

The Dynamics of Ellipsis

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1 Introduction

Kempson, Cann, Gregoromichelaki, and Chatzikyriakidis (henceforth **KCGC**) report on a theory of ellipsis in the idiom of *Dynamic Syntax*, and contrast it with other approaches.

Underlying this contrast is the assumption that other grammatical traditions either must, or at least choose to, treat all sentence fragments as instances of ellipsis. This assumption is discussed further in [Kobele \[2016\]](#). We think that the question of whether to analyze a particular sentence fragment in terms of ellipsis should be influenced by empirical considerations. Standard diagnostics for the presence of ellipsis (as laid out for example in [Merchant \[2013b\]](#)) would not suggest that most of what is discussed is in fact elliptical. Fragments themselves come in many stripes, and some may have sentential sources (and thus be thought of as elliptical, such as fragment answers, as analyzed in [Merchant \[2004\]](#)), and many others may not (such as names, titles, and clarificational phrases, among the many others listed in [Merchant \[2010\]](#)). [Merchant \[2016\]](#) scrutinizes the fragments in KCGC from this perspective. We will not here attempt to undertake this work, but rather restrict our attention to cases such as VP-ellipsis or predicate ellipsis that all approaches agree form central elliptical explicanda.

In this response we take a step back, and focus on the basic idea on which KCGC's theory of ellipsis is based. This fundamental idea is in fact shared by many of the approaches KCGC critique. We set out some basic parameters of this space, and describe how different theoretical choices influence possible descriptions of elliptical phenomena. Finally, we discuss what kinds of constructions pose difficulties for this approach to ellipsis, describe how the analysis of [Kobele \[2015\]](#) deals with them, and suggest that KCGC's particular implementation of this approach to ellipsis may flounder here.

2 Theories of Ellipsis

In an architecture of grammar, ‘syntax’ is the pivot between form and meaning. In the ideal case, the structures of the grammar are closely related to aspects of the parsing process, which can be eloquently formulated thus:

Syntactic structure is no more than the trace of the algorithm
which delivers the interpretation. [Steedman, 2000]

Viewing syntactic structure as epiphenomenal in this way has, in the last few years, led to an interesting convergence across traditions amongst linguistic theories of ellipsis [Barker, 2013, Kobele, 2015, Kempson et al., 2015]. (The idea itself goes back to Lavelli and Stock [1990].) This convergence sees ellipsis as *reuse* (as opposed to *recomputation*) of a meaning. The common idea is the following. Once our interlocutors have painstakingly constructed a meaning on the basis of something we say, if we want to communicate to them that same meaning again, we have a choice: we could either say that very same thing again, and demand of our interlocutor that they recompute this meaning, or we could save them time and energy by indicating (somewhat paradoxically, with silence) that they should just reuse the result of their earlier computation.

This approach to ellipsis requires that there be no syntactic structure in the ellipsis site; syntactic structure being viewed as a description of a computation of a meaning from a string, reuse of a meaning means that one does not need to compute anything! This distinguishes these approaches from the related theories of Chung et al. [2011] and Frazier [2013], which also conceptualize ellipsis in terms of reuse (or ‘recycling’); one might therefore distinguish between *dynamic* (computation) and *static* (structure) reuse theories. What sets dynamic reuse apart from the semantic reuse theory of Dalrymple et al. [1991] is the nature of the reused meaning. In dynamic reuse theories what is reused is viewed the result of a bit of syntactic computation, whereas in these latter theories what is reused is some part of the meaning assembled thus far in the discourse; crucially, these parts of meanings need not have any connection to the parts of syntax. In other words, in the dynamic approach, the meanings which can be reused are limited to those which are the result of some previous syntactic computation. This entails that we can remain agnostic about what exactly meanings are, as we are not manipulating them directly, but only through some process which generates them.

3 Ellipsis as Dynamic Reuse

A syntactic structure is an abstract representation of a computation (one which constructs a meaning from a string). As we can elide not only full sentences, but (in fact primarily) parts thereof, the question poses itself:

what (sub)computations are reusable in ellipsis?

The answer to this is of necessity influenced not only by one’s grammatical framework, but also by one’s analyses of particular linguistic constructions. [Kobele \[2009\]](#) (as well as [Lichte and Kallmeyer \[2010\]](#) and [Barker \[2013\]](#)) assumes that only computations which correspond to syntactic constituents can be reused in ellipsis. He notes that this forces one to assume that simple passive sentences can be derived in multiple ways (with gross structure as shown in [1](#)), given the elliptical possibilities in [2](#) and [3](#).

1. [S [VP V NP]] versus [S NP [VP V]]¹
2. Mary could have been praised, but we decided not to ~~praise Mary~~
3. Mary seems to have been praised, and Susan does ~~seem to have been~~ ~~praised~~ too.

He introduces a device (a formally restricted implementation of late merger [[Takahashi and Hulsey, 2009](#)]) which allows for assigning multiple structures to sentences. This, however, has the disadvantage of introducing a great deal of spurious ambiguity (almost by definition). This sort of difficulty is inherent to the assumption that only computations which correspond to constituents can be reused, regardless of syntactic framework, and is presumably what KCGC intend when they describe these approaches as treating ellipsis as “ambiguity that needs to be resolved on a case-by-case basis.”

[Kobele \[2015\]](#) rejects this assumption. He notes that the extra derivational flexibility needed by [Kobele \[2009\]](#) is being used solely to reify *contexts* as constituents.² He proposes that not only computations corresponding to

¹[Kobele \[2009\]](#) operates in a transformational framework, where standardly the passive subject is an underlying object (this is intended by the ‘[V NP]’). This allows for passives to antecede an elided active VP, as in [2](#). He also needs to allow the passive subject to be directly generated in the subject position (this is intended by the ‘[NP [V]]’), to allow for examples like [3](#).

²A context can be thought of as a tree with missing leaves. Where a constituent describes a complete computation, a context describes a *parameterized* computation: a function which, given some value, computes a result from it.

constituents, but also those corresponding to contexts may be reused in ellipsis. This allows him to uniformly treat the passive subject as an underlying object, and to treat the objectless VP antecedent of passive VP ellipsis (as in 3) as a parameterized computation, as in 4 (where the parameter is given the name x).

4. $[_{VP} V NP]$ versus $[_{VP} V x]$

Crucially, the context $[_{VP} V x]$ is *part of* the constituent $[_{VP} V NP]$. Thus, one and the same structure for passives ($[_{VP} V NP]$) provides multiple possible antecedents.

Although contexts are not often explicitly used by linguists (and are thus ‘unorthodox’ as KCGC note), they are as just noted already present in any syntactic structure; they do not require generation “by an independent parser/generator.” Indeed, they are formally *simpler* parts of trees than those which are manipulated in *Dynamic Syntax*; the structure in step (ii) of (38) represents a tree which is missing a *context*, which we might call a third-order context.

4 Analyses of Ellipsis

For approaches to ellipsis based on *identity* of some sort between antecedent and what is recovered in the ellipsis site, it is the deviations from identity in ellipsis which pose the ultimate challenge. The looser the relevant notion of identity becomes (e.g. mutual entailment), the more difficult are the cases where a stricter notion of identity seems to be required.

Hardt [1993] and Merchant [2013a] collect a number of robust types of deviations from identity in verb phrase ellipsis constructions. A particularly influential type is that of mismatch between antecedent and (hypothesized) ellipsis site along the dimension of voice. An example (from Hardt [1993]) is in 5.

5. This information could have been released but Gorbachov chose not to.

In sentence 5, the ellipsis site is interpreted as meaning that Gorbachov chose not to *release this information*, i.e. an active verb phrase, whereas the antecedent is in the passive voice. It appears to be the case that different types of ellipsis vary as per whether they allow this sort of voice mismatch [Merchant, 2013a, Tanaka, 2011].

One peculiarity of transformational syntax is its attempt to relate different construction types by deriving them from a common source. So, both active and passive verb phrases are analysed as having been derived from a common underlying verb plus deep object structure. This derivational reification of constructional relatedness makes possible an approach to apparent deviations from identity that treats them as exact identity rendered opaque via later operations. [Kobele \[2015\]](#) shows how the analysis of [Merchant \[2013a\]](#) in this regard can be recast in terms of reuse, apparently correctly deriving the voice insensitivity of verb phrase ellipsis, and simultaneously the voice sensitivity of sluicing.

Such deviations from identity seem likely to pose a problem for KCGC. Given the entangling of left-to-right processing order and the underlying syntactic dependencies inherent in their presentation of *Dynamic Syntax*, it is difficult to see how the passive antecedent should provide a sequence of derivational steps which can be re-run in the ellipsis site of 5.

5 Conclusion

It is a point of great interest in the current literature whether ellipsis resolution requires that one recompute or reuse a derivation, compare a new structure to an old one, resolve a pointer to a semantic object, employ some other kind of anaphoric device that fills in a meaning, satisfy some kind of parallelism constraint, or trigger a different kind search for an antecedent (syntactic, semantic, or some mix of the two). KCGC present a theory of ellipsis which shares fundamental properties with other recent theories across linguistic traditions. Having the same underlying idea executed in very different ways allows for a much more refined and nuanced perspective on the prospects both of these different realizations of the same idea, and of this approach to ellipsis in general.

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