



## Context-linked grammar



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### ABSTRACT

Language is context free in the sense that it builds well-formed structures like “ideas sleep” and “ghosts live” (NP + VP) without regard to meaning and specific contexts (Chomsky, 1957). However, it is also context sensitive in the sense that it makes use of linguistic objects such as personal pronouns and other indexical expressions that cannot have any reference unless they are embedded in some specific context. This (apparent) context-free/context-sensitive paradox is the focus of this essay. It pursues the idea that phases in the sense of Chomsky (2001) and related work – the minimal computational domains of language – are equipped with silent linking edge features that enable syntax to compute elements of a phase in relation to other phases, thereby also enabling narrow syntax to link to context and build the structures of broad syntax. Evidence for the edge linkers comes from overt phase internal effects, including person and tense marking, person shift of pronouns (indexical shift), the syntax of inclusiveness, and gender agreement across clause (phase) boundaries. Scrutiny of these phenomena suggests that nominal reference is exhaustively syntactic. Syntax therefore communicates with context, but it does so indirectly, via silent edge linkers. The inherent silence of these linkers, in turn, is the reason why the context–syntax relation has been such an opaque problem in linguistics and philosophy.

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### 1. Introduction: the context-free/context-sensitive puzzle

Language is full of apparent paradoxes. One such is that language, in a broad sense, is both an individual-internal “tool for thought” (Jerison, 1973: 55) and an individual-external “tool for communication”. These aspects of language are sometimes referred to as I-language (internal, individual language) and E-language (external language). See Chomsky (1986a) and much related work. Another apparent paradox, related to the first one, is that grammar is both context free and context sensitive. This second issue is the focus of this essay.

Grammar is context free and autonomous in the sense that it freely builds structures that are correctly formed without regard to meaning and specific contexts. Chomsky famously illustrated this point in *Syntactic Structures* (1957: 15) with the examples in (1) and (2).

- (1) Colorless green ideas sleep furiously.  
(2) \*Furiously sleep ideas green colorless.

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Any speaker of English knows that (2) is anomalous whereas (1) is properly constructed, although it is non-sensical in most contexts. Templates such as NP–VP (“ideas sleep”), AP–NP (“green ideas”), P–NP (“of ideas”) yield correctly formed structures regardless of language use in other respects. Chomsky stated: “I think that we are forced to conclude that grammar is autonomous and independent of meaning” (1957: 17). This statement is sometimes referred to as the “autonomy of syntax thesis”, not by Chomsky himself but by some of his critics (see Chomsky, 1986b; Stemmer, 1999/Chomsky, 1999). However, “autonomy of syntax” in the narrow sense just explicated is not a “thesis” – it is a fact. Syntax is also automatized and unconscious to the individual, much as for instance locomotion. Speakers do not semantically (or otherwise) plan basic operations and relations of syntax, such as Agree, Merge (e.g., NP + VP), embedding, and so on, any more than they plan the actions of their muscles and skeletons when they walk.

The metaphor is not perfect but it is useful and we can take it one step further: At some level of cognition speakers *do* plan what they are going to say (or write, for that matter) much as they can plan to walk from location A to B, even though they are oblivious of the physiological actions of their body parts in the process in both cases. Thus, when introducing Paul and Ann to each other I can opt for saying either (3) or (4) (among many things).

- (3) Have you met Paul?
- (4) Have you met Ann?

The pronoun *you* refers to Ann in (3) but to Paul in (4), and it is clear that I am conscious of which of these two options I am taking.

Grammar is thus not only context free and automatized. It is also context sensitive and planned. It is sometimes assumed that the context-sensitive part of the coin is due to pragmatics (see the discussion in Stemmer, 1999/Chomsky, 1999). However, if that was true, “pragmatics” would be extremely powerful, not only controlling insertion of lexical items like the pronoun *you* in (3) and (4) but also grammatical processes, such as binding and agreement. It is pragmatics when I say “It is cold in here” and someone else closes the window, but pragmatics does not control clause-internal grammatical forms. I could just as well have said “I’m cold” or only shivered my shoulders.

In order to better understand this apparent context-free/context-sensitive paradox we need to distinguish between *narrow syntax* (in the sense of Chomsky, 1981, 1995 and related work) and grammar in a broader and more general sense – call it *broad syntax* (following Chomsky, 1999: 399).<sup>1</sup> Narrow syntax applies “the simplest possible mode of recursive generation: an operation that takes two objects ... and forms from them a new object” (Berwick and Chomsky, 2011: 30). This operation, Merge, can be iterated without bounds, generating infinitely many hierarchic expressions. Merge is either “external” or “internal”. External Merge simply takes one object or element and adds it to another, for example a determiner like the definite article to a noun, Det + N, as in *the book*. Internal Merge, also called movement, moves a copy of a syntactic entity *X* from within a structure *Y*, commonly to its left edge (Chomsky, 2008: 140). Thus, in a passive clause like *Mary was elected*, the subject *Mary* is externally merged with the verb *elect* as its object ([was elected *Mary*]) and subsequently moved to the subject position by Internal Merge, leaving behind a silent copy ([*Mary* was elected ~~*Mary*~~]).

Being such a minimal and mechanic operation Merge as such is conceivably blind to context. However, the use of the pronoun *you* is not. It is not sufficient to just merge *you* with some structure in narrow syntax. Somehow, broad syntax must see to it that pronouns and other context-sensitive items and categories fit their context. A central question linguistics needs to address is:

- (5) How do narrow and broad syntax differ and how do they interact so as to render basically context-free syntactic structures context sensitive and applicable in relation to clause-external categories, such as the “speaker” and the “speaker’s” location in space and time?

This is the question I will be pursuing here. It is orthogonal (and superordinate) to the distinction between I- and E-language. It is a question about grammar at all levels, internal as well as external. The fact that the pronoun *you* is context sensitive whereas the template or constellation NP–VP is context free, in the relevant sense, is a fact of I-language and thought as well as of E-language and language use.

Pronouns throw a particularly bright light on the context sensitivity of language, so large parts of this essay center around pronouns (see also Sigurðsson, 2014a). Section 2 discusses some of the features and the computational processes that link clausal structures to context, where context is understood in a broad sense as the deictic speech act context and/or the linguistic context (either in superordinate syntactic structures or in preceding discourse). The features in question are silent phase *edge linkers* (with overt phase-internal effects), including “speaker” and “hearer” features. The analysis yields a

<sup>1</sup> I will try to keep the discussion as free of theory-dependent assumptions as possible, but, I am nevertheless forced to assume that the reader is familiar with general syntax and central parts of the minimalist program (Chomsky, 1995, 2001, 2008 and related work). Among the notions I assume to be familiar to the reader is the X-bar theoretic approach to syntactic structure, the assumption that any full clause contains a vP-layer, a TP-layer and a CP-layer, the phase notion, Agree, probe and goal, and the distinction between narrow syntax and the interfaces.

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