

Syntax

James McCloskey

University of California, Santa Cruz
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Consider an expression of English like (1):

- (1) A friend of mine who works for IBM told me that the market was going to collapse.

Everyone who has thought even briefly about such complex expressions has concluded that they are not just strings of words. Rather, they have internal organization. It is uncontroversial, for instance, that all of the expressions in (2) are proper subparts of the expression in (1):

- (2) a. a friend of mine who works for IBM.
 b. that the market was going to collapse
 c. who works for IBM
 d. was going to collapse

Further, the expression in (2-c) is in turn a proper sub-part of the expression in (2-a) and the expression in (2-d) is a proper sub-part of (2-b). Expressions of English then (and of every other natural language so far examined) are layered objects with a complex internal organization. It has been the traditional business of syntax to try to understand what the principles are which shape such layered hierarchical structures.

There are other kinds of relations discernible among the elements of (1) and (2). In (1), the element *friend* precedes the elements *of* and *mine*, and the sequence *friend of mine* precedes the sequence *that works for IBM*. This is easy to say, but being clear about what it actually means is a little more complicated than is sometimes recognized. In the fundamental modality (speech), the abstract relation *precedence* is mapped onto a temporal ordering. That is, if an element α precedes an element β , then all of α is uttered before any of β is uttered. In the written modality, conventions differ according to local tradition. In written English, if α precedes β then the visual counterpart of α appears on the writing-surface to the left of (the visual counterpart of) β . In written Hebrew, on the other hand, the convention is reversed and α will appear to the right of β on the writing-surface. What a theory of syntax must do, then, is to provide a set of abstract precedence relations which can then be mapped onto some other set of relations (precede-in-time, be to the left/right of) in one physical medium or another.

Given this, it is natural to think of a syntax as being a combinatorial system which works with a set of basic elements (atoms) and by a process of combination and re-combination produces a set of steadily larger non-atomic expressions whose internal structures are complex. In the Chomskyan tradition, it is natural in turn to think of such systems as being formal models (theories) of one facet of human cognition—our ability to produce at will and as needed complex expressions like (1).

There is little here so far which is very controversial, or which goes much beyond first principles, but there are already two parts of this general picture which deserve more discussion. The first is an uncontroversial but important consequence of the overall view; the second is an area of disagreement hidden from view so far by the deliberately vague terminology used to get things off the ground.

Combinatorial systems may or may not be recursive. That is, they may or may not allow an expression of type *T* to contain another expression of type *T* as a proper sub-part. In our initial example (1), the sub-expression in (3):

(3) the market was going to collapse

is of the type informally called a *sentence*. But of course the entire expression (1) is also a sentence. So (1) is a sentence which contains a sentence as a proper subpart. The phenomenon is general, as is shown in the examples of (4):

- (4) a. [[My father]'s uncle] was a whaler.
 b. I am [very proud of being [obedient to authority]].
 c. We should [have Sally [do the presentation]].

In (4-a–c), there is good reason to believe that the expression within the innermost pair of square brackets is of the same type as the expression within the outer pair of square brackets. The syntactic system of English is therefore a recursive combinatorial system. All of the expressions in (4) can be further extended by way of an additional use of the same possibility:

- (5) a. [[[my father]'s uncle]'s best friend] was a whaler.
 b. We should [have Sally [make Mike [do the presentation]]].

It follows that there is no principled upper bound on the number of well-formed expressions of English. If each of those well-formed expressions (or at any rate most of them) have distinct interpretations, then there is no principled upper bound on the range of distinct meanings that can be expressed by the grammar of English. English is by no means unusual in exhibiting this property (the property of *recursion*).¹

Simple as the formal trick of recursion is, the fact that the syntactic systems of natural language routinely allow this option has seemed important—first because it lets us begin to understand a fundamental property of natural language (its open-

¹It has been a largely un-challenged assumption of most work in syntax until very recently that every language has this property. However, the issue has recently become controversial, due to the work of Everett (2005) who argues that the Amazonian language Pirahã lacks the device of embedding upon which the formal property of recursion depends. Whether or not these empirical claims are correct is currently in dispute (Nevins et al. (2007)), as is the issue of what would follow from them should they turn out to be correct (Hauser et al. (2002); Pinker and Jackendoff (2005); Fitch et al. (2005))

ended expressiveness), and second because it is very unclear at present whether any non-human cognitive system allows this formal possibility. This last question has been a lively topic of research at least since Hauser et al. (2002).

Interestingly, a standard view in phonology (for an overview, see, for example Selkirk (1996)) has been that such recursion is not a feature of phonological representations. It has never been doubted (as far as I know) that recursion is a feature of the semantics of natural language.

We have so far spoken blithely of combinatorial systems which work with a set of basic elements (atoms) and create larger expressions such as (1). But what are the atoms? A natural starting point is the assumption that the atoms of the syntactic system are words. Attractive as it is, this assumption is fraught. It is trammled up, to begin with, in a fundamental unclarity attaching to the pre-theoretical term ‘word’. Words themselves have internal structure, the element *unknowable* consisting of at least three smaller parts—the morphemes *un-*, *know-*, and *-able*, where morphemes are understood to be the smallest meaning-bearing units available to language. On what basis would we be confident that the quanta of syntax are words rather than morphemes? With this in mind, compare the three examples in (6):

- (6) a. Jim will water the plants.
 b. Jim’ll water the plants.
 c. Jim watered the plants.

There is some fairly secure sense in which (6-a) contains five words. How many ‘words’ are there in (6-b)? Does the sequence *Jim’ll* (two syllables) correspond to two words or one? The answer is hardly clear. The sequence of phonemes (or single phoneme) represented by *’ll* seems to be a word in the sense that it corresponds for almost all syntactic and semantic purposes to the item *will*, which is uncontroversially a word. However, it is prosodically dependent, and is not independently pronounceable. It must as a consequence amalgamate with the item to its left, so that a pronounceable sequence of syllables can be constructed which subsumes it. For these kinds of reasons, the majority point of view has been that (6-b) contains exactly as many atoms of syntax (syntactic quanta) as (6-a), and that the business of saying what is different about the two examples is not a matter of concern for the syntax, but rather for those sub-systems (phonology and phonetics in particular) which concern themselves with the creation of pronounceable sequences of syllables. On this view then, both (6-a) and (6-b) exhibit exactly the same syntactic structure, and one can understand the structure of (6-a) and (6-b) as in (7):

- (7) [Noun Phrase] Future [Verb Phrase]

But once we recognize that the relation between syntactic atoms and phonological

words is not one to one, but is rather mediated by non-syntactic processes, it becomes possible to view (6-c) in broadly similar terms. The two-syllable sequence *watered* also has internal structure, consisting as it does of a verbal stem *water* and a past tense morpheme written *-ed*. One can then view the structure of (6-c) as being entirely parallel to that of (6-a), its structure being roughly as in (8), parallel to (7):

(8) [Noun Phrase] Past [Verb Phrase]

with the complex element *watered* being an amalgam of the Tense element (which is an atom of the syntactic system) with the verbal stem *water* inside the Verb Phrase.² And the structure of an English sentence can more generally be taken to be as in (9):

(9) [Noun Phrase] Tense [Verb Phrase]

How one reacts to such analytical possibilities defines one of the principal fault-lines in current syntax. The intellectual tradition that runs from Chomsky (1965) through the ‘Principles and Parameters’ framework (Chomsky (1981)) to the ‘Minimalist Program for Syntax’ (Chomsky (2000, 2001)), that tradition which Culicover and Jackendoff (2005, 4) call ‘mainstream generative grammar,’ in general accepts such analyses as (8) and (9), swayed by the syntactic symmetries they seem to reveal. Theories, on the other hand, which are sceptical of certain kinds of abstraction in syntactic analysis (what Culicover and Jackendoff (2005, 4) call ‘alternative generative theories’: Gazdar et al. (1985), Pollard and Sag (1994), Bresnan (1982, 2001), Culicover and Jackendoff (2005)) have insisted that elements like *watered* in (6) are unanalyzable units as far as the syntactic system is concerned, and that more articulated syntactic structures such as (9) are not empirically justified.

We will return to this issue. If we accept, though, that natural language syntactic systems are best modelled as recursive combinatorial systems we must next look at the kinds of combinatorial operations actually put to use in them. The central notions here are two—*headedness* and *selection*.

Headedness, Selection, and the Patterns of Phrase Structure

A complex phrase like (10):

(10) [warn all my friends about the severity of the problem]

²This line of analysis in its essentials has its origins in Chomsky (1957). Note that the claim here is not that the processes which produce the phonological units *Jim'll* and *watered* are the same kind of process. They clearly are not. However, once one allows for some complexity in the mapping between the atoms of syntax and what counts as a word in morphophonological terms, analytical opportunities such as that represented by (8) and (9) inevitably open up.

contains many subparts. But among those subparts, only one is crucial in determining the external distribution of (10) (the range of contexts in which it may legally appear). The presence of the element *warn* at the left edge of (10) determines that (10) may appear, for instance, in the formula in (7) giving rise in turn to examples such as (11):

- (11) [My friends] will [warn me about the severity of the problem].

The other subparts of (10) are irrelevant for determining whether or not it may appear in this position, or in the other positions in which phrases like (10) may appear:

- (12) a. She made me [warn all my friends about the severity of the problem].
 b. She didn't dare [warn all my friends about the severity of the problem].
 c. For me to [warn all my friends about the severity of the problem] might cause some alarm.

The lexical item *warn* is the 'head' of the phrase in (10)—the single unanalyzable entity which determines how the phrase identifies itself to the rest of the combinatorial system. *Warn* is usually called a verb, of course, and it shares many properties (forming its past tense by adding *-ed*, forming a progressive form by adding *-ing* and so on) with a large class of similar items—the verbs of English. Any member of this class can form an expression of the same type as (10) which may then appear in the same range of contexts as (10). In fact, the presence of a verb at the left edge is the only thing that is required if we want to form phrases which have the same distributional privileges as (10):

- (13) a. [My friends] will [laugh].
 b. She made me [laugh].
 c. She didn't dare [laugh].
 d. For me to [laugh] might cause some alarm.

This exposition may seem to belabor a very obvious point, but in fact there is nothing necessary or pre-ordained about this mode of syntactic organization.

Heads also play a central role in how the process of selection works. By selection here is meant the phenomenon whereby a particular lexical item can demand or allow the presence of other phrases in its immediate syntactic vicinity. The verb *devour* in English, for instance, demands the presence of a Noun Phrase to its right:

- (14) a. We devoured the pasta.
 b. *We devoured.

whereas the verb *eat* allows (but does not require) the presence of a Noun Phrase to its right:

- (15) a. We ate.
b. We ate the pasta.

In the general case then, a Verb Phrase will consist of a verb head followed by (in English) the various phrases which that verb selects. In our initial example (1), for instance, the Verb Phrase *tell me that the market was going to collapse* is constructed by placing the head *tell* at its left edge and then filling out the rest with the two phrase-types that this verb selects (a Noun Phrase *me*, and a clause *that the market was going to collapse*). Thus the combination of head and selected phrases forms the inner core of meaning of a phrase to which subsequent (and optional) adverbial elements may be attached.

Heads are central to the operation of selectional mechanisms in that they act simultaneously as selector and as selectee. The verbs and adjectives in (16), for example, demand that the phrase immediately to their right have as its head a particular member of the class of prepositions:

- (16) a. I will part [*with* my friends].
b. They might object [*to* this provision].
c. She should be proud [*of* her accomplishments].
d. The country should be less dependent [*on* foreign oil].

But these verbs and adjectives can in turn be selected by higher elements, as seen in (17):

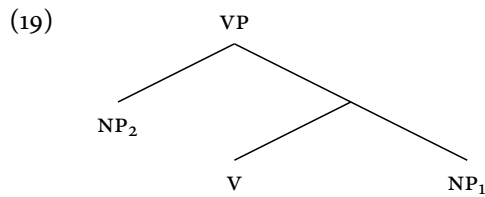
- (17) a. They let me [part [*with* my friends]].
b. They daren't [object [*to* this provision]].
c. She seems [proud [*of* her accomplishments]].
d. The country became [less dependent [*on* foreign oil]].

In (17-a), the verb *let* selects a phrase headed by a verb (which in turn selects a phrase headed by the preposition *with*; in (17-b), the verb *dare* (amalgamated in this case with the negative marker) selects a phrase headed by a verb, which in turn selects a phrase headed by the preposition *to*. And so on.

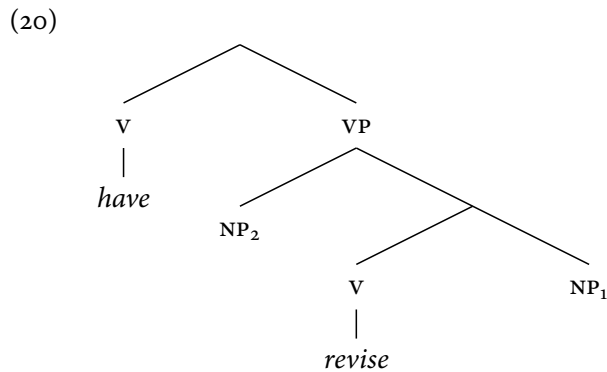
A research program initiated in Stowell (1981) explores the idea that in fact all of syntactic composition can be understood in these terms—in the interplay between selectional properties of particular lexical items and general principles of structure-building. This hypothesis is now a central and orthodox commitment of ‘mainstream generative grammar’ (to use again the term of Culicover and Jackendoff (2005)). To see how this might work consider again an example like (18):

(18) [The committee] will [have [you revise the thesis]] .

The assumption here is that the weak causative verb *have* selects the phrase [*you revise the thesis*] which has as its head the verb *revise*. This verb, in turn, takes two arguments (a reviser and a thing revised) both of which are to be realized syntactically as Noun Phrases. We can say, then, that *revise* selects two Noun Phrases. A constituent is initially formed consisting of the head *revise* with the second of these Noun Phrases. And a second, larger, phrase is then formed by adding in the second of the two required Noun Phrases, as in (19):

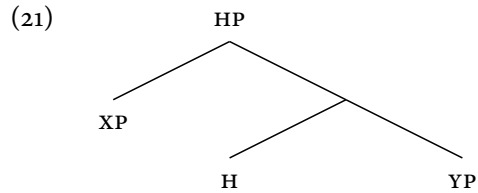


This Verb Phrase can now be selected by the verb *have*, yielding the larger structure (20):



Another of the major fault lines in current work divides those theories and theorists who believe that this program is reasonable and plausible from those who think that is not. At furthest remove from the general view outlined above is 'Construction Grammar' (Fillmore and Kay (1993), Goldberg (1995)), which holds that a grammar is an inventory of particular patterns or 'constructions' which integrate form and meaning in conventionalized and often non-compositional ways. The 'mainstream' approach, by contrast, emphasizes the commonalities of modes of syntactic composition across different 'constructions' and crucially also across different languages and language-families.

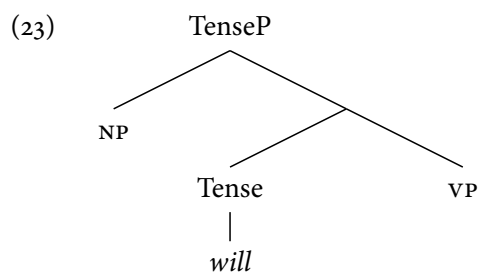
To see what is at stake here, consider how the general approach outlined here might be extended to higher levels of structure—to sentences and clauses in particular. Our discussion of (18) led us to the schematic structure in (21), in which a head takes a phrase to its right to form an inner core constituent, and then another phrase to its left to form a larger constituent:



The first argument which is merged with the head (YP of (21), NP₁ of (20)) is known as its *complement*; the second (XP of (21), NP₂ of (20)) is known as its *specifier*. In English (although not in every language, as we will see presently) complements follow heads and specifiers precede heads. The general view being developed then, is that these two core structure-building operations working in tandem with lexical (especially selectional) specifications will let us understand a great deal of what is conventionally called ‘syntax’. How can we understand, then, what a sentence is, or what a clause is?³ We can take as our starting-point the schematic representation in (22-a) with its instantiation in (22-b):

- (22) a. [Noun Phrase] Tense [Verb Phrase]
 b. [The generals] will [regret this move]

We can take this structure to be an unexceptionable instance of the general pattern in (21), if the Verb Phrase is the complement of the Tense head and if the ‘subject’ Noun Phrase in turn is its specifier:

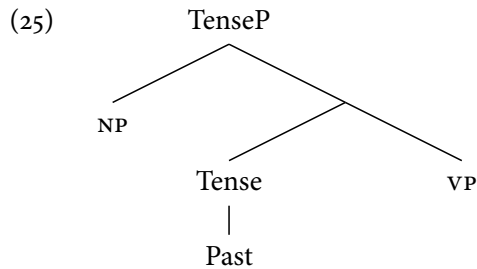


³The analysis to be outlined below receives its first definitive formulation in Chomsky (1986), though the proposals have many important antecedents, especially Stowell (1981).

On this view, the pre-theoretical category ‘sentence’ is understood as being that syntactic category which has the element Tense as its head (is a *projection* of Tense).

We can maintain this general line of analysis only if we accept that in English (and many other languages) the apparently simple (24) (which seems to consist only of a NP followed by a VP) in fact has a tripartite structure:

(24) The cat ate a hamburger.



The relation between the syntactic structure in (25) and the morphophonology of (24) is therefore less direct than in (23) (because there is no free-standing word like *will* corresponding to past tense in English).

If it is in general true that complements are selected by their heads, then it must be true that (in English at least) the Tense element (being a head) selects VP. One expectation generated by this analysis is that other languages might behave differently, since it is known that one of the core ways in which languages differ one from another is in the selectional properties of lexical items. In fact there is a large set of languages (including Hebrew, Russian, Indonesian, and Irish) that we can understand better in this perspective. These are languages in which (one can say) Tense selects categories other than VP. We will illustrate this possibility here with Irish. In this language, one sees clauses like (26):

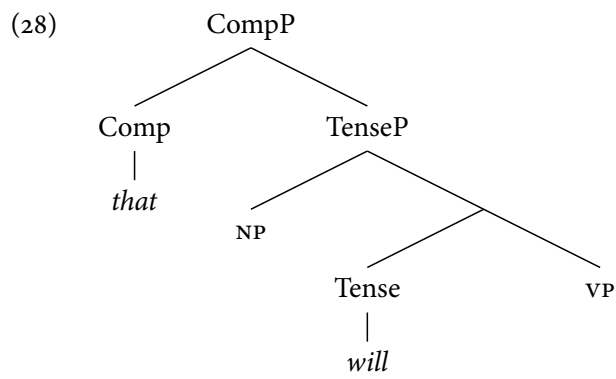
- (26) a. Ba chosúil le taibhse é.
 PAST similar with ghost him
 ‘He was like a ghost.’
- b. Is ceoltóir nótalta í.
 PRES musician famous her
 ‘She is a famous musician.’
- c. Is de bhunadh na hÉireann mé.
 PRES of people the [GEN] Ireland [GEN] I/me.
 ‘I am of Irish extraction.’

Such structures have been understood as cases in which the Tense head selects AP, NP, and PP respectively.⁴

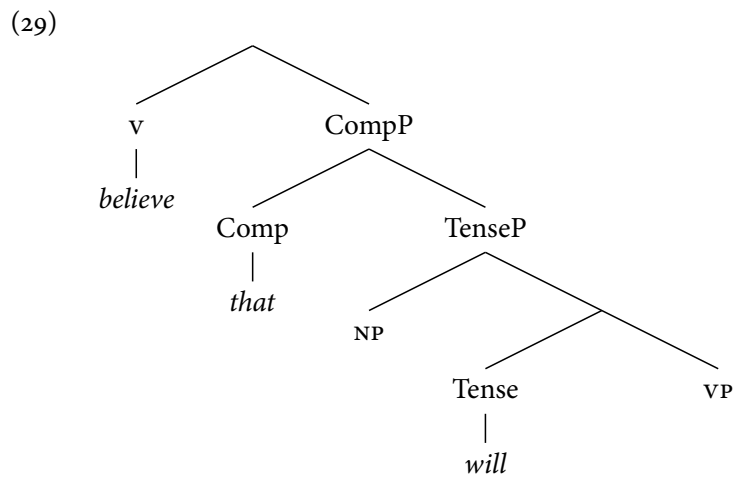
This general line of analysis extends straightforwardly to the important category of subordinate clauses—structures such as (27), for example:

(27) I believe that the generals will regret this move.

The position of *that* (at the left edge of its phrase) and the fact that it is selected by the verb *believe* suggest that it too is a head. Therefore clauses are projections of the subordinating elements (*complementizers*) such as *that*, *if*, or *for* which introduce them, and the structure of (27) is as in (28):



a structure which is in turn selected by the verb *believe* in (27):



⁴We leave aside here the question of the position of the subject in (26). One possibility is that it occupies a rightward specifier of Tense. See McCloskey (2005) for references and discussion.

Order

We saw in the previous section how the core combinatorial operations let us define two fundamental relations—the relation of complement to head, and the relation of specifier to head. These can now be used, in turn, to define relative ordering of constituents.

In English, French, Italian, Irish, Hebrew and many other languages, for instance, heads generally precede their complements and specifiers (in general) precede heads. In Turkish (30), Japanese (31), and other so-called OV languages, on the other hand, while specifiers still precede heads, heads follow complements:

- (30) John elmalar-i ser-me-di-Ø
 John apples-[ACC] like-NEG-PAST3SG
 ‘John didn’t like apples.’
- (31) Taroo-wa asagohan-o tabe-na-katta
 Taroo-TOP breakfast-[ACC] eat-NEG-[PAST]
 ‘Taro didn’t eat breakfast.’

Because these word-order regularities seem to be very consistent within languages and across different category-types (Greenberg (1963) and a great deal of subsequent work), and because the core grammatical relations (complement-of in particular) seem otherwise to be similar across languages, it has seemed right to separate out the business of defining the hierarchical relationships from the business of defining the precedence relations. Thus, the structure-building operation which defines the head-complement relation is identical in English, French, Irish, Japanese, and Turkish. In the first three of these, however, there is a rule which linearizes heads before complements, while in Japanese and Turkish, the corresponding rule linearizes complements before heads (yielding (30) and (31)). In this way, the theory seeks to capture what is constant across languages and language-types, while isolating the differences in the linear precedence rules. This strategy has been a constant of many otherwise very different theories of syntax (Gazdar et al. (1985), Stowell (1981), along with a great deal of subsequent work).

Locality

The relation that we have principally focussed on so far (*selection*) is an extremely local relation. As far as is known at present, a head H may impose selectional restrictions on the head of its complement. A verb may demand, for example, that the head of its complement be the preposition *on*; the complementizer/subordinator *for* may impose the requirement that the Tense head of its complement be the tense-less

irrealis element *to*, as in (32):

(32) I arranged [for [[the students] to [travel to Milltown Malbay]]].

The reach of selection extends no farther however. The subordinator *for* may not impose any restrictions on the *v*-position below *to*.

This restriction turns out to be general. The sphere within which one element of a syntactic structure may influence the form of another is very restricted. This is surprising. Imagine a complex syntactic structure like that which must lie behind an example such as (33):

(33) The senator may believe that the CIA expects that there will be many further attacks.

There is no reason in principle why the element *may* in (33) should not interact with, and influence the form of, the noun *attacks* in the lower clause. However this does not seem to happen. Such interactions seem rather to be local in the sense that the affected element cannot be arbitrarily far in syntactic distance from the affecting element. The relevant notion of *local interaction* is far from trivial however. Consider (34), which is from Icelandic:

(34) $\theta a\check{d}$ voru taldir hafa verið keyptir
 there were believed-NOM-MASC-PL to-have been bought-NOM-MASC-PL
 einhverjir bátar.
 some boats-NOM-MASC-PL
 ‘There were believed to have been some boats bought.’

In (34), the nominal ‘some boats’ appears in the nominative case (this is not mandated by the verb but is rather induced by the finite Tense of the highest clause) and as a consequence, somehow, the elements with which it interacts (the auxiliary verb ‘were’ the passive participle ‘believed’, the passive participle ‘bought’ agree with it in being plural and nominative and masculine. The following questions now arise:

1. what is the mechanism that renders the nominal ‘some boats’ nominative?
2. what is the mechanism by which the verbal elements with which it interacts agree with it in person, case, number, and gender?
3. what does it mean to say that a verbal element ‘interacts with’ a nominal? What principles determine what interacts with what?
4. why should such interactions exist in the first place?
5. why does the meaningless place-holder element ‘ $\theta a\check{d}$ ’ appear in the initial position of the clause?
6. why do any of these intricate and apparently useless mechanisms exist in the first place?

These are crucial questions. The mechanisms involved here (syntactic, morphological and semantic) are extraordinarily intricate, yet speakers and young learners of Icelandic handle them with graceful and unthinking ease.

It would not be productive to attempt here to sketch the theories of *local interaction* that have emerged from this body of work. However, it may be useful to note that the constraints on such interactions seem to be of two types. There are, in the first place, certain phrase-types which are absolute barriers for such interactions (these are the *phases* of much recent work, finite subordinate clauses for example). And there are, in the second place, certain relative constraints, in the sense that heads may only, it seems, enter into interactions with the closest Noun Phrase which is contained within their complement (an insight which goes back to Rizzi (1990) and in an important sense also to Chomsky (1973) and Kayne (1975)).

Beyond the Combinatorial System

The discussion of the previous section brought us well beyond necessary or expected properties of recursive systems. There is no a priori reason why such systems should show the interactions known as case assignment and agreement but such interactions are, in fact, ubiquitous among languages of the world. In this final section, we examine certain yet more radical ways in which the syntax of natural language goes far beyond what is required or expected of a combinatorial system.

Movement

The core relation of the combinatorial system, selection, is extremely local in its reach. In (35), the verb *speak* mandates that its internal argument must be a phrase whose head is the preposition *to*:

(35) They will speak to the most advanced students.

Here, as in general, selection operates locally—a head may impose requirements on the head of its complement. But consider now (36):

(36) To which students do you think they'll want to speak?

Here the required preposition is very distant indeed from its selecting verb. And there seems to be no upper bound on the distance that may separate the verb from the preposition that it selects:

(37) To which students do you think it's likely that he would want to speak?

This is the phenomenon of *displacement*, or *movement*. To speak intuitively, the phrase *to which students* seems to occupy two distinct structural positions: because it is selected by the verb *speak*, it is its complement. But because it is also an interrogative phrase, it must occupy the peripheral position required of such elements. The effort to understand such relationships is as old as generative grammar, and there remains considerable disagreement about how best to formally model the syntax of (36) and (37). There are two areas of agreement that have emerged, however.

One is that formal devices are required which go beyond what would be required or expected in simple (even recursive) combinatorial systems.

The second (and most surprising) area of consensus concerns again the central theme of locality. As noted with respect to (37) especially, there seems at first blush to be no upper bound on the syntactic distance that may intervene between the selected position of the prepositional phrase *to which students* and the left peripheral position in which it is pronounced. This is a surprising conclusion in the context of what has been said in previous sections about the locality (in general) of syntactic operations. However a great deal of imaginative and careful work has established that the appearance of non-locality here is deceptive. The relation between the base position of the prepositional phrase in (37) and its ultimate position is actually mediated by a sequence of more local relations (from clause-periphery to clause-periphery) in ways that are closely in harmony with what has emerged about the absolute constraints on locality of interactions involving agreement and case assignment (see Chomsky (1973), Rizzi (1990), Chomsky (2001)).

Ellipsis

There is an additional, and very mysterious, way in which the devices deployed in the syntax of natural languages go well beyond what one would expect of a combinatorial system. Consider the cases in (38), and compare them with those in (39).

- (38) a. They claimed that they would promote her, and they might promote her.
 b. They want to hire a syntactician, but I'm not sure why they want to hire a syntactician.
- (39) a. They claimed that they would promote her, and they might.
 b. They want to hire a syntactician, but I'm not sure why.

(39-a) and (39-b) express the same meanings as (38-a) and (38-b) respectively. (39-a) and (39-b) are both syntactically incomplete, in the sense that normally required syntactic material (a VP in the case of (39-a), a sentence (a TenseP) in the case of (39-b)) is absent in both cases. While syntactically deficient in a certain sense, neither ex-

ample is semantically deficient, since the import of the missing syntactic material is somehow expressed (though silent) in both examples of (39).

This is the phenomenon of ellipsis. It is easy to take for granted. It is easy to simply assume that it is natural to omit redundant material and that such omission reflects an imperative to not articulate the un-necessary—to, so to speak, save one's breath. But it should not be taken for granted. In the first place, the phenomenon is bound by numerous complex formal requirements which prevent seemingly natural omissions from being possible. Why, for instance, is omission of the VP impossible in (40-a), or omission of the sentence impossible in (40-b)?

- (40) a. *A proof that God exists doesn't.
 b. *He was afraid, but he couldn't tell us what. Chung (2005)?

Secondly, the 'effort saved' in most instances of ellipsis is minimal, as in (41), for instance, where VP-Ellipsis eliminates one short syllable:

- (41) She tried to make me run, but I didn't want to.

However these questions are to be answered, it is clear that the syntax of natural language hosts a set of operations which allow, under certain semantic, pragmatic and syntactic circumstances for the non-expression of otherwise obligatory material. At least since Merchant (2001), the consensus (but by no means unanimous) view has been that the mechanism at play here is one which allows for the non-pronunciation of material, which is, from a syntactic point of view, present and fully articulated.

Conclusion

The research program reviewed here is a 50-year outgrowth of the revolution in linguistic theory brought about by the publication of Chomsky (1957). As that program has worked itself out, the most striking things that have happened, it seems to me, are the following. There has, in the first place, been an extraordinary explosion of knowledge. The kinds of question which this program invites an investigator to ask seem to lead to the making of many new observations. Correspondingly, the task of describing (or more ambitiously understanding) the syntactic systems of even the most studied and best described languages has proved to be a much more daunting task than anyone initially anticipated. Thirdly, as work has progressed, the idea of locality in syntactic interactions has emerged as a central and unifying theme, in a way that could not have been initially anticipated.

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