforward explanation: (4) *can* be the product of sentence level syntactic operations involving deletion and (4*) cannot.

4.1.4. *Idiom Chunks*

Idiom chunks are idioms that must appear in concert with certain verbs. A classic example is the idiom chunk 'keep close tabs'. One can keep close tabs, but one cannot "give close tabs", "make close tabs" etc. This particular idiom requires the presence of the verb 'keep'. It is not licensed with other verbs and it is not licensed by the absence of a verb as the following cases show.

- (13) *Close tabs won't affect me

On the other hand, we can do without the verb 'keep' in certain cases of ellipsis, for example:

- (14a) I know you want me to keep close tabs on him, but how close tabs?
(14b) Fred kept close tabs on Biff, and Mary close tabs on Muffin

In Ludlow (2005) I suggested we imagine a case where a tricky character has arrived in town and we suspect that he is up to no good. He comes to our office for a meeting. As he leaves our office we turn to our friend and private detective Rocky and say, "close tabs," intending to inform Rocky that we want him to keep close tabs on this fellow. Why can we do this? One natural explanation for the sententialist is simply that the verb 'keep' was originally available in the now-deleted material. What is the non-sententialist to say? How can this element appear without 'keep'? It is entirely unclear what sort of explanation could be offered.

Stainton (2006) offers two reasons why these arguments don't cut any ice for two reasons. First, he suggests that "one possibility for the generation of unembedded phrases exhibiting passive and Q-float is that these sort of phrases are not created by a transformation after all, but are instead 'base generated', as one used to say." The problem with Stainton's reasoning here is that it is really not a response to decades of work in generative linguistics to say "well, that could be wrong." We are owed an alternative account of the data that is well integrated with current linguistic theory if we are to take this response seriously. The other oddity in this response however, is that when generative grammar did deploy the notion of base generated structures (typically D-structure representations) they were typically generated from the category label S (for sentence) via recursive phrase structure rules (see, for example, the Aspects model of Chomsky (1965)). So apparently we need a brand new conception of base generation in addition to some mysterious new account of passive, Q-float and other syntactic phenomena.

Stainton's second argument is that the nonsententialist could concede the clausal origin of the constructions above, but deny that this matters – the "result" is still something nonsentential.

"Ludlow claims, for example, that passive phrases such as 'sunk by a missile' are created by sentence level processes. Similarly for Q-float phrases like 'All in the garden'. But even if true, how exactly would this show that 'sunk by a missile' and 'all in the garden' are not generated at all, except within sentences? At best the argument would demonstrate that in deriving such phrases, the derivation must pass through some stage at which the phrase is embedded in a sentence-frame. But even if that were true, the result of such a process would still be the plain-old phrase. It would not *be* a sentence. Thus even if the derivation worked transformationally, it would still be the case that speakers were producing words/phrases, not sentences."

A couple points are in order here. First, the thesis I defended in my (2005) paper was that a full clause is generated at some level of representation or other. If the above constructions are derived from full clausal structures then it seems that

there must be a level of representation (or at least representational stage of derivation) that is fully clausal (has propositional form) and that would satisfy the strict definition of sententialism I was defending. More urgently, however, the kinds of movement called for in the above cases (passive, Q-float, etc.) involve movement to structurally defined positions (in passive, for example, you might think of the object NP moving to S or IP). Exactly what is Stainton's idea here – that movement to a position takes place and then the position and all surrounding structural information is erased? Why on earth would that happen and what would it mean for it to happen? Are we to be left solely with a string of lexical items? But then what guides our semantics (which is structure sensitive)? Consider, for example, the problem of figuring out scope relations if structure is annihilated. It is also misleading to say that the resulting forms are “plain-old phrases”. Whatever ‘all in the garden’ is, it is not a plain old phrase and something special must be said about its derivation. Finally, while there are certainly grammatical theories that countenance the deletion of lexical material (although current theory is more apt to say that the lexical items are present but unpronounced), I am so far unaware of any theory that also calls for the annihilation of linguistic structure.

4.2. Licensing Conditions

The arguments I gave in section 4.1 had to do with cases where it appears there is evidence that the alleged nonsentential was the product of clausal level processes. But there are other cases involving licensing conditions for certain kinds of syntactic objects. Examples include the licensing of negative polarity items as in (15-19).

- (15) a. *John saw anything/anyone
b. John didn't see anything/anyone
- (16) a. *I believe that she will budge an inch
b. I don't believe she will budge an inch
- (17) a. *Max said that he had ever been there
b. Max never said he had ever been there
- (18) a. *Frankly Scarlet, I give a damn
b. Frankly Scarlet, I don't give a damn
- (19) a. No [person who has ever been to NY] [has returned to it]
b. No [person who has been to NY] [has ever returned to it]

It is therefore intriguing that NPIs are often acceptable in so-called nonsententials, but when they *are* acceptable it seems that they are being licensed by a negation in the question eliciting the response.

- (20) Which boys did you see?
#Any of them.

- (21) Which boys didn't you see?
Any of them.

You might think that the scope of the negation is extending across the discourse somehow, but this can't be – the ability of a negation to license an NPI is a very local affair, by some accounts limited to NPIs within its clause, but it is certainly limited to its c-command domain.

It's the same story with modals licensing free choice any.

- (22) Who did you see?
#Anyone in the yard
- (23) Who could you see?
Anyone in the yard.

If we agree with these judgments, then we have two choices: either we posit a clause containing phonologically unrealized licensors, or we have to argue that NPI licensing is extra-syntactic.

- (24) Which boys didn't you see?
(I didn't see) any of them.
- (25) Who could you see?
(I could see) anyone in the yard.

4.3. Arguments from Propositional Anaphora

In Larson, den Dikken and Ludlow (this volume), we explored probes that might determine whether there is hidden clausal structure in intensional transitive constructions like (26).

- (26) John wants a unicorn

The view we were looking to defend of course was that there is an implicit clausal structure as in (27).

- (27) John wants [PRO (have) a unicorn]

In the 1970s, McCawley offered a number of considerations in support of an implicit clause in these cases, including the possibility of propositional anaphora. So, for example we had the following distribution of facts.

- (28) I want a good cigar and John wants that too. (wants to have a good cigar)
(29) #I smoked a good cigar and John smoked that too

Now consider the following data.

- (30) A: What do you want?
B: A good cigar
A: John wants that too
- (31) A: What did you smoke?
B: A good cigar
A: #John smoked that too.

Clearly, these seem to be cases of propositional anaphora. Other cases look more like event anaphora, but the point is basically the same.

- (32) What does John want?
Kittens
His mother won't allow it.

Here it looks like the anaphor 'it' is picking up on "John's having kittens" – but from where? It seems implausible to suppose that the anaphor is picking up on a proposition that is delivered by the pragmatics and not the FLN, because anaphora is notoriously sensitive to items that are syntactically present. Even when there is an obvious pragmatic story that would be able to identify an antecedent the anaphora is "infelicitous". Consider, for example, the contrasts in (33-34) from Evans (1977) and (35-36) which is reportedly due to Barbara Partee.

- (33) John is married. #She is a lawyer.
(34) John is married to a Swede. She is a lawyer.
- (35) John dropped 10 marbles but found only 9. #It must be under the couch.
(36) John dropped 10 marbles and couldn't find one. It must be under the couch.

The theory is that even though pragmatics has no trouble identifying the intended antecedent in (33) and (35), that isn't enough for the anaphora to be felicitous. The antecedent must also be syntactically present. Extending that analysis to the case of propositional anaphora we have to ask how the anaphora can be felicitous in examples (30) and (32) if no propositional form is represented.

4.4. Arguments from Scope

While I'm on the subject of implicit clauses in intensional transitives, it is worth reflecting on the scope ambiguities that these constructions are famous for.

- (37) John wants a sloop.

Part of the attraction of the hidden clause view was that it allowed us a story about how the narrow scope reading was possible. To wit:

(38) John wants [(a sloop) [PRO (have) t]]

The key though, is that some story needs to be told about the relative scope of the operator and the attitude verb. What then are we to say about the following?

(39) What does John want?
A sloop.

A case like this just happened to me recently while I was talking to my daughter on the phone and our exchange went like this.

(40) P: What is your homework assignment?
C: I have to write a report.
P: A report about what?
C: A book.
P: Any book or a particular book?

One plausible story here, following Roberts (1986, 1989), is that the modal of obligation gets copied over (a process that Roberts calls modal accommodation), and that the DP ‘a book’ is taking wide or narrow scope with respect to that modal. Whatever the process, it is hard to imagine any plausible story here that doesn’t posit additional structure. Even an ambiguity story doesn’t work here, because if we distinguish referential and quantificational indefinites in the lexicon, the quantificational indefinite still must be in the scope of an attitude verb or some other operator for the distinction to even be visible to us.

5. Case Theory, Minimalism, and Nonsententials

One of the more interesting issues that have been debated involves the role of abstract case theory in minimalism and the consequences that it might have in an account of nonsententials. The basic issue is this: in most versions of the minimalist program, case is a feature of a Determiner Phrase (DP) that must be checked by other grammatical elements in a linguistic structure. If the case of a grammatical element cannot be checked “in situ” (for example by a nearby feature – say a governing tense feature), then the element must move in order to get case. For example it is assumed that the LF representation corresponding to an utterance of ‘John was late’ is derived from a structure in which the DP ‘John’ begins inside the VP shell, and moves to the front in order to get case from the inflectional element ‘was’.

The problem for the nonsententialist is that if we find utterances of alleged nonsententials that have case but nothing to check their case against – for example an utterance of ‘him’ or an utterance of ‘John’ (which is assumed to have abstract case) – then the nonsententialist is left in a quandary. How can such an utterance

correspond to an SCN if there are unchecked features? Shouldn't the derivation crash? So far this discussion has been a bit general, so let us try to precisify it.

Barton and Progovac (2005) have attempted to circumvent this objection by positing what they call the case filter corollary.

(CFC) Case Filter Corollary: Nonsententials differ from sententials in one basic property: they are not required to check Case filters.

This move is problematic in a number of respects, not least of which is the issue of truth in advertising: a *corollary* is typically something that obviously follows logically from something already proved. In this case it might be more apt to call it the "Case Filter Negated" or the "Case Filter Rejected," and there are two problems with it.

First, this move overlooks the role that the case filter plays in the theory as a whole. It is not simply a hood ornament on linguistic theory, but is interwoven into virtually every aspect of the grammar. Among other things, it plays a role in the explanation of why DP's appear before auxiliaries in languages like English. Reject it, and the theory may well collapse like a house of cards.

Now of course we can say we only want to reject it in special cases – in particular for nonsententials, but this just doesn't make sense. There is no motivation for rejecting the Case Filter other than that it is an obvious empirical counter-example to a broad class of claims that DPs are nonsententials.

If we set aside the Case Filter Corollary, there are more plausible options available to the nonsententialist. One promising line of response is that often the stand alone NPs that we see don't in fact have case, or alternatively have some sort of default case which doesn't need to be checked. This idea has been advanced by Barton and Progovac (2005), Fortin (2006), and Stainton (2006), and it follows up on some important cross-linguistic investigations by Morgan (1989). Morgan observed that in Korean, where the case morphology is clearly visible, the case-free elements can appear alone, but (some of) the elements with case cannot. So, for example, we have the following distribution of facts, in which the addition of an accusative case marker (*ul*) to a DP prevents it from being deployed in a stand-alone utterance.

- (41) a. Nu-ka ku chaek-ul sa-ass-ni? (Korean)
 who-NOM this book-ACC bought
 'Who bought this book?'
- b. Yongsu NO CASE.
- c. *Yongsu ku chaek-ul sa-ass-ta.
 Yongsu this book-ACC bought.
 'Yongsu bought this book.'
- d. Yongsu-ka.
 Yongsu-NOM.
- e. *Yongsu-rul.
 Yongsu-ACC.

The interesting question here of course is what to say about the nominative case feature (*ka*). Morgan and Fortin both suggest that cases like (41d) show that in spite of superficial appearances there is full clausal structure. Another possibility would be to suggest that nominative is a kind of default case here (in some instances tantamount to having no case), and hence it need not be checked – it is merely superficial case marking.

A similar argument could be made for English. When we answer a question like ‘who did it’ with an utterance of ‘him’, it may well be that the accusative case is just default case and does not stand in need of checking. Providing a negative image of the Korean facts, we could say that the one word answer ‘he’ is defective because nominative case is not default case in English, but is rather structural case marking and it needs to be checked.

Either way, it appears that we have carved out a space for some nonsententials. The idea is that we can have nonsentential utterances of NPs just in case they lack case or have some form of default case, which in effect amounts to their lacking case. Then we don’t need to invoke the case filter corollary. On this story there are fewer nonsententials than on the Barton and Progovac theory, but there will still be a good number of nonsententials.

The problem of course, is that case checking is not the only issue. If we are talking about SCNs, then we want to know if it is plausible that a derivation could converge on a form that only consists of an NP, for example, and does not have full propositional form. Put another way, are sub-propositional forms legible at the interface? This turns out to be a very interesting question.

6. Interface Conditions and Propositional Form

Setting aside the matter of case checking, alleged non-sententials raise very serious issues for more recent incarnations of minimalism, in particular the Derivation by Phase proposal in Chomsky (2001). In that incarnation of the theory the FLN does not construct a single representation, but rather the products of a derivation are handed off to the interface in phases – where a phase is “legible” to the conceptual/intentional (CI) system. Now none of this really makes sense unless we have a good handle on what it means for a linguistic form to be legible. Notice if that we don’t know what it means to be legible then we effectively put no constraints whatsoever on the theory of grammar – it is just something that computes legible structures, where ‘legible’ remains undefined. For his part, Chomsky has a fairly clear picture of what the conceptual-intentional interface must look like and what it would mean for a phase to be legible to the CI system.

Chomsky on Phases:

Phases should have a natural characterization in terms of IC [interface conditions]; they should be semantically and phonologically coherent and independent. At SEM, vP and CP (but not TP) are propositional constructions; vP has full argument structure, CP is the minimal construction that includes Tense and event structure. (Chomsky, 2001a:22)

In other words, to be legible to the interface, Chomsky seems to be saying that a phase has to have what we have been calling propositional form. If you are on board with Chomsky here, the nonsententialists are undermining the very premise of minimalism, which is to solve a wiring solution that connects the perceptual/articulatory and the conceptual/intentional systems.

On the other hand Chomsky has been notoriously unclear about what is a phase and why, and there are plenty of alternative stories that don't insist that something must be in propositional form in order to be legible. One such alternative has been offered by Epstein and Seely, and their account has been pressed into the service of a theory of nonsententials by Fortin (forthcoming).

Fortin is happy to concede that DPs, which presumably bear abstract case, cannot be standalone nonsententials, for precisely the reasons given above: They need to be able to check case against something else, otherwise the DP will not be legible to the interface and the derivation will crash. She holds that nevertheless there are still lots of elements that don't have case and hence don't require surrounding propositional structure. She further argues that these are predicted from Epstein-Seely syntax in which any XP is a phase boundary.

Epstein and Seely on Phases:

LF and PF necessarily evaluate linguistic entities at every point in the derivation.

X and Y are merged creating C, then C is necessarily input to both LF and interpret as much of C as possible, leaving a "syntactic residue" of material that as input to subsequent derivational operations. (Epstein and Seely, 2006)

The basic idea is that every time we merge, we generate an XP, and that this is then checked for legibility by the interface.

Here are the cases that Fortin thinks are *genuine* nonsententials:

- (42) a. What's wrong with you today?
b. (I have a) headache. (NP nonsentential)
- (43) a. When are you going home?
b. (I'm going home) after class. (PP nonsentential)
- (44) a. What are you going to do with those old books?
b. (I am going to) sell *(them). (VP nonsentential)
- (45) a. What color is the book?
b. (The book is) green. (AP nonsentential)
- (46) a. Who was at the party?
b. Everyone (was at the party). (QP nonsentential)

- (47) a. Are you able to give me a ride home today?
 b. (I am) certainly (able to give you a ride home today).
 (AdvP nonsentential)
- (48) a. [Pat enters Chris' office. Pat is surprised to find Robin rummaging through Chris' desk drawers, although Chris is nowhere in sight. Pat catches Robin's eye and looks at her quizzically. Robin says:]
 b. (Chris was) fired yesterday. (Discourse-initial VP nonsentential)

First of all, it needs to be observed that on Fortin's view not *every* NP, PP etc. must be nonsentential – we can think of plenty of cases where that just can't be. Another case, discussed in Ludlow (2005), would be NPs that bear the marks of clause level syntactic operations. Consider, for example the case of an expression I heard on WFAN Sports talk radio in New York some years ago.

- (49) Tough watch.

This is apparently an NP, but it pretty clearly is derived from something much more involved. Arguably, this is a post-deletion fragment of what linguists call a "tough construction," a canonical example of which would be (50).

- (50) Chuck is tough to talk to.

(50) is in turn derived from a structure like (51), via what is often called "tough movement."

- (51) It is tough to talk to Chuck.

(49) appears to be derived via this process and some others. Speculating, the following sort of derivation may be in play.

- (49a) It will be tough to watch that game (base representation)
 (49b) That game will be tough to watch (via movement)
 (49c) That game will be a tough watch (nominalization)
 (49d) Tough watch (Subj, aux, and determiner deletion)

So, and presumably Fortin would agree with this, many NPs, PPs etc are going to be embedded in representations with full propositional form. Her thesis is relatively modest; it is simply that if you buy the Epstein-Seely notion of phases, then nonsententials are predicted to exist.

All that is fair enough, but the Epstein-Seely theory generates lots of other things too. In particular, since there is no requirement of thematic or propositional coherence, basically anything can be merged, and as long as the result does not have unchecked case it will be "legible" on their view.

Accordingly, here are some examples of merge operations that count as legible on the Epstein-Seely proposal.⁵

- (52) of of
- (53) the the
- (54) of of the of

You might think that what is wanted is to put more constraints on what may be merged. Things must be of the right type. It is easy enough to do this – in effect this is what categorial grammar does, but it doesn't seem within the spirit of current generative linguistics and Epstein and Seely would not endorse a move to categorial grammar.

We'll come back to this issue in a moment, but first note that despite this, shall we say, promiscuous, notion of phase, we still don't generate the all the cases that we need. For example, on the Epstein-Seely proposal we only get a phase *after* we have merged two elements, which means in effect that we still don't have an explanation for one word “nonsententials” like ‘headache’, ‘sell’, ‘green’ – in effect we don't explain the possibility of any of examples (42), and (44)-(47) above. That is, we don't get them unless they have been merged with an implicit argument of some sort, but then it looks like we have something with propositional form!

This last point deserves some amplification. Suppose that the way we form an XP from something like ‘green’ with a category $\langle e, t \rangle$ is by merging it with a null element – presumably a free variable. But then it looks like it as been merged with something of type e , so that the resulting XP is going to be of type t .

Going back to the idea of supplementing the theory with categorial types, we now run into the problem of precisely what interpretation is to be assigned to these subsentential XPs. Does each XP phase get assigned an interpretation by the semantics? Then isn't this just Montague Grammar all over? And do we need Cooper Storage etc etc?

For example on Epstein-Seely we have the following XP which is supposed to be interpretable at the interface.

- (55) saw what

Similarly, we would have quantified expressions that might be merged into a VP as in (56).

- (56) saw everyone

Cooper storage was a mechanism whereby the semantics could create a pushdown store for these quantifiers and discharge them at a later time. It is probably doable, but as Larson (1984) showed, the Cooper Storage mechanism gets incredibly ugly when one tries to encode possible scope relations into the

⁵ Epstein (p.c.)

pushdown mechanism. Consider trying to design a pushdown stack for ‘every city’ that would get the inverse linking cases from May (1977).

(57) Someone from every city hates it

The other problem of course, is that apart from further sentential context we really don’t know what the category of these elements is supposed to be, much less the semantics. Depending on whether ‘everyone’ occurs in subject position, object position or some other position it will have a different category type:

- (58) i) everyone (is mortal): $\langle\langle e,t \rangle, t \rangle$
ii) (John offended) everyone: $\langle\langle e, \langle e,t \rangle \rangle, \langle e,t \rangle \rangle$
iii) (John introduced) everyone (to Biff): $\langle\langle e, \langle e, \langle e,t \rangle \rangle \rangle, \langle\langle e, \langle e,t \rangle \rangle \rangle$
etc.

If we had the full clause available we would know which type was appropriate. Are we going to say that a non-sentential utterance of ‘everyone’ is indefinitely ways ambiguous?

You can of course avoid flexible types here – it is a standard move (see Heim and Kratzer 1998; ch 8) to treat *all* Quantified noun phrases the same, as type $\langle\langle e,t \rangle t \rangle$ and allow them to adjoin to VP, NP, PP etc. This requires the introduction of a PRO subject inside the VP, NP, PP etc., so that the resulting object is something of type t – which is just to say that it has propositional form! In short, even if we allow phrases to be exceedingly small, we may well end up with objects that have propositional form anyway.

7. Conclusion

I’ve really only scratched the surface of the many interesting issues related to so-called nonsententials and the notion of propositional form. For example, I haven’t discussed the role of tense here. Are there tense arguments inside of NPs, for example? Murvet Enç (1986, 1987) argued that there were, so this suggests that on close inspection, even if there are standalone NPs, they might nevertheless have a robust propositional form including argument positions for events and times and who knows what else.

As matters stand, however, I think that the questions being considered here are exceedingly subtle, and no doubt require the development of more sophisticated probes and tests before they can be answered in a completely satisfactory way. I look forward to the development of these tests, and to seeing what light they can shed on the possibility of sub-propositional form and the FLN.

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Peter Ludlow
 Dept. of Philosophy and Department of Linguistics
 University of Michigan
 Ann Arbor, MI 48109-1003
 USA
 ludlow@umich.edu