Questions
of Syntax

Richard S. Kayne

Questions of Syntax

OXFORD STUDIES IN COMPARATIVE SYNTAX
Richard Kayne, General Editor

Questions of Syntax

Richard S. Kayne

OXFORD
UNIVERSITY PRESS

CONTENTS

PREFACE

The sixteen papers in this collection have been divided, following a suggestion by a very helpful reviewer, into three groups. The first group of four papers emphasizes comparative syntax. Of these, the first two are more general in character, the last two more specific.

Chapter 1, "More Languages Than We Might Have Thought. Fewer Languages Than There Might Have Been" focuses on two familiar key questions. What properties do all languages have in common? And then, how exactly do languages vary in their syntax and what are the principled limits on that variation?

The second chapter, simply called "Comparative Syntax," takes the primary importance of comparative syntax to lie in the fact that it provides us with new kinds of evidence bearing on questions concerning the general character of the language faculty. Figuring out what cross-linguistic generalizations hold and why exactly they hold helps us to narrow down the set of hypotheses that we entertain about the language faculty. Comparative syntax in all its range can be seen as a new and invaluable window on the language faculty.

Chapter 3 has the title "Comparative Syntax and English *Is To*." It revolves around the fact that a Romance or Germanic language has *is to* in the manner of English only if it has a prepositional complementizer *for*. This comparative syntax generalization yields new support for the widely accepted idea that the language faculty does not require every syntactically and semantically active element to have phonological realization. The deontic modal-like interpretation of *is to* sentences must be calculated using a silent element like MEANT or SUPPOSED (capitals here and in what follows indicate silence); it cannot be read off just those pieces of *is to* sentences that happen to be pronounced.

"Having 'Need' and Needing 'Have'," written in collaboration with Stephanie Harves, is the fourth chapter. It takes off from a survey of a number of the world's languages that reveals that only those languages that have a transitive verb used to express possession also have a transitive verb corresponding to *need*. This generalization suggests a Hale and Keyser–style incorporation

analysis, whereby a nominal *need* incorporates to an unpronounced verbal HAVE, yielding the appearance of a transitive verbal *need*.

The second group of papers is eight in number and revolves primarily around silent elements. Chapter 5, explicitly entitled "The Silence of Heads," argues, on the basis of considerations involving complementizers, sentence-final particles, *need*, aspect, tense, focus and topic, agreement morphemes, determiners, particles and adpositions, that many more heads in the sentential projection line (and elsewhere) are silent than is usually thought. This conclusion is then suggested to reflect in part the fact that all projecting heads are technically silent, since they are just formal features, and in part the fact that the presence of phonological features precludes the presence of another specifier.

Chapter 6, "A Note on Some Even More Unusual Relative Clauses," focuses on relative clauses that contain a relative pronoun whose antecedent is actually not the head of the relative. The familiar relation between the head of a relative and the relative pronoun can thus be seen as a special case of a more general relation between a relative pronoun (a stranded determiner) and its antecedent (whose movement has stranded that determiner). The piece of relative clause syntax that is the antecedent–relative pronoun relation is, then, less specific to relative clauses that it might have seemed.

A more familiar question is at the heart of chapter 7, "The Unicity of *There* and the Definiteness Effect." Why is there a definiteness effect in existential sentences? The proposal developed here rests in large part on an anti-homophony approach to *there*. If we take the identity in form between expletive *there* and various other instances of *there* not to be accidental, we are led to the conclusion that expletive *there* must originate DP-internally as an instance of deictic *there* (as in non-standard *that there book*). The DP-internal origin of expletive *there* then makes it possible to take the definiteness effect to in essence be a blocking effect imposed by certain determiners on the extraction of expletive *there*. If so, then the definiteness effect seen in existential sentences is not specific to such sentences, but is related to the opacity effect studied by Fiengo and Higginbotham.

Chapter 8, "Notes on French and English Demonstratives" (written in collaboration with Jean-Yves Pollock) has as one of its central empirical points the contrast in English between acceptable sentences like *This is my friend Bill* and unacceptable sentences like **This prefers syntax to phonology*. The fact that *This is my friend Bill* is fully acceptable even though bare *this* (i.e., *this* accompanied by a silent noun) cannot otherwise refer to humans suggests that in such sentences *this* originates within a DP containing *my friend Bill*.

On a very different topic, chapter 9, "Some Thoughts on *One* and *Two* and Other Numerals," takes the position that phrases of the form "numeral + noun" never involve direct merger of numeral and noun. In every case,

derivations are more complex than that. With numeral *one*, there is, in addition to a classifier, the necessary presence of (a possibly silent counterpart of) *single* or *only*. With the numerals *two* through *four*, coordinate structures are involved. From *five* on up, silent SET is necessarily present.

Chapter 10, "English *One* and *Ones* as Complex Determiners," overlaps with chapter 9 with respect to numeral *one*, but is primarily concerned with the anti-homophony-based hypothesis that all instances of *one* can be unified. *One* and *ones* are in every case complex determiners whose relation to their antecedent, when they have one, is mediated by a silent noun. *One* and *ones* are never themselves nouns taking an antecedent directly.

In chapter 11, "*Once* and *Twice*," more specific questions are addressed. It is argued that both *once* and *twice* are quite complex phrases (containing two visible morphemes and one silent one), rather than simple lexical items. The presence of silent TIME with *once* and *twice* (and in various other cases mentioned) indirectly reinforces the presence of other antecedentless silent elements that are smiled upon by the human language faculty. Since silent elements of this sort are not visible (even via an antecedent) in the primary data available to the learner, study of their properties, for example of their singularity or plurality, and of their licensing conditions, provides us with a privileged window onto the invariant core of the language faculty.

Chapter 12, "A Note on *Grand* and Its Silent Entourage," is even more specific. Colloquial English sentences like *It'll cost you ten grand* are analyzed as [It'll cost you ten THOUSAND BUCKS IN grand TOTAL], with implications for the licensing of silent elements, for constraints against synonyms, for left-branch constraints and for the movement of silent elements.

The third and final group of papers has to do with ordering and with doubling. Chapter 13, "Why Are There No Directionality Parameters?" emphasizes that a "why"-question such as the one in the title can be interpreted in two ways. On the one hand it can, in this case, be interpreted as asking for evidence that supports the assertion that there are no directionality parameters. Another interpretation takes it for granted that it's true that there are no directionality parameters, and then asks why the language faculty should be put together in that fashion. The first part of this chapter touches on some evidence of the standard sort (in the introduction and sections 2 and 3). Section 4 moves on to the second interpretation of the "why"-question. The essence of the proposed answer is that Merge creates ordered pairs and that precedence is an integral part of core syntax.

Chapter 14, "Toward a Syntactic Reinterpretation of Harris and Halle (2005)," bears on the question of the relation between syntax and morphology. Harris and Halle's primarily morphological approach to certain non-standard Spanish phenomena involving pronominal clitics and the verbal plural morpheme -*n* must, I attempt to show, be replaced by a more syntactic approach.

The last two chapters revolve around an underknown subtype of inversion in French. Chapter 15 is entitled "Locality and Agreement in French Hyper-Complex Inversion" and was written in collaboration with Jean-Yves Pollock. Chapter 16 is called "Clitic Doubling, Person and Agreement in French Hyper-Complex Inversion."

French HCI (hyper-complex inversion) constitutes a probe into questions of locality related to clitic climbing, and shows that some French allows clitic climbing out of non-causative infinitive phrases in cases not studied previously. HCI also constitutes a new probe into questions of number agreement involving the licensing of two distinct subjects in what looks like a simple sentence. The correct analysis appears to necessarily involve, in at least some cases, two distinct agreement morphemes, in a way that sharply distinguishes singular from plural. HCI is in addition an instance of clitic doubling that is subject to a person restriction not found with more familiar cases of clitic doubling. This restriction is argued to result from an incompatibility between the postverbal subject clitic of HCI and the demonstrative structure associated with first- and second-person pronouns. HCI shares with past participle agreement the property that it is incompatible with an unmoved lexical direct object, in a way that presents a challenge to Agree, if Agree is taken to be available even in the absence of movement.

ACKNOWLEDGMENTS

SECTION A
Comparative Syntax

More Languages Than We Might Have Thought. Fewer Languages Than There Might Have Been

1. INTRODUCTION

In working toward an understanding of the syntactic component of the human language faculty, syntacticians necessarily ask question after question. One prominent question is:

(1)   What properties do all languages have in common?

    A related question is:

(2)   How exactly do languages vary in their syntax and what are the principled limits on that variation?

2. FEWER LANGUAGES THAN THERE MIGHT HAVE BEEN

In partial answer to the first question, we can think of the following:

(3)   All languages have negation.[1]

(4)   All languages have demonstratives (such as *this, that*).[2]

---

1. Cf. Horn (1989, xiii) and Dryer (2005, 454).
2. Cf. Lyons (1999, xv).

The interest of these two properties is enhanced by the observation that other familiar elements are not universally present (at least not in visible form), e.g., definite and indefinite articles, which many languages lack, Russian being one well-known example.

A second, different type of property that all languages have in common is given by the statement that all languages prohibit sentences such as:[3]

(5)   *Which student were you talking to this student and?

Even in languages in which an interrogative phrase such as *which student* is normally brought to sentence-initial position, as it is in English and in Italian, it is never possible to apply that operation to the part of a coordination that immediately follows *and*.

A third type of property, different from the first two, that holds of the set of human languages is the following one:

(6)   Every possible language is such that its mirror-image is an impossible language.

Put another way, there are no mirror-image pairs of languages. There is no mirror-image English (or mirror-image Italian), where mirror-image English would be defined as a language identical to English in its vocabulary, but such that every well-formed English sentence would have a counterpart in mirror-image English with the same words in reverse order. For example, corresponding to English:

(7)   The dog was running after the cat.

mirror-image English would have:

(8)   *Cat the after running was dog the.

The property given in (6) is clearly valid, as far as anybody can see, even if, for the purpose of evaluating it, we set aside questions of constituent structure. Once we bring in such considerations, however, we can formulate an even stronger principle for which I have used the term *antisymmetry*.[4] Informally put, antisymmetry states in part that if some constituent structure (tree structure) representation is the correct one for some sentence, or phrase, in some language, then the exact mirror-image of that constituent structure representation cannot be correct for any sentence or any phrase in any language.

---

3. Cf. Ross (1967).
4. Cf. Kayne (1994).

Taken together, (3)–(6) have told us that there are many fewer languages than one might have imagined. The set of human languages might have included some lacking negation, or lacking demonstratives, but such languages are not to be found. A language that would allow (5) is imaginable but unattested and is virtually certain never to be attested. One can, finally, readily understand what mirror-image English would look like if it existed, but it doesn't exist, and neither does any language exist, as far as we can tell, that is the exact mirror-image of some other possible language. As in the title of this chapter, there are many fewer languages than there might have been had the human language faculty been otherwise than it is.

We will of course also want to reach an understanding of why (3)–(6) hold as properties of the human language faculty. The properties given in (3) and (4) can be put into context alongside the wide-ranging cartography work of Cinque (1999) (along with related later work of his), which suggests that there are a considerable number of syntactic elements common to every human language. Future work will ask how best to characterize that set of common elements, as well as how best to distinguish, within that set of common elements, those that can apparently consistently be left silent in some languages from those, like negation and demonstratives, that are always visible (at least sometimes) in every language.

The property concerning coordination given in (5) might be reducible to Rizzi's (1990) relativized minimality principle or to some variant of it. (It might be, more specifically, that the first phrase of the coordination sharply blocks the extraction of the second phrase.) As for (6), an initial answer is that it follows from the Linear Correspondence Axiom (LCA) of Kayne (1994). A further, more ambitious, question asks why the language faculty should follow the strictures of the LCA. The answer suggested in Kayne (2011) rests on the view (not shared by Chomsky[5]) that temporal/linear order is uniformly integrated by the language faculty directly into the merge operation that creates larger constituents out of smaller ones and that lies at the heart of syntax.

3. MORE CURRENTLY SPOKEN LANGUAGES THAN WE MIGHT HAVE THOUGHT

The second question given toward the beginning of this chapter, in (2), was the following:

(9) How exactly do languages vary in their syntax and what are the principled limits on that variation?

---

5. Cf. Chomsky (2005, 15), who takes linear order to be "restricted to the mapping to the phonetic interface."

This second general question can be approached by linking it to a third:

(10)   How many languages are there?

which should itself be broken down into two further subquestions:

(11)   How many possible languages are there?
(12)   How many languages are currently spoken?

The question in (12) looks more manageable than the one in (10), but it is in fact less easy than it might look. Encyclopedias and other sources often give an answer on the order of 6000 languages currently spoken.[6] But they don't always say how they've done the counting, or justify the criteria they've used.

One criterion often thought of in counting or individuating languages is that of mutual intelligibility, i.e., count two languages as distinct only if they're mutually unintelligible. Although that criterion may be useful for some purposes (even with the complication that mutual intelligibility is in practice not a black-and-white matter), it is not a sufficiently fine-grained criterion for a syntactician.

Take English. Is there one English or many? If there are many, how many? We all know that British accents differ from American accents, i.e., we all know that the phonology of British English differs from the phonology of American English. What is less widely appreciated is that the syntax of British English differs from the syntax of American English, as we shall now see.

Here is one example:[7]

(13)   Are you going to the theater tomorrow? I might (do).

In such cases, British English allows *I might do, He might have done*, etc., in a way that American English does not. To count English as one language would amount to deciding to overlook this rather striking syntactic difference. Let us agree, then, to count British English and American English as two languages (despite substantial mutual intelligibility), each with its own syntax. Of course the syntactic differences between them are smaller than those between either of them and Japanese. But as far as we can see, this is a matter of degree, not a matter of kind.

One might wonder where this is leading. What about American English itself? We all know that there are many different accents within the United States. Again, what is less widely appreciated is that there are also, within the United States, many differences in syntax. As an example, consider:

6. For some discussion, *cf.* Comrie (1987, 2), Comrie et al. (2005, 3), Crystal (1987, 284).
7. Cf. Algeo (2006, 288).

(14)   I might could.

which is found in the English of the southern United States.[8] Why would we want to say that the English that allows *I might could* is identical in its syntax to the English that disallows *I might could*? The syntax of the one is simply not identical to the syntax of the other.

In this way, we are led to distinguishing, syntactically speaking, southern American English from, say, northeastern American English, which lacks *I might could*. But northeastern American English is itself not uniform in its syntax, since in northern New England one finds:[9]

(15)   Mary is intelligent, but so isn't John.

which is not at all possible in my (New York City) English.

One might at this point think of bringing in the notion 'dialect' and of calling the English that allows (13) or (14) or (15) a dialect of English, a different one in each case. As most linguists recognize, though, the dialect/language distinction is not in essence about phonology or syntax (or semantics), but rather concerns the political/cultural/social importance of the sets of speakers in question and the associated prestige of the language/dialect. We can note in addition that neither American English nor British English is called a dialect of English (at least not by Americans).

Once we do bring in dialects, a revision of the question in (12) is called for. A more satisfactory version is:

(16)   How many languages/dialects are currently spoken?

This version makes it clear that as far as syntax is concerned (and similarly for phonology and semantics), what are called dialects must be taken into account.

It would be natural to ask again how far this is taking us. If we look for and find more and more and more syntactic differences within what we call English, how many syntactically distinct subvarieties of English will we end up with?

Before attempting to answer this question, let me point out that, although the syntactic differences so far mentioned can be characterized regionally (British English, southern American English, northeastern American English, northern New England English), that is not always the case, as far as we know. An example of a non-regional syntactic difference would be the one indicated by:[10]

(17)   these kind of horses

---

8. Cf. Hasty (2014).
9. Cf. Wood (2014).
10. The existence of which is noted in the *Oxford English Dictionary* under *kind (of)*.

For a subset of speakers of English, it is possible to have singular *kind* in combination with plural *these*, as in (17). For other speakers, (17) is excluded. Yet in this case there is no obvious regional generalization about where such speakers are found.

As a second instance of what seems to be a syntactic difference across varieties of English that is not characterizable in regional terms, consider:

(18)   a woman that's husband is quite wealthy

which has been attested in various parts of the English-speaking world.[11] The standard version of (18) is:

(19)   a woman whose husband is quite wealthy

in which the relative clause is introduced by *whose*. Examples like (18), in which the relative clause is introduced by *that's*, are not at all possible in my English. So I was astonished many years ago to hear one example like it produced by an old friend of mine who had grown up in New York City only a few miles from where I did.

It would be easy to draw up a longer and longer list of syntactic differences within English, such as the ones mentioned so far, that split the set of English speakers into overlapping or non-overlapping subsets. Although useful and instructive for both descriptive and theoretical purposes, drawing up even a partial list of that sort would be a long-range enterprise that far exceeds the bounds of this chapter.

A quicker answer to (16) can be reached using the following thought experiment. Take any two speakers of English. How long would it take an English-speaking syntactician to discover a clear difference in syntax between those two speakers? Assume, as my experience working with syntax leads me to believe true, that there is, for every pair of speakers of English, an answer to this question, i.e., that there is a finite length of time, whether five minutes or five hours or five days or five years, within which I could find a clear syntactic difference between the English of the one and the English of the other. If so, then no two speakers of English have exactly the same syntax. (By parity of reasoning, the same is almost certain to be true of all other languages/dialects.)

The English language, then, has a current population of speakers whose syntax (and phonology and semantics) is sufficiently similar to justify, against the background of political/social/cultural considerations, the convenience of a single term *English*. I have tried to show that this can be so even if, as seems extremely likely, there are no pairs of speakers of English whose syntax is identical across the board.

11. Cf. Seppänen (1999) and Herrmann (2005).

Extrapolating from English to the rest of the world, the number of syntactically distinct languages currently spoken may well be at least (given bilingualism) as great as the number of people currently alive (setting aside babies up to a certain age).

4. MORE POSSIBLE LANGUAGES THAN WE MIGHT HAVE THOUGHT

The question in (11) should also be revised to integrate dialects. Revising it yields:

(20)   How many possible languages/dialects are there?

Included in this set, in addition to those currently spoken, are those languages or dialects that were spoken in the past, those that will be spoken in the future and even those possible languages that may for one reason or another never be spoken. To try to answer (20), we can proceed as follows.

We already know of a great many syntactic differences found across languages and dialects. A small number have been discussed earlier. To approach (20), let us take some arbitrary pair of syntactic differences and ask whether or not they are independent of one another. (In technical terms, this amounts to asking whether or not the two differences in question can be traced back to a single difference in the value of a single more abstract syntactic parameter.)

To see how this kind of reasoning works, consider the following example. English and Italian differ in that Italian allows sentences with no visible subject in a way that English does not:

(21)   Parla troppo.

(22)   *Talks too much.

English and Italian also differ in that in sentences with an auxiliary and a past participle, Italian has an alternation between auxiliary "be" and auxiliary "have" that English does not. Thus Italian allows:

(23)   Gianni è arrivato ieri.

whereas English would require 'have':

(24)   John has/*is arrived yesterday.

It seems virtually certain that these two Italian-English differences are independent of one another. Evidence comes in part from other languages, e.g., from the fact that Spanish is like Italian with respect to (21) but like English

with respect to (24), while French is like Italian in (23) but like English in (22). (Put more technically again, there is almost certainly no single parameter that underlies both the subject difference and the auxiliary difference at issue.)

The key question is now:

(25) How many such independent differences are there, cross-linguistically?

Put another way:

(26) How large is the set of syntactic differences such that each is independent of all the others?

More technically:

(27) How many independent syntactic parameters does the language faculty allow for?

There is no simple way to answer this question, but it seems to me reasonable to think, just taking into account those syntactic differences that we are already aware of, that the answer to (25)–(27) may well be on the order of 100.

If so, and if each parameter has two possible values that can, by assumption, fluctuate independently of the values of all the other parameters, then the number of possible combinations of parameter values, and hence the number of possible syntactically distinguishable languages, will be 2 to the 100th power, which is approximately 10 to the 30th power, i.e., the number that would be written out as 1 followed by 30 zeros. In other words, if the assumed answer to (25)–(27) is 100, or even close to that, then the total number of syntactically distinct languages made available in principle by the language faculty is 'astronomical'.

Syntacticians need not despair (nor need anyone else despair). Syntacticians do not need to (and could not possibly) study each and every one of these 10^{30} languages individually.[12] We do, on the other hand, need to reach an understanding (and are in the process of doing so) of what the set of parameters is, of what the set of possible syntactic differences looks like, of what the limits are on those differences, and of why those limits hold. Simultaneously, we need to reach an understanding (and are in the process of doing so) of what properties all possible human languages have in common, and of why they have in common those properties and not others.[13]

12. For an important methodological discussion of the study of "exotic" languages, see Davis et al. (2014).
13. For some relevant discussion, see Chomsky (2005).

CHAPTER 2

Comparative Syntax

1. INTRODUCTION

In the course of the past fifty or sixty years, our knowledge and understanding of human language syntax has become qualitatively better. Part of that qualitative improvement has come from advances in the subfield of comparative syntax that is the topic of this chapter.*

To put this in perspective, it is useful to think in terms of the notions of observational, descriptive, and explanatory adequacy.[1] Observational adequacy can be said to be achieved when one has gotten the facts right concerning acceptability judgments and judgments of interpretation.

"The facts" are the facts that one is concerned with, and not, of course, "all the facts" of syntax or comparative syntax, whose order of magnitude lies, as in other sciences, far beyond our reach. This is true even for a single language.[2]

Syntacticians take as a primary object of study the set of possible human languages. The entire set is again far beyond our reach. To one degree or another, we have access to those languages currently spoken and to an exceedingly small percentage of those previously spoken. To those not currently spoken but that might be spoken in the future, we have at present no access. Again, such limitations are, within the sciences, not specific to linguistics.

These limitations aside, the amount of data that is available to syntacticians is enormous. Much of it is crystal clear. Huge numbers of sentences are fully

---

*I am indebted to Luigi Rizzi and to two anonymous reviewers for helpful comments on an earlier version of this chapter.

1. Cf. Chomsky (1964, 29).

2. For example, Gross (1975, 18) estimated that the number of French sentences to be evaluated, even restricting oneself to sentences of 20 words or less, is on the order of 10^{86}.

acceptable (or fully unacceptable) to all speakers of the language in question, without hesitation and without disagreement across speakers.

There are also sentences in one language or another whose status is unclear. Often it turns out that an initial lack of clarity is due to a real dialect difference that had not been suspected. When that dialect difference is properly taken into account, one sees that the sentence is question is in fact in a clear way either fully acceptable or fully unacceptable, depending on the choice of dialect.

As an example, we can take:

(1)   You should work hard, and we should do, too.

which is robustly found in British English, but not in American English.[3] In other words, the status of (1) is not unclear; rather, (1) is fully acceptable for many speakers of English, and fully unacceptable for many others. For all those speakers, the status of (1) is crystal clear.[4] Additionally clear is the fact that, as in phonology, there is no single English syntax. Work in comparative syntax takes that as given.

As a second example, consider:[5]

(2)   We prefer those kind of horses.

in which singular *kind* follows plural *those*, a possibility fully acceptable to many, though fully unacceptable to others. This case differs from that of (1) in that, whereas (1) involves a dialect difference that at least as a first approximation is characterizable in geographical terms, the same does not, apparently, hold of (2). Both types of dialect differences seem to be common, and all good work in syntax is sensitive to both types.

The stability and clarity of acceptability judgments in enormous numbers of cases is not affected by the existence of instances of less clear judgments. Recent, general discussion of this point can be found in Sprouse (2011).[6] Sprouse's well-grounded position is disagreed with to a certain extent by Fedorenko and Gibson (2010), on the basis of psycholinguistic work having

---

3. Cf. Chalcraft (2006), Haddican (2007), and Baltin (2012). All English seems to have:

   i)   You should work hard, and we should, too.

4. Occasionally, data can be unclear in a way not immediately reducible to dialect differences. In such cases, a reasonable strategy is to temporarily set such data aside.
   5. Cf. Selkirk (1977, note 11) on *these many people*.
   6. Cf. also Phillips and Lasnik (2003), Phillips (2009), Sprouse (2009), Bader and Häussler (2010), and Culicover and Jackendoff (2010).

to do with multiple interrogation in English. There are contrasts of the following sort:[7]

(3)   ?You know perfectly well where who put what.

(4)   *You know perfectly well where who put it.

Having a third *wh*-phrase in cases like (3) where the second one is the subject clearly leads to increased acceptability, as compared with (4). Fedorenko and Gibson (2010) designed an experiment in which sentences akin to (3) were compared, not with sentences like (4), but rather with sentences like:

(5)   *You know perfectly well where who went.

that contain two-argument verbs, as opposed to the three-argument verb of (3)/(4). They found that their experimental subjects failed to judge (3) more acceptable than (5). Like many psycholinguistic experiments, theirs was devised as a reading task, with the result that speakers were in effect presented with sentences that were stripped of their intonation. It may well be that in certain cases intonation is of little significance, but, as Bolinger (1978) had in effect noted, multiple interrogation is not one of them.[8] Sentences like (3) require a quite special, staccato-like intonation (which doesn't help, however, in (4) or (5)). Whether Fedorenko and Gibson's subjects, in the course of the reading task, silently associated (3) and sentences like it with the required intonation is impossible to ascertain, with the consequence that their data is impossible to evaluate. Whether a well-designed psycholinguistic experiment can be constructed that will add to the knowledge of multiple interrogation that syntacticians have accumulated remains to be seen.[9]

In addition to psycholinguistic work of the sort discussed by Sprouse (2011), another, more specific, way to appreciate the solidity of acceptability judgments is to look at the grammars of Italian, Spanish, Catalan, Basque, and English edited recently by Renzi et al. (1988–1995), Bosque and Demonte (1999), Solà et al. (2002), Hualde and Ortiz de Urbina (2003), and Huddleston and Pullum (2002), respectively. These grammars are all informed by work done in generative syntax, broadly interpreted. They are primarily descriptive, rather than theoretical. Each contains contributions by many authors. The Huddleston and Pullum grammar, for example, is almost 2000 pages long, with large-format pages, densely printed and densely written. It contains a very considerable

7. Cf. Kayne (1983a, 235) and references cited there. Interrogatives embedded under non-negative *know* are used in order to avoid interference from echo readings.

8. Bolinger (1978) has an example in which focal intonation on the verb improves acceptability, too.

9. All psycholinguistic work needs to take into account the possibility of unexpected dialect variation, whether geographically based or not.

amount of information about English (morpho)syntax. The editors and most of the contributors are not speakers of American English. Yet I (who am a speaker of American English), in reading many and various subparts of it in the years since it was published, have consistently found myself in clear agreement with the judgments given (which will sometimes make explicit reference to dialect differences within English). In other words, the Huddleston and Pullum grammar and, I would guess, the other four mentioned, and others like them, contain a huge amount of extremely solid syntactic data that straightforwardly meets the criterion of observational adequacy.

Descriptive adequacy can be said to be achieved when correct generalizations are discovered about such data. Whether or not it is always easy to draw the line between observational and descriptive adequacy, the five grammars mentioned certainly reach descriptive adequacy in a large number of cases.

Explanatory adequacy can be said to be achieved when such generalizations can be shown to follow from general properties that hold of the human language faculty. Work of this sort is to be found in the syntactic research literature rather than in descriptive grammars.[10]

2. COMPARATIVE SYNTAX

Notions of observational, descriptive and explanatory adequacy can be usefully transposed to comparative syntax.

Observational adequacy in the context of comparative syntax is achieved when one has gotten the facts of comparative syntax right. Facts in comparative syntax necessarily involve more than one language or dialect. (I will use the term 'language' to cover dialects, too.) They typically have the form "Language A differs syntactically from Language B in the following way" or "Language A and Language B are identical in the following respect." A well-known example of the first sort would be "French and English differ in that unstressed object pronouns precede the verb in French (apart from positive imperatives), but follow it in English," as in:

(6)   Vous les voyez souvent. ("you them see often")

(7)   You see them often.

A banal example of the second sort would be "French and English are alike in that definite articles precede the associated nouns in both languages." In a

---

10. Chomsky (2004) aims to go "beyond explanatory adequacy" and to ultimately show that properties of the language faculty can follow from principles with even broader coverage.

very large number of cases, such observations are completely straightforward, in particular when the languages in question are both well studied.

I have here used examples involving just two languages, but comparative syntax sets no limit in principle on the number of languages to be compared. In practice, one limit is set by the number of languages/dialects currently spoken (plus those that are extinct yet to some extent accessible). A smaller limit than that is set in practice by our ability to discover and to manipulate data in very large quantities.

The two French-English comparisons just mentioned may give the impression that achieving observational adequacy in comparative syntax is easy. It is, and it is not. In the case of French and English syntax, there are innumerable solid facts that have been accumulated over the years and decades, reaching back to pre-generative syntax work.[11] What is specific to comparative syntax is the collating of those facts and observations. In the case of gross word order differences and similarities such as those just given for French and English, the observational task does seem easy. But other comparative facts are less well known. For example, French has no exact counterpart of:

(8)   John has written three articles but Mary has written four.

French needs to add a pronominal clitic to the second half. This is shown by the impossibility of the French word-for-word counterpart of (8):

(9)   *Jean a écrit trois articles mais Marie a écrit quatre.

as opposed to the well-formed:

(10)   Jean a écrit trois articles mais Marie en a écrit quatre.

which contains the pronominal clitic *en* (that can be though of as approximately equivalent to English *of them*).

Less well known still, French has no exact counterpart of:

(11)   At the age of seven, Mary could speak three languages.

French would need to express *years* (= *ans*) overtly:

(12)   A l'âge de sept ans, Marie . . .

---

11. For example to Jespersen (1970–1974) for English or to Martinon (1927) and Grevisse (1993) for French.

Contrary to English, omitting *ans* is not possible in French:

(13) *A l'âge de sept, Marie . . .

Even to a syntactician bilingual in French and English (or in whatever pair of languages is at issue), observational adequacy would not be automatic. Consider what is, in practice, usually the most interesting starting point for comparative syntax work,[12] namely, the observation of differences, often of differences that are "surprising" (against the background of what is known about syntax in general). The (somewhat) difficult part of the observational task is simply to notice those differences in the first place. But we can make the reasonable assumption that with sufficient hard work done by a sufficient number of syntacticians over a sufficient period of time, a very substantial set of syntactic differences between Languages A and B will be unearthed, for an arbitrarily large number of choices of A and B.

Descriptive adequacy in the case of comparative syntax involves discovering generalizations over the comparative observations that have been made. Assume that Languages A and B differ with respect to properties P and Q, such that A has both P and Q and B has neither. Assume further that in examining Languages C, D, and E, one discovers that each one either has both P and Q or has neither P nor Q. Then there appears to be a generalization to the effect that a language will have P if and only if it has Q.

Put another way, in thus studying Languages A through E we will have discovered a (bidirectional) correlation across those languages between properties P and Q. There may also (in practice, more frequently) be partial (unidirectional) correlations, in the sense that we may find cases in which having property P implies without exception having Q, but in which Q does not imply P.

As an example of a unidirectional comparative syntax correlation, let us take P to be the property of having a transitive verb corresponding to English *need* and Q to be the property of having a transitive verb corresponding to English *have*. Harves and Kayne (2012) discovered that P appears to imply Q. If a language has transitive *need*, then it necessarily has transitive *have* (though not the other way around).

This generalization was established by looking at a considerable number of languages. It is formulated in such a way as to be readily testable as work on additional languages comes into play.

---

12. It seems likely that few cognitive scientists know much about the work done in comparative syntax over the past 30-plus years. A convenient starting point would be the various papers by different authors in Cinque and Kayne (2005); also the websites of the Atlante Sintattico d'Italia/Syntactic Atlas of Italy (http://asis-cnr.unipd.it) and the Syntactic Atlas of the Dutch Dialects (http://www.meertens.knaw.nl/projecten/sand/sandeng.html). For comparative syntax in a historical context, see Longobardi and Guardiano (2009).

This comparative syntax generalization about *need* and *have*, although finer grained, is similar to some of Greenberg's (1966) universals. More specifically, it is similar to those that he put forth as being exceptionless. Just as ours can be tested across more and more languages in the future, so have Greenberg's proposals for exceptionless generalizations been tested to some extent.[13]

Our generalization about *need* and *have* is not, however, comparable to those of Greenberg's "universals" that he put forth as "(overwhelming or strong) tendencies." As Hawkins (1983) in effect noted, a reasonable way to interpret these "tendencies" is to take them to be examples of potential cross-linguistic generalizations that have, however, sharp counterexamples. As in Hawkins's work, one can try to reformulate one or another of these "tendencies" in such a way that the counterexamples disappear. Alternatively, the "tendency" in question may have been, in one or another case, simply a mistaken proposal.

The distinction between "tendencies" and universals is overlooked by Dunn et al. (2011), who in particular misinterpret the proposed universals of generative syntax as "tendencies."[14] Dunn et al. (2011) also, in a way that will affect their statistical discussion, underestimate the number of syntactically distinguishable human languages by orders of magnitude. The often cited figure of 5000 languages, while perhaps useful in some way, is hardly relevant to the study of syntax.

An estimate of 5000 languages would have to evaluate the contribution of Italy at one language. Yet Renzi and Vanelli (1983) showed that in Northern Italy alone one can individuate at least 25 syntactically distinct languages/dialects solely by studying the syntax of subject clitics. I myself have had the privilege of participating in a Padua-based syntactic atlas/(micro)comparative syntax project with Paola Benincà, Cecilia Poletto, and Laura Vanelli,[15] extrapolating from which it is evident that a conservative estimate would be that present-day Italy has at least 500 syntactically distinct languages/dialects. 500,000 would then be a (very) conservative extrapolation to the number of syntactically distinct languages/dialects in the world at present. A less conservative number can be arrived at as follows.

We know that there are distinct varieties of English—many syntactic differences have been discussed that distinguish American from British English.[16] And various regional syntactic differences within the United States or within the United Kingdom are well known.[17] But what if it turned out that for every single pair of English speakers (and similarly for other languages) one could find at least one sharp syntactic difference? My own experience in

13. Especially by Dryer (1992) and in other work of his.
14. Nor is the distinction made sufficiently clear by Boeckx (2014).
15. Cf. Benincà (1994) and Poletto (2000).
16. Cf., for example, Zandwoort (1965, 343), Merat (1974), Johansson (1979), and Trudgill and Hannah (1994, 56–82).
17. Cf., for example, Klima (1964), Trudgill and Chambers (1991); also Henry (1995).

observing the syntax of English speakers, both linguists and non-linguists, makes me think that it is likely that no two speakers of English have exactly the same syntax. If it is true that no two English speakers have the same (syntactic) grammar,[18] then the number of syntactically distinguishable varieties of English must be as great as the number of native speakers of English. Extrapolating to the world at large, one would reach the conclusion that the number of syntactically distinct languages/dialects is at least as great as the number of individuals presently alive (i.e., more than 5 billion). Adding in those languages/dialects which have existed but no longer exist (not to mention those which will exist but do not yet exist) it becomes clear that the number of syntactically distinct (potential) human languages is far greater than 5 billion.

One might object that many of these languages/dialects will be distinct from one another only to an insignificant degree. For example, two English speakers might have identical syntax everywhere except in particle constructions, and even there, the differences might readily lend themselves to being called "tiny," especially if, as is often the case, they had no effect on mutual comprehension. Yet such tiny differences may (or may not) be of substantial theoretical importance.[19]

It is worth noting the modest significance of the number of (possible) human languages for the acquisition of syntax. Under the assumption that acquisition proceeds by parameter setting, the child does not pick its language whole out of a set consisting of all possible languages. Rather, the child sets individual (syntactic) parameters. If the number of possible languages were so large that the number of parameters the child had to set was unmanageable (i.e., not learnable in the amount of time available), there would indeed be a problem. However, the number of independent binary-valued syntactic parameters needed to allow for 5 billion syntactically distinct grammars is only 33 (2 raised to the 33rd power is about 8.5 billion). It seems plausible that the child is capable of setting at least that many syntactic parameters. If the number of independent binary-valued syntactic parameters is a still manageable 100, then the corresponding number of grammars is, innocuously, over one million trillion trillion (i.e., greater than 10 raised to the 30th power); for a way of estimating the number of such parameters, see Kayne (2005c, sect. 2).

The descriptive generalization stated in Harves and Kayne (2012), to the effect that transitive *need* depends on transitive *have*, was formulated as a

---

18. Here and elsewhere, I gloss over the distinction between language/dialect and grammar. For relevant discussion, cf. Chomsky (1995) on E-language vs. I-language.

19. For an early example of theoretically important variation within English particle constructions, cf. Emonds (1976, 83–86); for subsequent discussion, cf. den Dikken (1995).

hypothesis about all human languages. Testing it on a given language is often straightforward. Occasionally it is not, insofar as in some languages it may not be immediately clear what the counterparts of *need* and *have* are. For example, in some languages, it is difficult to separate the counterpart of *need* from that of *want*.[20] This is part of a more general point, namely that the testing of comparative syntax hypotheses requires being able to individuate counterparts in the next language of elements from the first language. That is sometimes relatively easy, sometimes not.

Consider the case from (8) of:

(14)   Mary has written four.

Transposing word-for-word into French yields, as in (9), an unacceptable result:

(15)   *Marie a écrit quatre.

The transposition itself was straightforward, though, in the sense that for each English word there existed an obvious (near-)perfect match in French. Now the closest acceptable counterpart to (14) in French is, as in (10):

(16)   Marie en a écrit quatre.

which contains a pronominal clitic *en* not seen in English. This is an example of a not-so-easy transposition, as we can see if we now ask what the closest word-for-word English counterpart of the acceptable French sentence (16) would be. Abstracting away from the word order difference between (16) and (17) (which is the same word order difference as in (6) vs. (7)), one possibility

---

20. For relevant discussion, see Harves (2008) and Brillman (2011), bearing indirectly on Cinque's (1999) question as to whether all languages realize the same set of functional elements.

Haspelmath (2007) expresses skepticism as to the cross-linguistic validity of notions like adjective, affix, clitic, passive, pronoun, word and others. Although he fails to distinguish with sufficient clarity between "pre-established" and "universal," his skepticism is to some extent congenial to work in the generative syntax tradition that has questioned the primitive status of such notions. Cross-linguistically valid primitive syntactic notions will almost certainly turn out to be much finer-grained than any that Haspelmath had in mind.

For work questioning the primitive status of "passive," see Chomsky (1970); for "word," Koopman and Szabolcsi (2000) and Julien (2002); for "clitic," Cardinaletti and Starke (1999); for "pronoun," Déchaine and Wiltschko (2002) and Rooryck (2003); for "adjective," Amritavalli and Jayaseelan (2003).

That 'affix' is a primitive syntactic notion was called into question by Greenberg's (1966) Universal 27 claim that exclusively suffixing languages are postpositional and exclusively prefixing languages prepositional; cf. Kayne's (1994) treating subword structure as falling under the LCA.

for an exact match for French *en* would seem to be (even though there is no visible *of* in (16)):

(17) Mary has written four of them.

Alternatively, as in Kayne (2004), a still closer match for French *en* in (16) might be (archaic) *thereof*, rather than *of them*. (Whether *en* is best matched by *thereof* or by *of them*, (16) may contain a silent counterpart of *of*.)

Although it is not always easy to pin down the word-for-word counterpart in Language B of some sentence in Language A, the problem is not equally widely found for all pairs of languages A and B. On the whole, the "counterpart" problem is likely to be more acute the more distant or different A and B are from one another. Finding the counterpart to French (16) in Italian is easier than it is in English, since Italian has:

(18) Maria ne ha scritto quattro.

which matches (16) perfectly.[21]

The varying difficulty of the question of "counterparts" of words (or morphemes) across languages feeds into the more general fact that it is easier to search for comparative syntax correlations across a set of more closely related languages than across a set of less closely related languages. If the languages being compared are more closely related/more similar to one another, it is almost certain that there will be fewer variables that one has to control for,[22] and that there will therefore be a greater likelihood of success in pinning down valid correlations.

These considerations have led to a surge in what has been called "micro-comparative syntax" work, in which the languages being compared are particularly close to one another. In what follows, there will be a number of examples of micro-comparative syntax.[23]

In comparative syntax, as in syntax in general, one can and must also aim at explanatory adequacy, above and beyond observational and descriptive

21. Setting aside differences in past participle agreement between French and Italian—see Kayne (1985; 1989a).

22. Cf. Kayne (1991, note 69), Benincà (1994, 7), and Kayne (1996).

23. As opposed to "macro-comparative" syntax. It may be that the amount and type of syntactic variation found just in North Italian dialects fractally resembles the more familiar macro-syntactic variation, if one abstracts away from the right details—cf. also Poletto (2012). It might also be that all "large" language differences, e.g., polysynthetic vs. non- (cf. Baker (1996)) or analytic vs. non- (cf. Huang (2010)), are understandable as particular arrays built up of small differences of the sort that might distinguish one language from another very similar one, in other words that all parameters are micro-parameters. For a different view, see Baker (2008). For general discussion of parameters, see Biberauer (2008).

adequacy. In the case of comparative syntax, we can try to understand, in general UG terms,[24] why a given cross-linguistic correlation should hold in the first place. For example, Harves and Kayne (2012) propose that the reason that transitive *need* depends on transitive *have* is that the only way in which the language faculty allows transitive *need* at all is via incorporation of nominal *need* to a silent counterpart of an otherwise existing transitive *have*.[25]

It is to be noted that both for comparative syntax and for syntax in general there is no suggestion in any of the preceding discussion that descriptive adequacy must be met in a fully prior way to explanatory adequacy or that descriptive adequacy must fully wait until observational adequacy is met. In practice one must aim at all three simultaneously, and work simultaneously on developing more and more observations, generalizations, and explanations.[26]

Nor is there any suggestion in what precedes that comparative syntax is solely interested in delineating the parameters that underlie cross-linguistic syntactic differences.[27] If anything, the primary importance of comparative syntax lies in the fact that it provides us with new kinds of evidence bearing on questions concerning the general character of the language faculty. Figuring out what cross-linguistic generalizations hold and why exactly they hold will invariably help us to narrow down the set of hypotheses that we entertain about the language faculty.

3. MICRO-COMPARATIVE SYNTAX

Let me now turn to more detailed questions of (micro-)comparative syntax. Probably the best-known body of comparative syntax work in a generative framework has to do with what is called "pro-drop," that is, with the property that some languages have of generally not pronouncing their unstressed pronominal subjects. In this sense, Italian is a pro-drop language and French, like English, is not. For example, English has:

(19)   You are intelligent.

---

24. Or in broader terms—cf. Chomsky (2004).
25. In the manner of Hale and Keyser (1993; 2002). As always, there are further questions, e.g., why does the language faculty not have *need* among the set of light verbs?
26. Despite the fact that the rhetoric of the field sometimes puts disproportionate emphasis on the explanatory frontiers at the expense of the observational and descriptive.
27. In the realm of parameters, of critical importance is the delineation of what a syntactic parameter can be, i.e., of what the limits are on syntactic variation; for recent important discussion, see Rizzi (2009).

but not:

(20) *Are intelligent.

French is just like English:

(21) Tu es intelligent.

(22) *Es intelligent.

Italian, though, allows the word-for-word counterpart of (20) and (22) perfectly well:

(23) Sei intelligente.

Let us, however, limit ourselves, as concerns pro-drop, to the Romance languages,[28] in the spirit of keeping the number of variables that need to be controlled for relatively low.

We can speak of a pro-drop parameter that is to be understood to underlie the difference between French, as in (22), and Italian, as in (23).[29] In the core spirit of comparative syntax, we can then ask whether this parametric difference between French and Italian is connected to other syntactic differences between them. The standard view, which is almost certainly correct, has been that the answer is positive. For example, in addition to differing with respect to the expression or non-expression of unstressed pronominal subjects, non-pro-drop and pro-drop languages also appear to differ with respect to the possibility of having post-verbal subjects in simple sentences:

(24) *A téléphoné Jean. ('has telephoned John')

(25) Ha telefonato Gianni.

The French example (24) is unacceptable, as opposed to the Italian example (25), which is a word-for-word counterpart of (24). A precise way of linking (24) vs. (25) to (22) vs. (23) is developed by Rizzi (1982) in terms of the idea that what is responsible for both contrasts is a difference having to do with verbal agreement; in Italian, but not in French, verbal agreement in these sentences has a pronominal character that allows either for the complete absence of a visible subject, as in (23), or for the absence of a preverbal subject, as in (25).[30]

---

28. For a broader range of languages, see the papers in Jaeggli and Safir (1989), including their introduction.

29. It may turn out that pro-drop in the third person is quite different from pro-drop in the first or second person even in Romance; see Poletto (2000) and Kayne (2001).

30. French and Italian differ in more subtle ways, as well. For example, Rizzi (1982) has a discussion of the fact (not taken into account by Newmeyer (2005)) that French, but not Italian, allows short-distance extraction from preverbal subject position.

It is sometimes thought that the term "parameter" itself should only be used when a "dramatic" range of effects traceable back to that parameter can be shown to exist. I will not, however, pursue that way of thinking. In part, that is because what seems "dramatic" depends on expectations that may themselves be arbitrary.[31] For example, French and English differ in that in restrictive relatives English *who* (or *whom*) is possible as a direct object:

(26)   the person who(m) you know

whereas in French the corresponding word *qui* is not (though it is possible as the object of a preposition):

(27)   *la personne qui tu connais

Setting aside the (important) question of what exact form the parameter has that underlies this difference between English and French, let us ask whether this difference carries over to non-restrictive relatives. The answer is that it does, that is, restrictives and non-restrictives act alike in the relevant respect:[32]

(28)   John, who(m) you know, . . .

(29)   *Jean, qui tu connais, . . .

Is this then an example of a parameter with a dramatic range of effects, or not? I'm not sure that the answer to this last question is clear (it depends on expectations about (and on one's theory of) how similar the two types of relatives should be); and I'm not sure how important the answer is. Some syntactic parameters will have a wider range of effects than others; we must work toward an understanding of all of them.

For syntactic theory to merit being thought of as a theoretical field in the most ambitious sense of the term, syntactic theory must provide some results of non-trivial deductive depth (the more the better, of course, all other things being equal). In the subarea of syntax that we call comparative syntax, these results can indeed take the form of a single parametric difference having a multiplicity of effects. (A different type of non-trivial result would be a successful restrictive (and deep[33]) characterization of the range of human languages.)

31. Cf. Baker's (1996, 35n) point about the difficulty of deciding how to (numerically) count the effects of a given parameter.
32. Though not in all respects. For further details, see Kayne (1976) and Cinque (1982).
33. In the sense of "beautiful" or "inevitable" as discussed by Weinberg (1992, chap. VI).

Returning to Romance pro-drop, Kayne (1989b) argued that there is also a correlation with clitic-climbing, in the sense that French disallows clitic-climbing out of an embedded infinitival to a greater extent than other Romance languages,[34] precisely because it disallows null subjects (of finite sentences) to a greater extent than do other Romance languages. The phenomenon at issue is seen in the following examples:

(30)   Jean veut la photographer. ("John wants her to-photograph" = "J wants to photograph her")

(31)   *Jean la veut photographier.

When the infinitive has a pronominal object, the corresponding object clitic (here, *la*) must in French appear within the infinitival phrase (and to the left of the infinitive), as it does in (30); it cannot appear to the left of the matrix verb as shown by (31). In Italian, on the other hand, the word-for-word counterpart of (31) is possible:

(32)   Gianni la vuole fotografare.

Kayne's (1989b) specific proposal, in part recalling (21)–(25), attributes a key role in (31) vs. (32) to verbal inflection.

Subsequent to Rizzi's early work on pro-drop, however, it became clear that within the set of Romance languages there is more than just a binary distinction of the sort suggested by Italian vs. French.[35] North Italian dialects show fine, yet discrete, gradations in the extent to which they allow null subjects, in a way that is sensitive to the person and number of the subject, among other things. The inescapable conclusion is that in this area of syntax there cannot be only one parameter.

This conclusion is in no way surprising. As the number of languages/ dialects taken into account increases (North Italian dialects minimally number in the hundreds), the number of syntactic differences that we are aware of will of necessity increase considerably. The number of parameters necessary to cover this increased number of known differences will also of necessity increase.

We must of course keep in mind that as we discover finer- and finer-grained syntactic differences (by examining more and more languages and dialects), the number of parameters that we need to postulate, although it will rise, can be expected to rise much more slowly than the number of differences

---

34. The differential character of clitic climbing across Romance is not taken into account by Newmeyer (2005).
35. See, for example, Renzi and Vanelli (1983) and Poletto (2000).

discovered, insofar as *n* independent binary-valued parameters can cover a space of 2^n languages/dialects (e.g., only eight such parameters could cover $2^8 = 256$ languages/dialects, etc.).[36]

4. A FURTHER CORRELATION INVOLVING A SILENT AUXILIARY

The Romance clitic climbing exemplified in (32) is also of interest to imperatives. When an Italian object clitic (here *lo* = "it") is within an infinitive phrase, it will always follow the infinitive:

(33) Farlo sarebbe una buona idea. ("to-do it would-be a good idea")

(34) *Lo fare sarebbe una buona idea.

with the single exception in Italian of negative second-person singular familiar imperatives, which in Italian are formed with the infinitive:[37]

(35) Non farlo! ("neg to-do it" = "don't do it!")

(36) Non lo fare!

In these imperatives, as seen in (35)/(36), the object clitic can either follow or precede the infinitive.

   If one looks further at Italian dialects, the following descriptive generalization comes to the fore:

(37) *Non lo fare*!, with the clitic preceding the infinitive, is more prevalent in the Center and South of Italy than in the North, which prefers *Non farlo*!, with the clitic post-infinitival.

This in turn correlates with:

(38) Clitic climbing (illustrated in (32)) is more robust in the Center and South of Italy than in the North.[38]

   The at first glance surprising correlation between the availability of *Non lo fare!* and the availability of clitic climbing provides us with an invaluable clue

---

36. Baker (1996, 7) notes that micro-comparative work can lead to the "fragmentation" of parameters. This seems rather similar in a general way to what happens in all the natural sciences, as microscopes of different types come into being.
   37. For relevant discussion, see Zanuttini (1997).
   38. See Vizmuller-Zocco (1984), Benincà (1989, 15), Canepari (1986, 83). For fine-grained observations on one North Italian dialect (spoken in Switzerland), see Cattaneo (2009).

(which would have been unavailable without comparative syntax work) to the proper analysis of (36). The specific explanation for this correlation that is proposed (with more details) in Kayne (1992) is that (36) is in fact itself an instance of clitic climbing.

More exactly, (36) is an instance of clitic climbing across a silent auxiliary whose overt counterpart (specific to negative imperatives) can in fact be seen in various North Italian dialects, as in the following Paduan example:

(39)   No sta parlare! ("neg. aux. to-speak")

in which auxiliary *sta* is a form of "be." Correspondingly, (36) is to be analyzed as:

(40)   non lo STA fare

in which STA is a silent counterpart of the *sta* of (39), and in which the object clitic *lo* has climbed across that silent auxiliary.

In addition to supporting the specific analysis indicated in (40), the comparative dialect correlation of (37)/(38) provides support for the idea that the language faculty allows for the existence of silent auxiliaries,[39] and hence provides support for a more general property of the language faculty, namely that the language faculty refrains from requiring that all syntactically (and semantically) present elements have a phonetic realization. (For a sense of the range of silent elements allowed, see Kayne (2005a, Index, *silence*).)

5. OBJECT CLITICS AND PRO

The preceding discussion of clitic climbing and silent auxiliaries touched on the fact that Romance languages differ from one another in where they position an object clitic relative to an infinitive. In French, as seen in (30), the clitic precedes the infinitive, whereas in Italian, as seen in (33), the clitic follows the infinitive, as shown again here, followed by a minimally different French example:

(41)   Farlo   sarebbe   una   buona   idea. ("to-do it would-be a good idea") (Italian; = (33))

(42)   Le faire serait une bonne idée. ("it to-do would-be a good idea") (French)

39. The type of silent auxiliary in question recalls Culicover's (1971) proposal for a silent modal in (American) English subjunctives such as:

   i)   It's essential that you be there by noon.

Many Romance languages/dialects are like Italian in this respect. Many others are like French.

The positioning of object clitics with respect to infinitives constitutes, as it turns out, an important probe into the syntax of the unpronounced subject of those infinitives. To see how, let us examine a particular subcase of infinitives preceded by the Romance counterparts of English *if*. In English, *if* and *whether* differ from each other in the following way:

(43)   They don't know whether to leave.

(44)   *They don't know if to leave.

Romance languages typically lack a direct counterpart of *whether*. The key facts have rather to do with the counterparts of *if* in Romance languages. French is like English, and disallows its counterpart of (44), with French *si* corresponding to English *if*:

(45)   *Ils ne savent pas si partir. ("they neg know not if to-leave")

Italian differs from French (and English), and allows:

(46)   Non sanno se partire. ("neg they-know if to-leave")

in which Italian *se* corresponds to French *si*.

The observation that Romance languages differ here from one another does not by itself lead one to expect the following at first glance surprising generalization to hold:

(47)   If a Romance language allows the subject of an infinitive to be silent following a counterpart of *if*, as Italian does in (46), then that Romance language will allow object clitics to follow infinitives, as Italian does in (41).

Why should the silence of an infinitival subject tie in with the position of object clitics at all? An account of (47), and an answer to this question, was proposed in Kayne (1991). The proposal has as one key component the idea that infinitive-clitic order as in (41) necessarily involves (leftward) infinitive movement of a sort not found in languages with clitic-infinitive order as in (42). For our purposes, it will be sufficient to think of sentences like (41) and (42) in the following somewhat oversimplified way.[40]

Object clitics in Romance languages end up in a position that is constant across the various Romance languages/dialects. Verb-clitic order results when

40. Which recalls the approach to verb-adverb and adverb-verb order developed in Emonds (1978), Pollock (1989), and Cinque (1999).

the verb moves leftward past the position of the object clitic. That happens in (41), but not in (42). For general reasons that I will not be able to go into here, *if* and its counterparts in other languages are prohibited from directly preceding the silent subject (PRO) of an infinitive (INF), which itself precedes the object clitic (OCL).[41] A schematic representation of a sentence from a Romance language containing (a counterpart of) *if*, a silent infinitival subject and an object clitic is therefore:

(48)   . . . if PRO OCL . . .

This representation has abstracted away from infinitive movement. Infinitive movement in (41) places the infinitive between *se* ("if") and that silent subject, thereby getting around the prohibition in question:

(49)   . . . *se* INF PRO OCL . . .

In (42), although the infinitive may well have moved leftward to some degree, it has not moved far enough to "protect" the silent subject from contiguity with *si* ('if'):

(50)   . . . *si* PRO OCL INF . . .

Put another way, for the infinitive to move leftward sufficiently far to protect PRO from the contiguity of *if/se/si*, it must be able to move leftward far enough to get past the object clitic (if one is present). Romance languages of the Italian sort allow this "long" infinitive movement; Romance languages of the French sort do not. That is why (47) holds.

The comparative syntax correlation given in (47) thus provides a clue to (one aspect of) the syntax of PRO (and its interaction with verb movement) that we would not have had access to without such comparative work. We can note further that the preceding account of (47) depends on the presence of PRO in (44)–(46). Since it is difficult to see how (47) could otherwise be accounted for, (47) has in effect provided us with evidence for the existence of silent infinitival subjects, much as (37)/(38) provided us with evidence for silent auxiliaries.

6. ENGLISH *IS TO* AND ENGLISH *FOR*

English will be more central in this section than in the previous one. What will be at issue are English sentences like:

41. Just as visible (non-silent) preverbal subjects typically precede object clitics in Romance languages.

(51)   You are to return before midnight.

Although such sentences are straightforwardly acceptable in English, it is notable, if not at first glance quite surprising, that their word-for-word counterparts in other Germanic languages are not possible. Nor does (51) have a word-for-word counterpart in any Romance language that I know of.

In trying to understand why this should be true, we will be led to see that (51) provides us with further evidence in favor of silent elements, though of a different kind than auxiliaries or infinitival subjects. In addition, (51) will be seen to bear on an interesting question concerning the mapping between syntax and semantics.

We can take (51) to exemplify a familiar puzzle. A certain type of sentence is found in one language, but is impossible in many others. If it is found in one language, then the language faculty clearly allows for that type of sentence to exist. Why, then, is it so rare (relative to the set of languages under consideration)? A possible answer in the general case is that the rare type of sentence at issue depends for its existence on a non-obvious, and rare, property of the language in question. Applied to (51), this translates to the idea that (51) may turn out to depend on the existence in English of something else that English allows but that is rare relative to the rest of Germanic and to Romance.

This something else is, I think, the prepositional complementizer *for* that can in English in certain cases introduce an embedded sentence, whether that embedded sentence be the complement of a verb (or other predicate), as in:

(52)   We would like very much for there not to be any more meetings.

or the subject of a verb (or other predicate), as in:

(53)   For there to be more meetings would be a good thing.

In these cases, *for* cannot be dropped:[42]

(54)   *We would like very much there not to be any more meetings.

(55)   *There to be more meetings would be a good thing.

A way to think about these facts is to say that this English *for* has the property that it can make it possible, as in (52) and (53), for an infinitive to have a visible (non-silent) subject, in a range of cases in which that infinitive would otherwise not be able to have one (as shown by (54) and (55)). As far as I know,

42. Complementizer *for* can be dropped/silent in some cases:
   i) We would like there to be more meetings.
This does not affect the text discussion.

no other Germanic language and no Romance language has a prepositional complementizer with exactly this property.[43] We therefore have the following correlation, of the comparative syntax type:

(56)   A Romance or Germanic language has *is to* as in (51) only if it has a complementizer *for* as in (52)–(55).

As for the question why (56) itself should hold, the beginning of a straightforward answer is that an *is to* sentence like (51) must necessarily contain (a counterpart of) *for*. Consequently, a language with no counterpart of *for* cannot allow an *is to* sentence like (51). Since within Germanic and Romance only English has this sort of *for*, only English has *is to* of the sort found in (51). In apparent contrast to what was said in the preceding paragraph, (51) displays no overt *for*. It follows that (51) must contain a silent instance of *for*, which I will write as FOR. (It must also be the case that a language can have silent FOR only if it has visible *for*.[44]) Now for (51) to contain a complementizer FOR, (51) must contain a matrix predicate compatible with infinitives introduced by *for*/FOR, as in (52) or in:

(57)   We mean for you to return before midnight.

Of course (51) also contains *is* (or *are, was, were*), which suggests a closer link to the passive of sentences like (57),[45] namely:

(58)   You are meant to return before midnight.

Although it corresponds to the passive of (57), sentence (58) lacks a visible *for*, so it must contain a silent one:

43. Prepositional complementizers per se are common in Germanic and in Romance. It is only the property of having a prepositional complementizer able to license a pronounced subject in an infinitive that is limited to English.

It would take us too far afield to pursue the plausible idea that English can have such a *for* because English, unlike the rest of Germanic and unlike Romance, has infinitives that lack suffixal morphology completely.

44. As expected if the second paragraph of note 43 is on the right track. Cf. also note 42. On *for*/FOR, cf. Bresnan (1972) and Kayne (1981a, sect. 2.3).

There are speakers of British English who disallow overt *for* in (52).

For the purposes of this discussion, speaking of silent FOR is equivalent to speaking of deleting *for*. For a proposal to the effect that deletion operations are not, strictly speaking, necessary, see Kayne (2006a).

45. Rather than to modals themselves, which (in English) are not compatible with finite *be*:

   i) *You are ought to return before midnight.
   ii) *You are must/should return before midnight.

(59) . . . meant FOR . . . to return . . .

More fully:

(60)   you are meant FOR ‹you› to return before midnight

with "‹you›" a notation indicating the position of origin of *you* as subject of *return*.

   The final step in relating (51) to (58)/(60) is to attribute to (51) a silent counterpart of *meant* (written as MEANT):

(61)   you are MEANT FOR ‹you› to return before midnight

Thus (51) contains both a silent FOR, accounting for its limitation to English, and a silent MEANT, which anchors the presence of FOR[46] and simultaneously accounts for the modal-like interpretation of (51).[47]

   A possible alternative to a silent counterpart of *meant* would be a silent counterpart of *expected*, but *meant* seems like the more accurate choice in part because *expect* is not as acceptable with *for* as *mean* is:[48]

(62)   We didn't mean/?expect for there to be so much noise.

(63)   We mean/?expect for you to return before midnight.

A second advantage of MEANT lies in the fact that passives with *meant* (as opposed to passives with *expected*) disallow agent phrases, in cases like:

(64)   There wasn't meant to be so much noise (*by any of us).

(65)   You were meant to return before midnight (*by your entire family).

The unacceptability of (64) and (65) fits in well with that of:

(66)   You were to return before midnight (*by your entire family).

---

   46. A more detailed discussion of the derivation of (51) than is possible here would show that FOR plays a crucial role in the licensing of MEANT.
   47. Which *for*/FOR itself does not seem capable of providing, given:

   i)   *We believe for you to return before midnight.
   ii) *It's obvious for you to return before midnight.
   iii) *You must be aware of the fact for you to return before midnight.

   48. See note 46.

Even though (51)/(66) is a passive (with a silent passive past participle MEANT), an agent phrase is disallowed, in a way related to the facts of (64) and (65).[49]

The comparative syntax correlation given in (56) has, we now see, provided us with a clue to the way in which the language faculty treats English sentences like (51)/(66).[50] In so doing, (56) has provided us with further evidence in favor of the idea that the language faculty does not require every syntactically and semantically present element to have phonological realization. Put another way, (56) has told us that the modal-like interpretation of (51)/(66) must be calculated using an element like MEANT; it cannot simply be read off those elements of (51)/(66) that happen to be pronounced.

7. CAUSERS EVERYWHERE

Returning to French/Italian contrasts, we can note a way in which comparative syntax considerations bear on the proper analysis of pairs like:

(67)   The cook melted the ice.

(68)   The ice melted.

The first of these has an agentive subject argument that is not visibly present in the second. That an agentive argument is not present at all (i.e., not even silently) in (68) is indicated by its incompatibility with purpose adverbials:

(69)   The cook melted the ice in order to get some cold water.

(70)   *The ice melted in order to get some cold water.

In this respect, (68) contrasts with passives:

(71)   The ice was melted (by the cook) in order to get some cold water.

which do contain an agentive argument that can be silent.

The absence of an agent in (68) leaves open, however, the question of the relation between (68) and sentences like:

(72)   The ice melted from the heat of the sun.

---

49. The stronger unacceptability of the agent phrase in (66) may suggest an additional incompatibility between it and the licensing of MEANT (cf. note 46), which would suggest in turn that a silent agent phrase is not in the same position as an overt one (cf. Kayne (2006a)).

50. The importance of such comparative data is underappreciated by Goldberg and van der Auwera (2012).

in which there is a non-agentive causer, *the heat of the sun*. The clear similarity between (72) and (68) raises the possibility that (68) might, even though it lacks a silent agent, nonetheless contain a silent non-agentive causer. Now if (68) does contain a silent non-agentive causer, it might also contain a silent causative verb akin to (*cause* or) *make*, of which the causer would be the subject, parallel to:

(73)   The heat of the sun made the ice melt.

In other words, there is some initial plausibility to thinking of (68) as having a substructure akin to:

(74)   . . . MAKE the ice melt

in which MAKE is a silent counterpart of *make*.

   It is the presence (or not) of this silent MAKE that comparative syntax considerations drawn from Romance bear on in a striking way. The relevant data have to do with auxiliary selection, as it is seen in languages like French or Italian. These languages, like English, allow sentences in which a past participle is preceded by an auxiliary verb *have* or *be*, as in:

(75)   The cat has seen the dog.

(76)   The dog is feared by the cat.

In English, past participles are preceded by auxiliary *be* only in passives:

(77)   *The cat is seen the dog.

(78)   The student has/*is left for Paris.

and with adjective-like uses of past participles:

(79)   The cat is gone.

   In both French and Italian, however,[51] auxiliary *be,* rather than *have*, is called for in certain active sentences, too. These fall into two broad classes. In the first, auxiliary *be* is called for in the presence of a reflexive clitic, whether the verb is transitive or not.[52] This class of sentences will be less directly

---

51. As well as in Dutch and German, which will not be relevant to the text discussion, insofar as they lack the past participle agreement that will be central to what follows. Earlier English had more in common with Dutch and German than contemporary English does. On auxiliary selection, v. Perlmutter (1989), Burzio (1986), and Kayne (1993).
   52. A transitive (French) example, with reflexive clitic *s'*, is:

   i)   Marie s'est acheté une maison. ("Mary refl.clitic is bought a house")

relevant to the main point than the second class, and I will leave it aside. The second class involves a subset of intransitive verbs that includes the French and Italian counterparts of *arrive, leave, go out, die, be born, enter* and *go down,* for example (in French):

(80) Marie est arrivée hier. ("Mary is arrived yesterday" = "Mary arrived yesterday")

With these intransitive verbs, auxiliary *have* is not possible:

(81) *Marie a arrivé hier. ("Mary has arrived yesterday")

I note in passing that auxiliary+past participle sentences in French and Italian can often be translated into English using the English simple past, as indicated in (80). This holds, too, when the auxiliary is *have*, as it is in all transitive sentences lacking a reflexive clitic, for example:

(82) Marie a acheté ce livre hier. ("Mary has bought this book yesterday" = "Mary bought this book yesterday")

Although French and Italian display identical behavior in choice of auxiliary when it comes to reflexive clitic sentences (both languages use *be* and not *have*), when it comes to transitive sentences without any reflexive clitic (both use *have* and not *be*), and when it comes to intransitive sentences containing a verb like *arrive, leave, go out, die, be born, enter* or *go down* (both use *be* and not *have*), French and Italian diverge sharply from each other when it comes to verbs like *melt, sink, break, get old, increase, diminish,* and *freeze.* These are verbs that enter into alternations of the following sort:

(83) John broke the window.
(84) The window broke.

A long-standing and very fruitful idea[53] has been to take (the phrase corresponding to) *the window* in such pairs to have a common status in each member of the pair, and, more specifically, to take *the window* in (84) to be an underlying object of the verb, despite ending up as the superficial subject. (More technically put, *the window* moves, in the course of the derivation of (84), from object position to subject position.) Sentences like (84) containing verbs that enter into the (83)/(84) alternation have informally been called anti-causative, in opposition to the causative character of (83).

53. Cf. Hall (1965), Perlmutter (1989), Burzio (1986).

Some anti-causative sentences in French and Italian contain a reflexive clitic and therefore show auxiliary *be* in both languages. Of more central interest here are anti-causatives that lack a reflexive clitic. These have the notable property, against the background of the overall similarity between French and Italian as regards auxiliary selection, of behaving differently in the two languages. In French, such verbs take auxiliary *have*, whereas in Italian, they take auxiliary *be*, as illustrated, using counterparts of *get old(er)*, by:[54]

(85)   Jean a vieilli. (French: "J has gotten-old(er)")

(86)   Gianni è invecchiato. (Italian: "J is gotten-old(er)")

Against the background of all the other similarities between the two languages in the area of auxiliary selection, this difference concerning the class of anti-causatives comes as a bit of a surprise. We must then wonder what this difference might be related to elsewhere in French and Italian (and beyond). As a step toward answering this question, let us note that (85) and (86), in addition to differing in choice of auxiliary, also differ in that the past participle agrees with the subject in (86), but not in (85), as we can see by introducing a feminine gender subject:

(87)   Marie a vieilli.

(88)   Maria è invecchiata.

The participle in (87) remains the same as in (85), whereas the participle in (88) takes the feminine gender ending *-a*, as opposed to the masculine *-o* in (86).

A surprising cross-Romance generalization that links auxiliary selection and past participle agreement, and that in so doing provides an important clue to the understanding of anti-causatives, holds as follows:

(89)   A Romance language allows auxiliary *be* with anti-causative verbs as in (86) only if it also allows past participle agreement in its periphrastic causatives.

Periphrastic causatives are sentences like (73) earlier that contain an overt causative verb, for example.:

(90)   The storm made the boat sink.

54. Cf. Kayne (2009a) and references cited there.

In French and Italian (in both of which the causative verb looks more like *do*), the argument of *sink* (*the ship*) must follow *sink*, as seen in:

(91)   L'orage a fait couler le bâteau. (French: "the storm has made/done sink the ship")

(92)   Il temporale ha fatto affondare la nave. (Italian: same)

In Italian, if *la nave* (of feminine gender) is replaced by a pronominal object clitic, the past participle of the causative verb must show feminine gender agreement, that is, must be feminine *fatta* rather than masculine *fatto*:

(93)   Il temporale l'ha fatta/*fatto affondare. ("the storm it has made sink")

The French sentence corresponding to (93), with feminine *faite* rather than masculine *fait*, would not be possible even if the object clitic were feminine in gender:

(94)   L'orage l'a fait/*faite couler. ("the storm it has made sink")

   Why, though, should (89) hold at all, that is, why should there be any link at all between auxiliary selection with what look like simple anti-causatives and past participle agreement with complex periphrastic causatives? Part of the answer can hardly fail to be that anti-causative sentences like (85)–(88) are, despite appearances, biclausal,[55] and contain a silent counterpart of the overt causative verb found in periphrastic causative sentences like (90)–(94).
   Generalizing beyond French and Italian, this points toward saying that in all languages sentences like:

(95)   The boat has sunk.

have more in common with:

(96)   Something has made the boat sink.

than might have initially appeared to be the case, with new evidence having been provided by the comparative syntax generalization given in (89). A more specific proposal would be that (95) (along with comparable sentences in other languages) is to be analyzed as in:

(97)   the boat has CAUSED sunk FROM SOMETHING

   55. Cf. Chomsky (1965, 189), Pesetsky (1995, 67ff.), and Alexiadou et al. (2006).

with CAUSED the silent causative verb and SOMETHING the silent causer.[56] If this is on the right track, we may note in passing that the language learner will have no difficulty in discovering the silent elements given in (97), as long as (97) is the only (type of) analysis of (95) made available by the language faculty.

8. ROMANCE DEFINITE ARTICLES

A further pair of comparative syntax generalizations of considerable interest that I would like to touch on in this final section lies in the area of Romance definite articles. We can approach this question via English sentences such as:

(98) Which do you prefer?

(99) Which book do you prefer?

that contain an interrogative *which* whose accompanying noun is silent in (98) and overt in (99). Apart from *do*-support, French matches (99) quite well:

(100) Quel livre préfères-tu? ("which book prefer you")

with French *quel* matching English *which*. But there's a twist in (98), whose French counterpart obligatorily contains a definite article *le* not found in English:

(101) *Quel préfères-tu?

(102) Lequel préfères-tu? ("the which prefer you")

Italian differs from French (and is more like English) in not having a comparable definite article in such interrogatives:

(103) Quale preferisci? ("which you-prefer")

(104) *Il quale preferisci?

There is a point of similarity between the French/Italian contrast seen in (101)–(104), concerning *quel/quale* ("which"), and another French/Italian contrast that has to do with superlatives:

(105) le livre *(le) plus court (French "the book the most short")

(106) il libro (*il) più corto (Italian: same)

---

56. For further details, v. Kayne (2009a).

When a French superlative is postnominal, as in (105), a second definite article is obligatory.[57] In the corresponding phrase in Italian, as in (106), a second definite article is prohibited. Both with postnominal superlatives and with bare *which*-type interrogatives, then, French has a definite article lacking in Italian.

A surprising generalization that appears to be valid across all of Romance is:

(107)   If a Romance language obligatorily has an overt definite article preceding (its equivalent of) bare interrogative *quel*, then it obligatorily has an overt definite article preceding (its equivalent of) postnominal superlative *plus*.

Again, we can take this comparative syntax generalization to be an important clue to the syntax of what is at issue, in this case to the syntax of definite articles and their interaction with interrogatives and with superlatives. The more specific question is why exactly bare *which*-type interrogatives should pattern with postnominal superlatives in Romance in the way indicated in (107).

Kayne (2008a) proposed that part of the answer is that the definite article in (102) is itself actually postnominal, with the silent N having moved leftward past it:

(108)   NOUN le quel

in such a way that (102) turns out to have in common with (105) a configuration in which a noun precedes (and is in the specifier position of) a definite article. The correlation expressed in (107), then, concerns whether a definite article is or is not pronounced in a particular structural configuration, namely when it has a noun or noun phrase (whether silent or overt) preceding it (in its specifier).

Even more surprising than (107) is the related generalization:

(109)   If a Romance language has an obligatory overt definite article preceding bare interrogative *quel* ("which"), then it does not allow bare plurals/bare mass nouns any more than French does.

This correlation brings the *(le)quel* interrogative question into contact with the well-known French/Italian difference seen in:

(110)   *Jean achetait livres. (Fr. "J bought (was buying) books")

(111)   Gianni comprava libri. (Ital.—same)

57. In a way that in part recalls Greek multiple Ds; see Alexiadou and Wilder (1998).

Italian allows bare plurals as in (111) (like English, to a certain extent), while French by and large does not (and similarly for bare mass nouns).

Why, though, should *which*-type interrogatives and bare plurals (or bare mass nouns) be related in the way indicated in (109)? The answer suggested in Kayne (2008a) is in essence that just as (107) is at bottom about whether or not a definite article is pronounced in a given syntactic context, so, too, despite appearances, is (109).

To see how this is true, we need to consider how French expresses (111), which it does as in:

(112)   Jean achetait des livres. ("J bought of-the books")

This French partitive, as it is usually called, has the noun preceded by a complex determiner consisting of *de* ("of") + the definite article. In the plural, the *l-* of the definite article drops after *de* (as it does in the masculine singular). The definite article of this French partitive has its full form in the feminine singular:

(113)   Jean achetait de la bière. ("J bought of the beer" = "J bought/was buying beer")

Despite the presence of a definite article in (112) and (113), these French examples are interpreted much as (111) in Italian or as the following, in English:

(114)   John was buying books/beer.

with the definite article in (112) and (113) almost certainly having more in common with generic definite articles than with "ordinary" definite articles.[58] Putting the (111)-vs.-(112) contrast together with (109), we see that the clue provided by (109) has told us something that we might otherwise not have realized, namely that Italian bare plurals as in (111) (and the same for Italian bare mass nouns) must contain an unpronounced definite article (and perhaps also an unpronounced preposition akin to *de* ("of")) of the sort that is pronounced in French in (112) and (113).[59]

---

58. As suggested by Gross (1968, 30).
59. Evaluation of the cross-linguistic range of this conclusion is beyond the scope of this paper.
   More will need to be said about the difference between these French partitives and their overt Italian counterparts, as in:

    i)   della birra ("of-the beer")
    ii)   dei libri ("of-the books")

and about the role of the preposition *de*.

9. CONCLUSION

Most of the preceding has had to do with comparative syntax that is more micro-comparative than macro-comparative, insofar as the languages discussed have been primarily Romance and Germanic languages.[60] Macro-comparative syntax has the same general properties as micro-comparative syntax, even if macro-comparative syntax may in certain respects be more arduous to make rapid progress on. (The observational vs. descriptive vs. explanatory adequacy distinction will also be useful for macro-comparative syntax.[61]) Comparative syntax in all its range can be seen as a window on the language faculty that is just beginning to bear fruit.

The text conclusion shares with Longobardi (1994, 618) and Chierchia (1998, 386) the idea that Italian bare plurals/mass nouns contain an unpronounced determiner of some kind.

Chomsky (2000, 139) argues against bare plurals having a semantically null D; if so, then the unpronounced definite D proposed here (like the one visible in French partitives) must, plausibly, not be semantically null (cf. the mentioned link to generics).

60. For micro-comparative work on other families, including outside Indo-European, see various papers in Cinque and Kayne (2005).

61. My own work on antisymmetry can be interpreted as an attempt to reach explanatory adequacy with respect to a certain set of macro-comparative questions—cf. Kayne (1994; 2003a; 2011)—also Kayne (2008b) on deriving the existence of the verb-noun distinction—on which, cf. Aldridge (2009) and Koch and Matthewson (2009).

CHAPTER 3

Comparative Syntax and English *Is To*

A central aspect of comparative syntax calls for discovering generalizations over cross-linguistic differences and similarities, and then trying to understand, in general UG terms or beyond, why a given cross-linguistic correlation should hold in the first place.* The primary importance of this type of comparative syntax work lies in the fact that it provides us with new kinds of evidence bearing on questions concerning the general character of the language faculty. Figuring out what cross-linguistic generalizations hold and why exactly they hold will invariably help us to narrow down the set of hypotheses that we entertain about the language faculty. In this chapter, I will be interested in English *is to* (as in *You are to return by midnight*), when *is to* is studied from a (Romance and Germanic) comparative syntax perspective.

1. INTRODUCTION: SILENT ELEMENTS

It will be useful to transpose Chomsky's (1964, 29) notions of observational, descriptive and explanatory adequacy to the realm of comparative syntax. Observational adequacy in the context of comparative syntax can be said to

be achieved when one has gotten the facts of comparative syntax right. Facts in comparative syntax necessarily involve more than one language or dialect. (I will use the term 'language' to cover dialects, too.) They typically have the form "Language A differs syntactically from Language B in the following way" or "Language A and Language B are syntactically identical in the following respect." A well-known example of the first sort would be "French and English differ in that unstressed object pronouns precede the verb in French (apart from positive imperatives), but follow it in English," as in:

(1) Vous les voyez souvent. ("you them see often")

(2) You see them often.

A banal example of the second sort would be "French and English are alike in that definite articles precede the associated nouns in both languages." In a very large number of cases, such observations are, when the languages in question are both well studied, completely straightforward.

The preceding examples involve just two languages, but comparative syntax sets no limit in principle on the number of languages to be compared. In practice, one limit is set by the number of languages/dialects currently spoken (plus those that are extinct yet to some extent accessible). A smaller limit is set in practice by our ability to discover and to understand data in large quantities.

"The facts" are of course the facts that one is concerned with, and not "all the facts" of syntax or comparative syntax, whose order of magnitude lies, as in other sciences, far beyond our reach. This is true even for a single language.[1] Similarly, although syntacticians take as a primary object of study the set of possible human languages, that set is in its entirety far beyond our reach. To one degree or another, we have access to those languages currently spoken and to an exceedingly small percentage of those previously spoken. To those not currently spoken but that might be spoken in the future, we have at present no access. This kind of limitation is, within the sciences, not specific to linguistics.

The two French-English comparisons just mentioned may give the impression that the observational side of comparative syntax is easy. It is, and it is not. In the case of French and English syntax, two languages among the most widely studied, there are indeed innumerable solid facts that have been accumulated over the years and decades, reaching back to pre-generative syntax work.[2] Word order differences and similarities between French and

---

1. For example, Gross (1975, 18) estimated that the number of French sentences to be evaluated, even restricting oneself to sentences of 20 words or less, is on the order of 10^{86}.
2. For example to Jespersen (1970–1974) for English or to Martinon (1927) and Grevisse (1993) for French.

English are often well known. Other comparative syntax facts may be less well known.

For example, French has no exact, word-for-word counterpart of:

(3)   At the age of seven, Mary could speak three languages.

French would need to express *years* (= *ans*) overtly:

(4)   A l'âge de sept ans, Marie . . .

Contrary to English, omitting *ans* here would not be possible:

(5)   *A l'âge de sept, Marie . . .

It seems fair to say that this kind of cross-linguistic difference has been studied appreciably less than word order differences. What languages act like English in (3) and what languages act like French in (4)/(5) is little known. What sort of parameters underlie this kind of difference is not yet well understood.[3] Further cross-linguistic work is certain to lead to an increase in our understanding of such silent elements more generally.

As usual, cross-linguistic work and work internal to one language complement each other. Let us take another example of a silent noun that is available in English in a way that seems fairly close to (3). This particular example arises in the context of the game of baseball. English allows:

(6)   Our team won the game with two home runs in the seventh (inning).

Here, *inning* can either be pronounced or left silent. This contrasts with:

(7)   Our team won the game with two seventh *(inning) home runs.

in which *inning* is not allowed to remain silent. The restriction seen in (7) appears to be a kind of "left-branch" constraint, but that cannot be exactly right, given the fairly acceptable:[4]

(8)   ?Our team won the game with two top of the seventh home runs.

in which *inning* can remain silent much more readily than in (7).

---

3. For initial proposals, see Kayne (2003) and Cinque and Krapova (2007).
4. The word *top* in this example modifies a silent counterpart of *half*:

   i)   two top HALF of the seventh INNING home runs

(where capital letters indicate silence).

It seems, instead, that silent *inning* is favored by the greater amount of syntactic structure associated with *top of the seventh inning* in (8) as compared with just *seventh inning* in (7). This in turn is reminiscent of the well-known pair:

(9) John criticized him.

(10) John criticized himself.

in which the extra structure associated with *self* in (10) makes available an interpretation in which *him* takes *John* as antecedent, which is not possible in (9), where *self* is lacking. Kayne (2002a) had proposed that the extra Determiner Phrase (DP) structure induced by *self* provides an additional A-bar-like position in (10) that *John* can avail itself of in the course of moving from within the complex doubling DP containing *him* (but not *self*) up to the subject theta position associated with *criticize*. In partially similar fashion, we can take *top of the seventh* in (8) to make available to silent *inning* a specifier position not available to it in (7), with that specifier position a necessary component of the derivational silence of *inning* (or any other comparable silent element), essentially as in Kayne (2006a).

The licensing conditions for silent elements, especially those that lack any obvious antecedent (as with silent *inning* in (6) and (8) and silent *years* in (3)) will be relevant to the derivation of English *is to*, as will become clearer later on.

The most interesting starting point for comparative syntax work[5] is often the observation of differences, often of differences that are "surprising" (against the background of what is known about syntax in general). Subsequently, one can attempt to achieve descriptive adequacy by discovering generalizations over the comparative observations that have been made.

As an example of a (unidirectional) comparative syntax correlation, let us look at the property of having (or not) a transitive verb corresponding to English *need* and the property of having (or not) a transitive verb corresponding to English *have*. Harves and Kayne (2012) discovered that if a language has transitive *need*, then it necessarily has transitive *have* (though not the other way around).

---

5. See, for example, the various papers by different authors in Cinque and Kayne (2005); also the website of the Atlante Sintattico d'Italia/Syntactic Atlas of Italy (http://asis-cnr.unipd.it). For an extensive list of projects on dialect syntax, see the Edisyn website at http://www.dialectsyntax.org/wiki/Projects_on_dialect_syntax. For comparative syntax in a historical context, see Longobardi and Guardiano (2009).

As Chris Collins (p.c.) emphasizes, the term "comparative syntax" can also be used to cover work in which cross-linguistic correlations are not central, for example, work in which the observation that one language has a certain kind of overt morpheme is used to justify positing a comparable morpheme in another language or languages—cf. Rizzi (1997), Kayne (2005c), and especially Cinque (1999).

This comparative syntax generalization about *need* and *have*, although finer-grained, is similar to some of Greenberg's (1966) universals. More specifically, it is similar to those that he put forth as being exceptionless. Just as the Harves and Kayne (2012) generalization can be tested across more and more languages in future work, so have Greenberg's proposals for exceptionless generalizations been tested to some extent.[6] Our generalization about *need* and *have* is not, however, comparable to those of Greenberg's 'universals' that he put forth as "(overwhelming or strong) tendencies," which are far more difficult to test than those put forth as exceptionless.[7]

In comparative syntax, as in syntax in general, one can and must aim at explanatory adequacy, above and beyond observational and descriptive adequacy. In the case of comparative syntax, we can try to understand, in general UG terms (or perhaps beyond[8]), why a given cross-linguistic correlation should hold in the first place. For example, Harves and Kayne (2012) propose that the reason that transitive *need* depends on transitive *have* is that the only way in which the language faculty allows transitive *need* at all is via incorporation of nominal *need* to a silent counterpart of an otherwise existing transitive *have*.[9]

In all such cases, one needs to ask why exactly it is that something found in the syntax of one language is not found in the syntax of the next. It is hardly satisfactory to say (at least not before a great deal of additional work has been done) that "that's just a lexical difference," and in the case of *need* and *have* saying that would, if Harves and Kayne (2012) are correct, clearly be wrong (in addition to being insufficiently ambitious). One must be as ambitious (in a reasonable way) about properties that we are used to calling "lexical" (e.g. whether a language has a transitive verb *need* or not) as about more familiar syntactic properties. It seems certain that, as in the case of idioms (cf. Nunberg et al. (1994)), what we think of as lexical properties are far from being wholly arbitrary.

It is to be noted that both for comparative syntax and for syntax in general there is no suggestion in any of the preceding discussion that descriptive adequacy must be met in a fully prior way to explanatory adequacy or that descriptive adequacy must fully wait until observational adequacy is met. In practice one must aim at all three simultaneously, and work simultaneously on developing more and more observations, generalizations, and explanations.[10]

6. Especially by Dryer (1992) and in other work of his.

7. The distinction between 'tendencies' and universals is overlooked by Dunn et al. (2011), who in particular misinterpret the proposed universals of generative syntax as 'tendencies'. Nor is the distinction made sufficiently clear in Boeckx (2014).

8. See Chomsky (2004).

9. In the manner of Hale and Keyser (1993: 2002). As always, there are further questions, for example,, why does the language faculty not have *need* among the set of light verbs?

10. Despite the fact that the rhetoric of the field sometimes puts disproportionate emphasis on the explanatory frontiers at the expense of the observational and descriptive.

Nor is there any suggestion in what precedes that comparative syntax is solely interested in delineating the parameters that underlie cross-linguistic syntactic differences.[11] If anything, the primary importance of correlation-based comparative syntax lies in the fact that it provides us with new kinds of evidence bearing on questions concerning the general character of the language faculty. Figuring out what cross-linguistic generalizations hold and why exactly they hold will invariably help us in the critical task of narrowing down the set of hypotheses that we entertain about the language faculty.

2. ENGLISH *IS TO*

Let me now turn to more detailed questions concerning English *is to* and its absence in other Germanic languages and in Romance languages. What will be at issue are English sentences like:

(11)   You are to return home before midnight.

with respect to which Huddleston (2002, 206) speaks of a deontic quasi-modal use of *be*. But we can and must ask:[12]

(12)   How could *be* possibly "shift" to a deontic modal interpretation? What theory of syntax/semantics could allow that without allowing all sorts of unwanted, but imaginable "shifts"?

(13)   If *be* were really modal-like in (11), why would *to* be obligatory in (11), contrary to the general case of modals?

This obligatoriness is illustrated in:

(14)   *You are return home before midnight.

A third question is of the comparative syntax type:[13]

(15)   Why is *is to* as in (11) limited to English, within the Germanic and Romance languages?

---

11. In the realm of parameters, of critical importance is the delineation of what a syntactic parameter can be, i.e. of what the limits are on syntactic variation; for recent important discussion, see Rizzi (2009).
12. The position I will take concerning *is to* is akin to Bhatt's (1998) having a covert modal in the *have to* construction.
13. This kind of question is not asked in Goldberg and van der Auwera (2012).

I note in passing, thinking of (13), that English *ought* resembles *is to* only in part. While it is true that in some English *ought* can be followed by *to* while simultaneously showing modal-like behavior, as in:

(16) Ought he to be allowed to appear in public? (example from Pullum and Wilson (1977, 746))

ought differs sharply from *is to* in that *ought* can in some English appear without *to* while showing modal-like behavior:

(17) Oughtn't we leave immediately?

This is strongly impossible with *is to*:

(18) *Isn't he leave immediately?

The third question, that is, (15), is the one that I will address most directly in this paper. The basic fact is that although (11) is acceptable in English, it is surprisingly the case that word-for-word counterparts of (11) in other Germanic languages are not possible. Nor does (11) have a word-for-word counterpart in any Romance language that I know of.

In reflecting on this comparative fact, it is essential to keep in mind that the absence of (11) in other Germanic and in Romance is not mimicked by "easy to please" sentences such as:

(19) This book is easy to read.

For example, French has a counterpart of (19), as in:

(20) Ce livre est facile à lire. ("this book is easy to read")

Yet French lacks a direct counterpart of (11), as shown by the unacceptability of:[14]

(21) *Tu es à rentrer avant minuit. ("you are to return-home before midnight")

---

14. Replacing *à* in this example by the other French infinitival complementizer *de* would not help:

   i) *Tu es de rentrer avant minuit.

Trask (1995, 219) mentions medieval Romance *Es de venir*, in the apparent sense of "He is to come." If the interpretation does match English, the key question (in addition to questions about the associated complementizer system) is probably whether the embedded gap is pre-V or, thinking of Rizzi (1982, chap. 4), post-V, in which case this type of medieval Romance sentence might be more akin to (22) and Perlmutter (1976) would be relevant.

Given this, the analysis I will develop for English *is to* will not and should not carry over in any exact way to *easy to please* (though *is to* and *easy to please* might have derivations with something in common). More strikingly, French, even while disallowing (21), does allow:

(22) Ce livre est à relire. ("this book is to reread" = "this book is to/should be reread")

with the key difference being that in (22) there is an object gap within the infinitival embedding (as there is in (20)), rather than the subject gap found in (21) and (11). The analysis to be developed shortly will attempt to account for the core fact that *is to* with a following infinitival subject gap is not found in other Germanic or in Romance.

The fact that French (along with various other languages of the Romance and Germanic families) allows (22) and that English normally does not:

(23) *This book is to reread.

constitutes another comparative syntax fact of potential interest, but I will not try to make progress on it in this paper.

We can take (11) to exemplify a familiar puzzle. A certain type of sentence is found in one language, but is impossible in many others. If it is found in one language, then the language faculty clearly allows for that type of sentence to exist. Why, then, is that type of sentence so rare (relative to the set of languages under consideration), and why (in this case) is it specifically English that allows it? A possible answer in the general case is that the rare type of sentence at issue depends for its existence on another, non-obvious, and rare, property of the specific language in question. Applied to (11), this translates to the idea that the existence of (11) may turn out to depend on the existence in English of something else that English allows but that is rare relative to the rest of Germanic and to Romance.

3. ENGLISH *FOR*

This something else is, I will suggest, the prepositional complementizer *for* that can in English in certain cases introduce an embedded infinitival sentence with a lexical/pronounced subject, whether that embedded sentence is the complement of a verb (or other predicate), as in:

(24) We would like very much for there not to be any more meetings.

or the subject of a verb (or other predicate), as in:

(25)   For there to be more meetings would be a good thing.

In these two cases, *for* cannot be omitted:[15]

(26)   *We would like very much there not to be any more meetings.

(27)   *There to be more meetings would be a good thing.

A familiar way of thinking about these facts is to say that this English *for* has the property that it can make it possible, as in (24) and (25), for an infinitive to have a visible (non-silent) subject, in a range of cases where that infinitive would otherwise not be able to have one (as shown by (26) and (27)).

As far as I know, no other Germanic language and no Romance language has a prepositional complementizer with exactly this property.[16] We therefore have the following correlation, of the comparative syntax type:
(28) A Romance or Germanic language has *is to* as in (11) only if it has a prepositional complementizer *for* of the sort seen in (24)–(25).

The next question is, why should (28) itself hold? What exactly is it that links *is to* to *for*? A beginning to the most straightforward possible answer is that an *is to* sentence like (11) is linked to *for* because an *is to* sentence must necessarily contain (a silent counterpart of) *for.* Consequently, a language with no *for* will be unable to allow *is to* sentences like (11). Since within Germanic and Romance only English has this sort of *for*, only English has *is to* of the sort found in (11).

In apparent contrast to what was said in the preceding paragraph, (11) itself displays no overt *for*. It follows that (11) must contain a silent instance of *for*, which I will write as FOR. (It must also be the case that a language can have the necessary silent FOR only if it has visible *for* with the properties seen in (24)–(27).[17]) In other words, we have reached the conclusion that (11) is to be thought of as:

15. Complementizer *for* can be omitted/silent in some cases:

   i)   We would like there to be more meetings.

This does not directly affect the text discussion.
16. Prepositional complementizers per se are common in Germanic and in Romance. It is only the property of having a prepositional complementizer able to license a pronounced infinitival subject in the English manner that is at issue.
The diachronic expectation here is that *is to* with a deontic-like interpretation and a subject gap within the infinitive did not enter English until after *for* (with the ECM- and complementizer-like properties that it has in contemporary English) did.
17. Cf. note 15 and the second paragraph of note 16. On *for*/FOR, cf. Bresnan (1972) and Kayne (1981a, sect. 2.3).

(29) you are . . . FOR . . . to return home before midnight

in which FOR is a silent counterpart of complementizer *for*.

4. RAISING VS. CONTROL

As for the status of the unpronounced subject of the infinitive in *is to* sentences, it is clear that *is to* shows raising properties:[18]

(30) There is to be no noise whatsoever.

(31) Tabs are to be kept on them all day long.

and it is therefore clear that that subject of the infinitive can be the "trace" of movement to the subject position of matrix *be*. As is often the case with raising predicates, it is less easy to directly show that *is to* can never be an instance of control (in addition to allowing a raising derivation). Nevertheless, I will take *is to* to invariably be an instance of raising, in part on the basis of the following conjecture:

(32) No matrix predicate is ambiguously a raising or a control predicate.

Relevant here is the fact that *need* in English displays raising properties:

(33) There needs to be quiet here.

(34) Tabs need to be kept on them.

Yet *be in need of* does not:

(35) You're in need of working harder.

(36) *There's in need of being less noise here.

(37) *Tabs are in need of being kept on them.

Nor does overt *have need*:

(38) They have a (desperate) need to be loved.

(39)   *There has a (desperate) need to be less noise here.

(40)   *Tabs have a (desperate) need to be kept on them.

Similarly, I think, there is a sharp contrast involving *sure*:

(41)   There is sure to be a problem with our analysis.

(42)   *There is a sure thing to be a problem with our analysis.

The facts of (33)–(42) suggest that raising predicates have to be "minimal" in a way that control predicates do not have to be. A strengthening of this suggestion would be:

(43)   Control predicates are always more complex in structure than related raising predicates.

In the case of *need*, consider now Harves and Kayne's (2012) claim that, universally, transitive *need* is "HAVE need," with a derivation in which nominal *need* raises to a silent counterpart of transitive *have*. Assume that this "HAVE need" analysis carries over to raising sentences with *need*, as in (33)/(34). Then the specific way in which raising *need* is less complex than control *have a need* in (38)–(40) is (at least) that *have a need* involves an indefinite article that is absent in the case of raising *need*.

Let us now return to (29), repeated here:

(44)   you are . . . FOR . . . to return home before midnight

Given (30) and (31), this can clearly correspond to a raising structure. If the matrix predicate in (44) were just *be* (which is highly unlikely) and if there could be no complex X such that *be* is to X as "HAVE need" is to "have a need," then there could be no control counterpart of (44). If the matrix predicate in (44) is, more accurately, *be* plus a silent predicate, as I will suggest shortly, and if the silence of that predicate (or some other property of it) is incompatible with there being a more complex counterpart of it, then by (43) there can again be no control variant of (44).

5. THE INSUFFICIENCY OF *BE*

Given then that *is to* is an instance of raising and only that, (44) should be made more explicit and revised to:

(45)   you are . . . FOR <you> to return home before midnight

where "<you>" indicates the "trace" of raising. This revision is itself neutral as to whether the matrix predicate in (45) is just *be* or more than just *be*. That it must be more than just *be* is suggested by at least the following two considerations. First, as noted by Pullum and Wilson (1977, note 4), *is to* is possible only in finite contexts:

(46)   You are/were to return home before midnight

but not:

(47)   *You may/might be to return home before midnight.

(48)   *He should definitely be to return home before midnight.

(49)   *For you to be to return home before midnight would be an excellent idea.

(50)   *I wonder what makes him be to return home before midnight.

(51)   *Despite their being to return home before midnight, . . .

Since other instances of *be* in English do not show this restriction,[19] having just *be* as the matrix predicate in (45)/(46) would leave one with little hope of understanding why the examples in (47)–(51) are unacceptable.[20]

19. For example:

    i)   Despite (his) being hard to please, John is well-liked.
    ii)   We would like to be in Paris.
    iii) They would not like to be arrested.

etc.
On the other hand, there are finite vs. non-finite contrasts with *gonna*:

    iv) Despite the fact that they're gonna fail the exam, they're in good spirits.
    v)   *Despite being gonna fail the exam, . . .
    vi) It's possible that it's gonna take too much time.
    vii) *?It may be gonna take too much time.

which suggests developing an analysis for *is gonna* that has something in common with the analysis of *is to*. (Relevant is whether or not *is going to* is limited to English, within Germanic and Romance.)
    For potential Italian counterparts of the restriction to finiteness with *is to*, see Benincà and Poletto (1995).
    20. We can note in passing that the restriction to finite contexts does not hold with *have to*, for example:

    i)   You may have to return home before midnight.

which must then have an analysis significantly different from that of *is to*, though I will not in this paper pursue the question of *have to*, which also differs from *is to* in allowing an epistemic-like reading:

A second consideration suggesting that there must be more to the matrix part of (45)/(46) than just *be* comes from the limitation of *is to* to English (within the Germanic and Romance families). This consideration is intertwined with the presence of silent FOR in (45)/(46). The postulation of the presence of FOR in *is to* sentences directly reflects one of the core hypotheses of this chapter, namely the idea that *is to* is limited to English because *is to* depends on *for*/FOR and that complementizer is limited to English (within the two families in question). But why exactly is *is to* dependent on *for*/FOR?

Interpretive considerations having to do with the deontic character of *is to* do not seem compelling. For one thing, *for* is not necessarily associated with a deontic interpretation, as illustrated by:

(52)   For you to have said that in public is unbelievable.

Conversely, the availability of a deontic interpretation in a given context does not suffice to license *for*, as seen in pairs like:

(53)   We think that you should return home before midnight.

(54)   *We think for you to return home before midnight.

Similarly:

(55)   That you should return home before midnight is obvious.

(56)   *For you to return home before midnight is obvious.

Furthermore, instances of *for* involving a deontic interpretation do not actually require *for*:

(57)   It is essential for there to be quiet here.

(58)   It is essential that there be quiet here.

The deontic flavor of (57) rests on the presence of *essential*, then, rather than on the presence of *for*. Similarly, I will suggest, the deontic flavor of (46) rests on the presence of a (silent) matrix predicate (distinct from *essential*, yet having in common with it some deontic flavor) that is present in (46) in addition to *are/were*.

   ii)   There has to be a mistake somewhere in this proof.

that is not possible in:

   iii)   ?There is to be a mistake somewhere in this proof.

which can only be "deontic."

Indirectly related to this point about (57)/(58) is the following generalization concerning English and French:

(59)   If a *for . . . to* infinitive translates into French as a finite embedded sentence, that sentence will invariably be subjunctive, rather than indicative.

This covers cases that are not strictly deontic, as in:

(60)   We would like for you to return home before midnight.

(61)   Nous aimerions que vous rentriez avant minuit. ("we would-like that you return-home(subjunctive) before midnight")

With such matrix predictes, both English and French allow control:

(62)   We would like to return home before midnight.

(63)   Nous aimerions rentrer avant minuit.

In (63), French has a bare infinitive, that is, an infinitive with no (visible) complementizer-like element. Now although the French bare infinitive in (63) corresponds, modulo the PRO vs. lexical subject difference, to English (60), which contains *for*, French has no bare infinitive counterpart of *is to*:

(64)   *Vous êtes rentrer avant minuit. ("you are return-home(infinitive) before midnight")

despite the fact that *is to* sentences themselves contain FOR (as in (45)). In other words, if English *is to* contained as matrix predicate only *be*, then, given the indirect parallel between the bare infinitive in (63) and the *for . . . to* infinitive in (60), we might well expect French to allow (64), which it does not. I conclude, in agreement with the earlier point about the restriction to non-finite contexts, that English *is to* sentences must not, despite initial appearances, have as matrix predicate merely *be*.

6. THE SILENT MATRIX PREDICATE

This means that (45) should be further revised to:

(65)   you are PRED FOR <you> to return home before midnight

in which PRED is a silent matrix predicate compatible with complementizer FOR/*for*. The next question is, what kind of predicate? It seems unlikely that

this silent predicate is adjectival. English has a number of adjectives that share the deontic flavor of *is to*. For example, the following are close in interpretation to (65)/(46):

(66)   It's necessary that you return home before midnight.

(67)   It's necessary for there to be further discussion.

(68)   It's essential for there to be quiet here.

(69)   It's imperative that there be at least 50 people at the party.

(70)   It's vital that you return home before midnight.

(71)   It's mandatory for there to be a third person present.

Yet as far as I can see, not a single such adjective allows raising of the sort indicated in (65):[21]

(72)   *There's necessary to be further discussion.

(73)   *There's essential to be quiet here.

(74)   *There's imperative to be at least 50 people at the party.

(75)   *You're vital to return home before midnight.

(76)   *There's mandatory to be a third person present.

I conclude that PRED in (65) is not adjectival. Combining this conclusion with (33)–(42), which suggested that raising predicates cannot be overtly nominal, the further conclusion is that PRED in (65) is verbal.

Since (65) contains complementizer FOR, verbal PRED in (65) must be of the sort that is compatible with FOR. This rules out classical raising verbs (on the assumption that compatibility with FOR requires compatibility with *for*), given:

(77)   *It seems for you to be quite happy.

(78)   *It appears for our team to have won the game.

(79)   *It turned out for there to be a problem with our analysis.

---

21. There might be a link here to (43) and to Amritavalli and Jayaseelan's (2003) claim that adjectives are never simplex, though a challenge would be raised by the existence of the (non-deontic) raising adjectives *certain, liable* and *(un)likely* (and perhaps *wont* and *bound*). Whether there's any link to the absence of raising with French *falloir* is unclear.

Strictly speaking, though, these particular verbs (*seem, appear, turn out*) are excluded, as candidates for PRED in (65), for a second reason, since the presence of (a finite form of) *be* in (65) means that verbal PRED there must be either a gerund (in the progressive) or a passive participle. Although these classical raising verbs don't passivize, one of them readily accomodates a gerund:

(80) It's turning out that there are more and more problems with our analysis.

However, *for* remains impossible:

(81) *It's turning out for there to be more and more problems with our analysis.

In addition, these classical raising verbs are not associated with the deontic flavor of *is to*.

The presence of FOR in (65) likewise means that PRED in (65) cannot be any of the classical B-verb (v. Postal (1974)) ECM verbs, since these are also not compatible with *for*, for example:

(82) It's believed that there is a solution to this problem.

vs.:

(83) *It's believed for there to be a solution to this problem.

Put another way, PRED in (65) could not be a passive participle of *believe* or of any other B-verb. This sits well with the fact that the interpretation of an *is to* sentence like:

(84) There's to be no more fighting.

cannot possibly equal that of a (non-deontic) B-verb passive like:

(85) There's believed to be no more fighting.

Since English *is to* sentences, as represented in (65) (and as exemplified by (84)), fail to match either active raising sentences like (77)–(81) or passive ECM B-verb sentences like (82)/(83)(85), we must instead take PRED in (65) to correspond to the passive participle of a passive ECM W-verb sentence,[22]

---

22. And not to a modal, which (in English) would not compatible with finite *be*:
  i)   *You are ought to return before midnight.
  ii) *You are must/should return before midnight.

again in Postal's (1974) sense, that is, *is to* sentences are to be thought of as close to sentences like:

(86) There is expected to be a solution.

(87) You are required/supposed to return home before midnight.

(88) There's required/supposed to be a meeting tomorrow.

(89) There wasn't meant to be so much noise.[23]

Let me set aside until later the question of choosing among these various verbs. I will use WVERB-ED as short for "passive participle of a W-verb." Thus (65) is to be superseded by:

(90) you are WVERB-ED FOR <you> to return home before midnight

where WVERB-ED is akin to *expected, required, supposed, meant*. Made explicit by (90) is the proposal that an *is to* sentence like:

(91) You are to return home before midnight.

has a derivation involving a silent W-verb passive participle and a silent counterpart of complementizer *for*.

Thinking of (52)–(60), it seems almost certain that the deontic interpretation of (90)/(91) is due to its (silent) W-verb passive participle, rather than to its FOR.

7. DERIVATIONS

English *is to* sentences have interpretations akin to those of passive W-verb sentences such as (86)–(89) and do not have interpretations akin to those of passive B-verb sentences such as (85). This follows as desired if WVERB-ED in (90) is necessarily the passive participle of a W-verb.

But why exactly does English prohibit that silent passive participle from being that of a B-verb like *believe* (in which case there would be no FOR following it)? I suggested earlier that if FOR were not present in *is to* sentences in English, we would be unable to account for the absence of exact counterparts of *is to* in other Germanic languages and in Romance languages. The question, then, is, what forces English to have FOR in (91)/(90)? What property

---

23. The possible relevance of *meant* here was brought to my attention by Dunja Veselinović (p.c.).

(or properties) of the language faculty make a FOR-less (90) unavailable to English and to other languages?

I think that an answer can be found if we try to make more precise the derivation of *is to* sentences. If Kayne (2006a) is on the right track, silent elements are necessarily in a different position than their pronounced counterparts. If so, the position of the passive participle in (90) cannot simply be as indicated, that is, it cannot be the same as the position of overt *expected* or *meant* or *supposed* in:

(92)   You are expected/meant/supposed to return home by midnight.

The more specific proposal in that 2006 paper was that elements to be unpronounced must move to a special position (spec of a phase). In this spirit, assume that in the derivation of *is to* sentences the W-verb passive participle must move to a position to the left of finite *be*, that is, that (90) should be replaced by the following (traces of movement not indicated):[24]

(93)   You WVERB-ED are FOR to return home by midnight.

This is of course not sufficient to account for the absence of a B-verb-like interpretation in *is to* sentences, since we could still wonder why a putative B-verb passive participle could not have moved to be unpronounced in the same way as the W-verb participle in (93). One piece of the answer to the question why (93) has no B-verb counterpart (which would lack FOR) lies, I think, in the claim that the movement of WVERB-ED in (93) is not head movement but rather phrasal movement.

That the movement of WVERB-ED in (93) is phrasal movement might be due to the general absence of head-movement, if, as various people have suggested,[25] the language faculty disallows head-movement. Alternatively, even if head-movement does exist, it might still be barred from applying to WVERB-ED in (93) by virtue of the requirement that silent elements must end up in a Spec position.[26]

If, as just proposed, the movement of WVERB-ED in (93) is an instance of phrasal movement, then the derivation must (assuming, with antisymmetry,

---

24. The greater correctness of (93), as compared with (90), also means that "deletion in situ" is not the right way to think about the silent passive participle in question.

25. For relevant discussion, see, for example, Koopman and Szabolcsi (2000).

26. Which would (desirably) force VP-subdeletion, as in:

   i)   John has spoken to Mary, but he hasn't to Susan.

to involve remnant movement (rather than ellipsis in situ of V), and thereby account for the fact that the pieces of VP left behind in such examples must be moved out of VP, as had first been suggested by Jayaseelan (1990).

no rightward extraposition) necessarily involve remnant movement, as in (abstracting away from the subject *you*):

(94) WVERB-ED FOR to return home by midnight --> movement of the in-
finitive phrase
[FOR to return home by midnight]$_i$ WVERB-ED t$_i$ --> merger of *be*
are [FOR to return home by midnight]$_i$ WVERB-ED t$_i$ --> remnant
movement
[WVERB-ED t$_i$]$_j$ are [to return home by midnight]$_i$ t$_j$

This, however, still has not told us why the language faculty disallows a par-
allel derivation with a B-verb passive participle in place of the W-verb passive
participle.

The more specific proposal now is that FOR plays a central role in (94), in
the sense that the infinitive phrase movement in the first step of (94) nec-
essarily depends on the infinitive phrase being carried along/pied-piped by
FOR.[27] Since FOR is not available with B-verbs like *believe*, there can then be
no counterpart with a B-verb to this derivation.

The idea that infinitive phrase movement can be sensitive in English to the
presence vs. absence of FOR is (somewhat faintly) supported by the contrast
between:

(95) ??John Smith, to act like whom you've always been expected, is a fa-
mous linguist.

which arguably contains FOR, and:

(96) *John Smith, to look like whom you're always considered/usually
believed, is a famous linguist.

which lacks FOR (since *consider* and *believe* are B-verbs).

As for the question why the infinitive phrase preposing of (93)/(94) should
be dependent on the presence of FOR, there may be a tie to the sharp asym-
metry found in French with "inner topicalization":

27. Wood (2011) proposes that Icelandic *verður að* ("become to") in sentences like:

i) Þú verður að gera þetta. ("you become *að* do this" = "you have to do this")

involves a silent participle ÁTT ("ought") between *verður* and *að*. If Icelandic *verður
að* is to be treated in tandem with *is to* (despite the "become" vs. "be" difference), then
Icelandic *að* would have to license infinitive movement in a way parallel to English *for*,
despite not licensing lexical subjects; on the idea that *að* has something significant in
common with *for*, see Kayne (1981b, 365).

(97) ?J'aurais, à ces garçons-là, permis de fumer une cigarette. ("I would-have to those boys-there permitted *de* to-smoke a cigarette" = "those boys I would have allowed to smoke . . .")

(98) *J'aurais, Jean, invité à la soirée. ("I would-have John invited to the party")

where inner topicalization of a non-prepositional object is excluded. A similar restriction is found for some speakers of English in the case of VP-subdeletion (which arguably involves such (contrastive) inner topicalization—Kayne (1994, 76)), as seen in Williams (1977, 130), where the following judgments are given:

(99) *Mary didn't address Bill, but she did Bob.

(100) ?Mary didn't speak to Bill, but she did to Bob.

(I find (99) better than Williams does—while agreeing with him on the relative difference.) In (97) and (100), inner topicalization seems, to judge by the different status of (98) and (99), to depend or to be facilitated by the presence of a preposition, recalling, despite the lack of contrastive effect with *is to*, the proposed role of FOR in (93)/(94).

8. *FOR*/FOR AS SUBPART OF A WH-PHRASE

A second, more speculative, possible answer to why the infinitive phrase preposing of (93)/(94) should depend on the presence of FOR might (partially) dissociate complementizer *for*/FOR from other prepositions, as follows. Assume that Kayne (2010a) is correct to take English relative complementizer *that* and Italian relative complementizer *che* not to be true complementizers but rather to be relative pronouns, that is, to be determiners (partially parallel to relative *which*) that in relative clause contexts appear without their accompanying NP. Now the analysis of Italian relative *che* proposed there was more specifically that *che* is only a subpart of a complex determiner of the German *was für* type found in sentences like:

(101) Was für ein Buch liest du? ("what for a book read you" = "what (kind of a) book . . .")

An Italian relative as in:

(102) il libro che tu leggi ("the book what you read" = "the book that you"re reading")

is then to be analyzed as follows (with capital letters again indicating non-pronunciation):

(103)   il libro che FOR A LIBRO tu leggi

in which *che* corresponds directly to German *was*, LIBRO is the silent noun accompanying the relative pronoun,[28] and FOR is a silent counterpart of German *für* (and A is a silent counterpart of German *ein*). Put another way, Italian uses in (some of) its relatives a complex relative determiner, only one piece of which Italian pronounces, and similarly for those English dialects that allow:[29]

(104)   the book what I was telling you about

with the analysis:

(105)   the book what FOR A BOOK I was telling you about

English has infinitival relatives introduced by complementizer *for*, as in:

(106)   A book for you to read is lying on the kitchen table.

Tweaking (105) yields for the phrase:

(107)   a book for you to read

the analysis:

(108)   a book WHAT for A BOOK you to read

which differs from (105) only in what is pronounced and what is not, with the consequence that complementizer *for* in English infinitival relatives would in fact not be a complementizer in the standard sense of the term, but rather a relative pronoun, in the same sense in which *what* is a relative pronoun in (105), that is, *for* in (106) is one piece of a relative determiner.

Kayne (2010a) further proposed that finite sentential complements are in the general case to be understood as relative clause structures involving relativization of a PP like *in fact*.[30] Generalizing that proposal to infinitival sentential complements yields the conclusion that they are relative clause structures, too, with the further conclusion that what is called complementizer *for* is now

---

28. The text discussion is neutral as to whether that silent noun is the "trace" of raising to the "head" position of the relative.

29. Cf. Herrmann (2005).

30. Apart from the relativization proper, this is close to Rosenbaum (1967) and to Kiparsky and Kiparsky (1970).

systematically to be understood, even in what we call sentential complements, as being the single pronounced subpart of a complex determiner of the "WHAT for A" type, as in (108). If so, then the pied-piping necessarily involved in the infinitive phrase preposing of (93)/(94) in the derivation of *is to* sentences is not the prepositional subtype of pied-piping, but rather the wh-phrase subtype, with FOR being part of that wh-phrase.[31]

9. ANOTHER INTERPRETIVE RESTRICTION

In addition to the absence of a B-verb counterpart to (93)/(94), which I have argued to be due to the incompatibility between B-verbs and *for*/FOR, there is no active counterpart to (93)/(94). If there were, then we would have:

(109)   He was to return home by midnight.

not only with the W-verb passive (raising) interpretation that it does have (approximately that of *He was meant/expected/supposed to return home by midnight*), but also with the active (control) interpretation of:

(110)   He was meaning/expecting to return home by midnight.

---

31. If complementizer *for* is part of a larger relative determiner, a challenge arises concerning its licensing effect on infinitival subjects, and, conversely, concerning its incompatiblity in standard English with PRO.
The latter restriction might be related to:

  i)   The reasons for which we should leave right away are obvious.

  vs.

  ii)   *?The reasons for which to leave right away are obvious.

The licensing of infinitival subjects by *for* might be related to the licensing of Italian infinitival subjects by Aux-to-C discussed by Rizzi (1982, chap. 3), especially if the post-*for* subject is not accusative, as may be suggested by:

  iv)   ?For his wife to be picked would surprise us, whereas for he to be would shock us.

in which *he* seems quite a bit more possible than in:

  v)   *For his wife, being picked would be a surprise, whereas for he, being picked would be a shock.
  vi)   *It would be a surprise for his wife, but a shock for he.

For relevant discussion, cf. Klima (1964).
I leave for future work the question of the licensing of silent FOR itself.

which it absolutely cannot have.[32] The question is, why not, that is, why exactly does no English, as far as anybody knows, allow *is to* sentences to have an interepretation akin to that of (110)?

The answer, I think, lies along the following lines. The question is in essence why the (partial) derivation of *is to* sentences given in (94), repeated here:

(111)   WVERB-ED FOR to return home by midnight --> movement of the infinitive phrase
[FOR to return home by midnight]$_i$ WVERB-ED t$_i$ --> merger of *be*
are [FOR to return home by midnight]$_i$ WVERB-ED t$_i$ --> remnant movement
[WVERB-ED t$_i$]$_j$ are [to return home by midnight]$_i$ t$_j$

does not have a counterpart in which the passive participle WVERB-ED would be replaced by the gerund WVERB-ING, yielding, in the final step the illegitimate:

(112)   *[WVERB-ING t$_i$]$_j$ are [to return home by midnight]$_i$ t$_j$

Put another way, why can a W-verb gerund not be silent, in the context of *is to/are to*, in the way that a W-verb passive participle can be?

Looking at other imaginable cases, we see that it is not just a W-verb gerund that is prohibited from being silent in a way parallel to a W-verb passive participle. Simple infinitives are, too. This can be seen by comparing the following two sentences:

(113)   You're to return by midnight.[33]
(114)   *You'll to return by midnight.

Example (113) is acceptable with the passive interpretation of *You're expected/ meant/supposed to . . .* according to the analysis I've been developing, whereas (114) is not acceptable at all. If a silent W-verb infinitive had been possible in

---

32. The judgment on (109) abstracts away from the fact that it is to some degree possible as an (irrelevant) instance of VP-subdeletion, with a particular intonation break.
33. The presence of contraction in this example recalls that found with *wanna*, and especially with the raising examples:

i)   There's gotta be an answer.
ii)   There doesn't hafta be an answer.

The contrast with:

iii)   I'm not sure when it is/*it's.
iv)   I'm not sure in how good a mood they are/*they're.

suggests that an "A vs. A-bar" distinction is (somehow) relevant.

this context, then (114) would have been available with an interpretation like that of *You'll expect/mean to return by midnight*, but it is not.

Just as (114) shows that a silent W-verb infinitive with a control interpretation is not possible in such a context, so does (115) show that a silent active past participle with a control interpretation is not possible, either:

(115)   *You've to return by midnight.

Given (113), one might have expected (115) to be acceptable with an interpretation akin to that of *You've expected/meant to return by midnight*, but it is not.

The generalization appears to be that a W-verb can be silent in a derivation like (111) precisely because (111) is (a piece of) the derivation of a W-verb ECM passive, in effect an instance of raising. Whereas (110)/(112), (114), and (115) are (intended) instances of control. Put another way, a derivation like (111) is compatible with raising, but never with control.

In order to eliminate the possibility of a control derivation comparable to the raising derivation illustrated in (111), let me suggest that the remnant movement of the phrase containing WVERB-ED in the last step of (111) is actually dependent on the raising of the infinitival subject from within the infinitive up to subject position in the matrix. A more precise way of saying this is to say that the passive participle WVERB-ED in the remnant movement step of (111) is pied-piped by the subject DP (cf. Collins (2005) on "smuggling"). This yields a more fully spelled-out derivation like the following:[34]

(116)   WVERB-ED FOR you to return home --> movement of the infinitival
        subject as in small clause passives
        you_i WVERB-ED FOR t_i to return home --> movement of the infinitive
        phrase pied-piped by FOR
        [FOR t_i to return home]$_j$ you_i WVERB-ED t_j --> merger of *be*

---

34. I leave open questions concerning the exact position of FOR. That silent FOR is less of a block to movement than overt *for*, as shown by (i), recalls *that*-trace effects:

i)   *You were for to return home by midnight.

French *de* and (as brought to my attention by Jan Koster (p.c.)) Dutch *om* share some properties of English *for*, though not the property of licensing the lexical subject of an infinitive. The text analysis requires that French and Dutch not allow a derivation like (116) with silent DE or silent OM. This suggests that the movement of *you* in the first step of (116) depends on that licensing property of *for*. In the GB/ECP framework as used by Kayne (1981b), that could readily be stated in terms of "government," with *for*/FOR governing infinitival subject position in a way that *de*/DE and *om*/OM could not. I leave open the question how best to transpose that government difference into a post-GB framework.

are [FOR t$_i$ to return home]$_j$ you$_i$ WVERB-ED t$_j$ --> remnant movement (with pied-piping of WVERB-ED by *you*)

[you$_i$ WVERB-ED t$_j$]$_k$ are [FOR t$_i$ to return home]$_j$ t$_k$ --> raising of *you* to a still higher Spec (trace not indicated)

you$_i$ [WVERB-ED t$_j$]$_k$ are [FOR t$_i$ to return home]$_j$ t$_k$

The idea then is that without the pied-piping of the passive participle WVERB-ED by subject *you* in the next-to-last step of (116), that participle would be unable to reach the pre-*be* position required to license its silence. If control sentences like (110)/(112), (114), and (115) lack that raising step (and as-suming that WVERB-ED cannot reach the pre-*be* position on its own), then those control sentences will not be able to show a silent W-verb form at all.[35]

10. SMALL CLAUSES

Of further interest is the absence of a small-clause counterpart to *is to*, in the following sense. (I'm switching to past-tense examples to avoid interference from quasi-imperatives.) With overt *expected/meant/supposed*, we have:

(117)   You were expected/meant/supposed to return home by midnight.

which in the case of *expected* has a small clause counterpart:

(118)   You were expected home by midnight.

Yet *is to*, as in:

(119)   You were to return home by midnight.

does not have a small clause counterpart:

(120)   You were home by midnight.

35. The text discussion assumes that Cinque's (2006, chap. 1) proposal that Italian *volere* ("want") participates in raising derivations even when it has a control-like inter-pretation is not correct, at least not for English *want* cooccurring with FOR. This may correlate with English *want* not being modal-like:

i)   *We wantn't leave.
ii) *Want you leave?

The text discussion further takes control not to involve raising-like movement of the embedded subject in the manner of Hornstein (1999). If control involves movement of a double, as in Kayne (2002a), then that movement must be unable to license the pied-piping of WVERB-ED. Alternatively, the absence of a control counterpart of (116) might be related to (43).

Though possible, (120) cannot at all have the interpretation of (118).

Recalling that the derivation of (119) makes crucial use of the presence of FOR, a possible account of the discrepancy between (118) and (120) may rest, at least in part, on the impossibility of complementizer *for* in (118) or in its active counterpart:

(121)   You are/were expected (*for) home by midnight.
(122)   We were expecting (*for) you home by midnight.

The deviance of (122), which is part of a broader generalization to the effect that complementizer *for* is never found with small clauses,[36] will lead to an account of (the missing interpretation of) (120), if small clauses reject FOR as well as *for*.

11. NEGATION

An additional consideration that reinforces, in the case of "is to," the appropriateness of derivations like (116) lies with negation:

(123)   You're not to return home after midnight.

This example is natural and has approximately the interpretation of:

(124)   You're expected/meant not to return home after midnight.

in which *not* is in the embedded sentence and scopes under the matrix predicate. In parallel fashion, it seems clear that *not* scopes naturally under silent WVERB-ED in (123). *Not* can also scope over overt *expected/meant* in:

(125)   Obviously, you're not expected/meant to return home exactly at midnight.

The question now is whether *not* can also scope over silent WVERB-ED. One relevant kind of sentence is:

(126)   Obviously, you're not to return home exactly at midnight.

---

36. From the perspective of section 8, this property of complementizer *for* reduces to the fact that overt relative pronouns are never found with small-clause relatives:

    i)   The book (*which) sent to John turned out to be quite interesting.

To my ear, this cannot have the interpretation of (125), although it is acceptable with a different interpretation, that of:

(127)   Obviously, you're expected/meant not to return home exactly at midnight.

Similarly, the following:

(128)   Fortunately, I'm not to return home before midnight.

cannot have the interpretation of:

(129)   Fortunately, I don't have to return home before midnight.

but only that of:

(130)   Fortunately, I have to not return home before midnight.

In other words, while negation can scope over or under overt *expected/meant*, negation can, to judge by (126)–(130), only scope under the silent passive participle WVERB-ED; it cannot scope over it.

The examples in (123)–(130) all contain *not*. In my English, negative *n't* appears to have the same key property. In *is to* sentences, *n't* cannot scope over silent WVERB-ED any more than *not* can:

(131)   ?Of course you aren't to return home exactly at midnight.

Again, it seems to me that the interpretation here is not that of (125). Rather the interpretation of (131) is akin to that of (127). I conclude that both *not* and *n't* have the property that they cannot scope over WVERB-ED.

As I have indicated, I actually find (131) somewhat marginal even with *not* scoping under WVERB-ED. This is also true for me in pairs like the following, with negation scoping under WVERB-ED in each:

(132)   He's not to make any noise.

(133)   ?He isn't to make any noise.

It seems likely that the lesser acceptability here with *n't*, as compared with *not*, should be related, in my English, to:

(134)   They must not have heard us.

(135)   ?They mustn't have heard us.

in which negation scopes under epistemic *must*.

Why should negation, as shown by (126)–(131), be unable to scope over silent WVERB-ED? I think the answer has to do with the core idea that silent WVERB-ED is not in the same position as its overt counterpart, that is, that it undergoes, as in (116), a special (remnant) movement operation having to do with it being licensed to be silent. For example, in (123), WVERB-ED has moved past *are/'re*. Now, since *not* in (123) is within the embedded infinitive (just as it is in (124)), that movement of WVERB-ED past *are/'re* will not cross *not*. If, on the other hand, *not* were in the matrix in (123) (as it is in (125)), above the initial position of WVERB-ED, then the movement in question would, in crossing *are/'re*, have to cross *not*, leading, arguably, to a negative island violation.

12. *MUST*

The fact that negation cannot have wide scope in *is to* sentences like (123), (126), (128), and (131)–(133) recalls the fact that negation cannot scope over *must* in:

(136)   We must not be quiet here.

(137)   We mustn't be quiet here.

These are acceptable with an interpretation suggesting that noise is required of us, but are not acceptable with an interpretation like that of either of the following:

(138)   It's not the case that we must be quiet here.

(139)   We don't have to be quiet here.

The prohibition against wide-scope negation in (136)/(137) is considerably weakened, however, in:

(140)   We mustn't necessarily be quiet here.

which is fairly acceptable in the sense of (138)/(139).

This suggests a way of relating the scope facts of (136)/(137) to those of (123), (126), (128), and (131)–(133), as follows. Assume that English *must* must be accompanied by a modal adverb like *necessarily*, so that (136)/(137), in which no such adverb is visible, must contain a silent counterpart of *necessarily*:

(141)   . . . must not/n't NECESSARILY . . .

Assume further that as in Kayne (2006a) silent elements must raise to a special position (as discussed earlier for WVERB-ED), and that in the case of silent NECESSARILY that position is above the position of *must* itself. Then in non-negative:

(142)   We must be quiet here.

now to be thought of as:

(143)   we must NECESSARILY be quiet here

this silent NECESSARILY will raise past *must*.[37] But in (141) (with matrix negation) the corresponding movement past *must* will have to cross negative *not/n't* and will therefore arguably lead to a negative island violation (much as in the discussion of (123), (126), (128), and (131)–(133)), with the result that (136)/(137) will not be possible (if the negation is in the matrix). On the other hand, with negation within the embedded infinitive (that is, with negation scoping under *must*), (136)/(137) will be possible, since NECESSARILY, in moving past *must*, will not cross that negation:[38]

(144)   we must NECESSARILY [not/n't be quiet here]

Furthermore, in (140), with overt *necessarily*, no comparable movement of *necessarily* is required, since *necessarily* is, in (140), not silent. Therefore in (140) no negative island violation will be produced, in which case we have an account of the contrast concerning wide- scope negation between (136)/(137) and (140),[39]

13. THE FINITENESS RESTRICTION

The derivation given in (116), repeated here:

(145)   WVERB-ED FOR you to return home --> movement of the infinitival
            subject as in small clause passives
            you$_i$ WVERB-ED FOR t$_i$ to return home --> movement of the infinitive
            phrase pied-piped by FOR
            [FOR t$_i$ to return home]$_j$ you$_i$ WVERB-ED t$_j$ --> merger of *be*

---

37. Perhaps in a way partly related to agreement-driven movement, if Zeijlstra (2008) is on the right track. The text proposal in favor of the presence of silent NECESSARILY resembles Zeijlstra's proposal concerning silent operators, with the key difference concerning the fact that NECESSARILY must move, and in particular start out low enough to have to cross the matrix negation in moving past *must*.
   Zeijlstra takes the modal itself to be uninterpretable. Alternatively, *must* might be to *necessarily* as *canine* is to *wolf*.
38. Narrow-scope negation in (136)/(137) contrasts with:

    i)   You ought to not/*n't do that.

For relevant discussion, see Roberts (2000).
39. Consideration of negation and modals in other languages or of negation and other modals in English would take us too far afield.

are [FOR t_i to return home]$_j$ you$_i$ WVERB-ED t_j --> remnant movement
(with pied-piping of WVERB-ED by *you*)
[you$_i$ WVERB-ED t_j]$_k$ are [FOR t_i to return home]$_j$ t_k --> raising of *you*
to a still higher Spec (trace not indicated)
you$_i$ [WVERB-ED t_j]$_k$ are [FOR t_i to return home]$_j$ t_k

expresses the dependency of *is to* sentences on FOR (and thereby the absence of *is to* in various other languages) via the first pied-piping step, and expresses the limitation to passive interpretation via the second pied-piping step, as discussed in section 9. However, we have not yet accounted for another salient property of *is to* sentences mentioned by Pullum and Wilson (1977, note 4), namely the limitation to finite forms of *be*. While simple present and simple past forms are possible:

(146)   You are/were to return home by midnight.

finite *are/were* cannot be replaced by any non-finite form of *be*, including *be* itself:

(147)   *You have often been to return home by midnight.

(148)   *Tomorrow, you will be to return home by midnight.

(149)   *He seems to be to return home by midnight.

(150)   *Despite being to return home by midnight, John is making plans to stay out late.

Since other uses of *be* do not show this restriction:

(151)   They must be joking.

(152)   You're being too stubborn.

(153)   They appear to have been arrested.

the restriction seen in (147)–(150) must reflect not a property of *be* itself, but rather a property of the derivation of *is to* sentences. What I would like to suggest more specifically is that it is a property of the movement of (the phrase containing) silent passive participle WVERB-ED that is at issue. As seen in the remnant movement step of (145), the passive participle WVERB-ED can cross *are* (or *were*). The unacceptability of (147)–(150) can be interpreted as reflecting the inability of WVERB-ED to cross a non-finite form of *be*.

To see this, let us isolate the key part of the derivation (145), namely:

(154)   are [FOR t_i to return home]$_j$ you$_i$ WVERB-ED t_j --> remnant movement
(with pied-piping of WVERB-ED by *you*)
[you$_i$ WVERB-ED t_j]$_k$ are [FOR t_i to return home]$_j$ t_k

In (154), WVERB-ED is remnant-moved past *are*. A strongly parallel derivation for, say, (150) would have to involve the step:

(155)   being [FOR t_i to return home]$_j$ you$_i$ WVERB-ED t_j --> remnant movement (with pied-piping of WVERB-ED by *you*)
        [you$_i$ WVERB-ED t_j]$_k$ being [FOR t_i to return home]$_j$ t_k

in which the passive participle WVERB-ED crosses non-finite *being*. The generalization underlying the finiteness restriction on *is to* thus seems to be:

(156)   WVERB-ED can cross, and end up immediately preceding, a finite form of *be*, but not a non-finite form of *be*.

That this is the right way to think of the finiteness restriction on *is to* is suggested by the existence of a partially similar restriction concerning Icelandic "stylistic fronting" (SF). There are many subcases of SF. One particularly robust subcase, to judge by Holmberg (2000) and Sigurðsson (2010), involves the fronting of a participle to the left of a finite auxiliary. One example from Sigurðsson involving an impersonal passive is:

(157)   Skrifað hefur verið um þessar tilraunir. ("written has been about these experiments" = "someone has written about these experiments")

in which the past participle *skrifað* has been fronted to the left of the finite auxiliary *hefur*. Although in this example SF takes place within a root sentence, SF of this type is also evidently robust within various kinds of embedded finite sentences. An example, again from Sigurðsson, is:

(158)   Veit hún hver skrifað hefur um þetta? ("knows she who written has about that" = "does she know who has written about that?")

As in (157), the past participle *skrifað* has in (158) been fronted to the left of finite *hefur*.

Sigurðsson (2010, (46)) notes that SF cannot apply if the auxiliary in question is infinitival. One example that he gives is:[40]

(159)   *Hún virðist skrifað hafa um þessar tilraunir í Science. ("she seems written have(infin.) about these experiments in Science")

40. This example has the infinitive embedded under a subject-raising verb. The restriction against SF in non-finite contexts also holds for control infinitives; Sigurðsson has an example with an infinitive embedded under (Icelandic) *hope* and Holmberg (2000, note 12) has a comparable one with *promise*.

in which the past participle *skrifað* ("written") is seen to be unable to be fronted to the left of the non-finite auxiliary *hafa* ("have"). The contrast in Icelandic between (159) and (157)/(158) recalls the contrast in English between (147)–(150) and (146). In both languages, something possible in a finite context fails to generalize to a non-finite context.

The derivational step indicated for English *is to* in (154) may allow us to understand why this English-Icelandic parallelism should hold. In English *is to* sentences, the passive participle WVERB-ED is fronted to the left of a finite form of *be*, in a way close to what we see directly in Icelandic in (157)/(158), with finite forms of "have." In effect, from the perspective of the analysis of *is to* developed here, English *is to* lends itself to being called an instance of SF in English.[41]

A second point of parallelism between Icelandic SF and English *is to* has to do with negation. As discussed in section 11, the participle movement in English *is to* derivations is subject to a negative island effect, that is, is blocked by an intervening negation. But according to Holmberg (2000, 455), Icelandic SF, in all its various subcases, has exactly the property of being blocked by an intervening negation.

There is at the same time a discrepancy between *is to* and Icelandic SF when it comes to auxiliaries.[42] In the Icelandic example (157), the participle *skrifað* ("written") has moved past two auxiliaries, ending up to the immediate left of the higher, finite one. All the well-formed examples of English *is to* also involve movement of a participle (ultimately silent WVERB-ED) to the immediate left of a finite auxiliary (*is, are, was, were*), as exemplified by (154). Yet as shown by the ill-formedness of (147)–(150), this participle movement simply fails in English when there are two auxiliaries, even when the first is finite, contrary to what we see in (157) for Icelandic.

The possibility arises that this discrepancy can be understood as one between short- and longer-distance SF. In Icelandic, the participle (or other elements subject to SF) can cross two auxiliaries (as long as the higher one is finite). In English, the corresponding participle in *is to* derivations can cross only one (finite) auxiliary. Looked at this way, Icelandic vs. English SF has something in common with Italian vs. French clitic movement. Clitic

41. Holmberg (2000, sect. 8) discusses instances in SF in Germanic languages other than Icelandic and in Romance. For English, he cites the "adverb improvement" case of:

    i)   This is the tree that I said that *(just yesterday) had resisted my shovel.

The text analysis of English *is to*, however, may not be compatible with Holmberg's view of the relevance of phonology to SF.

42. In addition, English *is to* is compatible with a filled subject position, in a way that Icelandic SF is not. This difference may be tied to the fact that the passive participle moved in *is to* sentences ends up silent.

movement in Italian can be longer-distance than in French, insofar as Italian allows it in so-called restructuring contexts in a way that French does not.[43]

Earlier English, as pointed out by Huddleston (2002, 114n) and Goldberg and van der Auwera (2012), was more like Icelandic, insofar as earlier English (until the early nineteenth century, according to Huddleston) did allow non-finite counterparts of *is to*, that is, did allow sentences like (147)–(150). In terms of the present analysis, English has evolved from allowing WVERB-ED to cross two auxiliaries to allowing it to cross only one.[44] (At both stages, English has required WVERB-ED to end up immediately preceding a finite V.)

14. THE NATURE OF WVERB-ED

The analysis of *is to* that I have been pursuing takes the *is* to be the one that occurs in passives, and more specifically in passives of W-verbs. In *is to* sentences, the passive participle (of the W-verb, that is, WVERB-ED) is silent. Its overt counterpart appears in W-verb passives such as:

(160) There was meant to be another meeting.

(I will come back shortly to the question of the choice between *meant, expected, supposed*.) The *be* that appears in these passives cannot be replaced by *become, remain, seem, appear*:

(161) *There became/remained/seemed/appeared meant to be another meeting.

and in this respect contrasts with:

---

43. See Kayne (1989) for a proposal that is not fully compatible with Cinque (2006, chap. 1).
Strictly speaking, since in (157) the participle must raise past both auxiliaries, Icelandic resembles more than it does Italian those Romance languages that have obligatory clitic climbing in restructuring contexts.
Although English *is to*, from the text perspective, shares its short-distance character with French clitic movement, the latter is not restricted to finite contexts, a contrast that remains to be elucidated.
44. Whether this change in English is linked to others needs to be looked into. One potential candidate might be the appearance in the nineteenth century, according to Huddleston (2002, 106n), of progressive passives like:

    i)   John is being arrested.

Possibly also relevant is VP-deletion stranding two auxiliaries, as in:

    ii)   John will be arrested and Bill will be, too.

especially if VP-deletion involves movement, as suggested by Johnson (2001).
Whether this account of the finiteness restriction on *is to* should or can be extended to the finiteness restriction on English modals such as *must, can*, etc. is not clear.

(162) They became/remained/seemed/appeared happy.

Taking *is to* sentences such as:

(163) There is to be no noise here.

to be instances of (W-verb, ECM) passives leads to the correct expectation that the *is* of *is to* will not, contrary to (162), be replaceable by *become, remain, seem, appear*. That this expectation is met is shown by the unacceptability of:

(164) *There became/remained to be no noise here.

and by the fact that the following, though acceptable, cannot have the same kind of deontic-flavored interpretation as (163):

(165) There seemed/appeared to be no noise here.

(166) There came to be no noise here.

   I have been giving the silent passive participle of *is to* sentences as WVERB-ED, thereby setting aside the question of the apparent choice between silent MEANT, EXPECTED, SUPPOSED. This question may be related to facts such as the following (which hold for almost all speakers):

(167) At the age of seven, their daughter could already speak three languages.

(168) At the age of seven *(months), their baby daughter could already walk.

(169) At the age of seven *(days), their newborn daughter could already smile.

Example (167) contains a silent counterpart of *year(s)*.[45] Examples (168) and (169) show that a comparable silent counterpart of *months* or *days* is not possible. The intuition that in the context of (human) age, *year* is the "unmarked" time interval could be expressed by having *month* and *day* as "month/day PART OF YEAR," with the possibility then arising, as a way to understand (168) and (169), that the complete silence of such a complex phrase could not be licensed. The question, then, is whether or not there is a comparable "markedness" relation between *mean* and *expect* and *suppose* (and, if so, how to express such a relation).
   A related possibility is that the silent participle in *is to* sentences matches exactly none of these actually occurring verbs, but corresponds rather to what they all have in common. In effect, the question is whether verbs like *mean, expect* and *suppose* are syntactic primitives, or are in fact rather to be analyzed/

---

45. Cf. Kayne (2003b).

decomposed much as *need* was analyzed earlier, following Harves and Kayne (2012).[46]

Setting aside for the duration of this chapter the question of the preceding paragraph, let us look briefly at MEANT, EXPECTED, SUPPOSED as candidates for WVERB-ED. Recalling the central role played in the analysis by *for*/FOR, consider:

(170) We didn't mean/?expect/*suppose for there to be so much noise.

If cooccurrence with overt *for* were a necessary condition for co-occurrence with silent FOR, which it may not be, then (170) would disqualify SUPPOSED, and would favor MEANT. A second potential advantage of silent MEANT (over EXPECTED) lies in the fact that passives with *meant* (as opposed to passives with *expected*) disallow agent phrases to a significant degree, especially in cases like the following, where raising (as opposed to control) is clearly in play:[47]

(171) Of course there was meant (*by the organizers) to be a lot of noise at the party.
(172) Of course there was meant to be a lot of noise at the party (*by the organizers).

(In the second example, *by the organizers* is irrelevantly possible to some extent if taken to be internal to the DP *a lot of noise at the party*.)

46. Based on Hale and Keyser (1993; 2002), which in turn had something in common with the generative semantics work of earlier years (which was unable to take advantage of comparative syntax work of the sort that developed subsequently).

The Harves and Kayne (2012) claim that modal and verbal *need* do not correspond to syntactic primitives and more specifically that they are to be understood as "HAVE need" makes it difficult to see *need* as a straightforward member of Cinque's (1999; 2013b) sentential hierarchy. It is possible, however, that the ordering/selectional restrictions expressed by that hierarchy will still have a (fairly direct) counterpart even if many or all of Cinque's sentential heads turn out, in one way or another, to have a syntax akin to that of *need*, that is, to have a syntax involving more than just a single head (and spec).

47. When raising is less clearly at issue, I find:

   i) He wasn't meant (?by any of us) to see that memo.
   ii) You were meant (*by your friend, *by the Post Office) to receive this package yesterday.
   iii) You were meant by God to live to the age of 100.

It may be that in (iii) (and perhaps even in (i)) *mean* can have the (non-raising) syntax of *elect* or *choose* (or of a B-verb). I am grateful to Ruth Kempson (p.c.) for calling my attention to the sometime acceptability of agent phrases with *meant*.

This fact about agent phrases in certain W-verb ECM passives is relevant to my proposal that *is to* sentences are instances of such passives, insofar as *is to* is not compatible with an overt agent phrase:

(173) *You were to return home before midnight by your entire family.

(174) *You were by your entire family to return home before midnight.

In other words, it may be that the unacceptability of (173)/(174) reduces to that of (171)/(172).

If the unacceptability of *suppose* with overt *for* in (170) does not prevent *suppose* from cooccurring with silent FOR, so that SUPPOSED remains as a viable candidate for WVERB-ED, then (173)/(174) could alternatively reduce to:

(175) You were supposed to return home before midnight (*by your entire family).

(176) You were supposed (*by your entire family) to return home before midnight.

which are unacceptable with a deontic-flavored intepretation and an overt agent phrase.

The idea that *supposed to* is a very close counterpart of *is to*, with *is to* then containing a silent SUPPOSED, is, strictly speaking, independent of the idea that *is to* involves a passive, insofar as one might think that deontic *supposed to* is adjectival rather than passive, given the impossibility of deontic actives such as:

(177) *His entire family supposed him to return home before midnight.

On the other hand, Postal (1974, 311) notes:

(178) It's (widely) rumored (*by lots of people) that John is a spy.

and Ward, Birner and Huddleston (2002, 1435) note:

(179) He's reputed (*by everybody) to have lost a fortune in the stock market.

so that allowing an overt agent phrase does not seem to be a characteristic of all passives, in which case (175)/(176) may well be passive, as is suggested in any case by the incompatibility of *supposed to* with adjectival modifiers:

(180) *You were very/extremely supposed to return home before midnight.

The passive status of *supposed to* has the advantage of allowing one to propose that the silent element in *is to* sentences cannot in principle be an

adjective, which would provide a means of accounting for the fact that *is to* sentences cannot have the interpretation of:

(181) You are unlikely to return home before midnight.

despite the fact that *unlikely* is compatible with *for*:

(182) For there to be another meeting would be unlikely.

That *is to* derivations can rest on a silent passive participle (of a W-verb) and never on a silent adjective (of any kind) seems plausible, but will call (if correct) for an explanation.[48]

Also calling for an explanation is the very fact that certain passives diallow overt agent phrases. For (171)–(176), it might be proposed that silent FOR is incompatible with an overt agent phrase. Possibly, that could be related to:

(183) ??That sort of person is reliable on by anybody.

vs.

(184) *That sort of person is reliable by anybody.

with the latter containing a silent ON.

If the FOR of W-verb ECM sentences is systematically incompatible with an overt agent phrase, there would be an account of:

(185) *You're wanted/liked/hated to be quiet by just about everybody.

though there would then have to be a (partially) different account of the agentless counterparts:[49]

(186) *You're wanted/liked/hated to be quiet.

15. CONCLUSION

The comparative syntax correlation given in (28), repeated in simplified form here:

---

48. Perhaps the subject of the infinitive must be in a position in which Case is licensed—cf. note 34. Cf. Pollock (1981, 229) and Baker (1993) on the idea that passive participles can assign accusative.
49. Perhaps the silent-to-be participle is incompatible with "smuggling" à la Collins (2005), but only when the agent is overt.

(187)   A Romance or Germanic language has *is to* only if it has a prepositional
        complementizer *for.*

has provided us with a clue to the way in which the language faculty treats
English sentences like:

(188)   You were to return home before midnight.

In so doing, and in leading us to the analysis of *is to* sentences developed
earlier, (28)/(187) has provided us with further evidence in favor of the idea
that the language faculty does not require every syntactically and semantically
active element to have phonological realization. Put another way, (28)/(187)
has told us that the deontic modal-like interpretation of (188) must be calcu-
lated using an element like MEANT or SUPPOSED; it cannot simply be read
off those elements of (188) that happen to be pronounced.[50]

   Thus, whether or not we choose to informally call *is to* part of the English
"lexicon," the presence of *is to* in English is something that is amenable to
syntactic explanation of some deductive depth, ultimately in terms of a pa-
rameter or parameters with wider import, having to do with *for*. In effect, the
techniques developed in comparative syntax work over the past thirty-plus
years can profitably be applied to what might have been thought to be idiosyn-
cratic lexical differences across languages.

   50. This conclusion about the importance of silent elements is virtually certain
to hold, too, of *is to* sentences of a somewhat different sort. For example, Salvador
Mascarhenas (p.c.) has pointed out the ambiguity of:

   i)   If John were really to arrive at 5:00, we'd all be happy.

Similarly, the following is ambiguous:

   ii) They were not to see each other again for another two years.

The extra reading of (ii) is related to:

   iii) She was later to become queen of France.

   Both (iii) and *if . . . were to* sentences may contain silent elements distinct from
MEANT/SUPPOSED, or MEANT and/or SUPPOSED may themselves be ambiguous in
an appropriate way.

Having "Need" and Needing "Have" (with Stephanie Harves)

1. INTRODUCTION

We begin this article by pointing out a striking generalization regarding the existence of transitive verbal "need" among the world's languages. Our analysis falls within an approach to macro-parametric comparative syntax that aims to account for the presence or absence of various grammatical constructions in the world's languages by linking them to some other property of the grammar. We show here that the presence of a construction with transitive "need" in a given language depends on the presence of a transitive verb of possession in that same language.

Our investigation was prompted by the following insightful question raised by Isačenko (1974: 75) in his discussion of counterparts of *have* and *be* within Slavic: "Could it be sheer coincidence that those Slavic languages which have become H[ave]-languages . . . have some modal verbs which are unknown to Russian, a B[e]-language?" In this article we argue, in the spirit of Hale and Keyser (1993; 2002) and Noonan (1993), that this is no coincidence, at least for the transitive modal verb "need." In our analysis, we attempt to account for the cross-linguistic facts at issue in terms of an incorporation approach to verbal "need" that involves a silent HAVE.[1]

We will use the informal term *H-language* to refer to a language that has an overt counterpart to English *have,* in the sense of having an overt verb expressing predicative possession (as in *Mary has two brothers, Mary has a new car*), such that the possessor has nominative case and the possessee is a direct

---

1. Full capitals for a word or morpheme will be used to indicate a silent counterpart.

object (with accusative case and no preposition).[2] *B-language* will then refer to a language that lacks transitive "have" and expresses predicative possession using "be."

We will broaden the investigation, relative to Isačenko's, by taking into account a broader range of languages that extends far beyond Slavic. Strikingly, the sort of generalization Isačenko had in mind for Slavic appears to be tenable cross-linguistically. We state our expanded generalization as follows:

(1) All languages that have a transitive verb corresponding to *need* are H-languages.

Put another way, B-languages do not have transitive "need." By *transitive* here, we mean (as earlier for "have") a verb taking a nominative subject and an accusative direct object (with no preposition).

Many languages are like English in having transitive *need* (as in *They need that book*). All of them are H-languages; that is, they all have a productive possessive transitive verb "have." Examples are German, Spanish, Czech, Mapudungun, and Paraguayan Guaraní. In contrast, Russian, Latvian, Sakha, Korean, Hungarian, Irish, Peruvian Quechua, and Hindi are B-languages that, in accordance with (1), lack transitive "need."

It is to be noted that (1) is not a biconditional. Transitive "need" implies the presence in the language of transitive "have," but the converse does not hold. The presence of "have" in a language is not enough to guarantee the existence of transitive "need." French, Farsi, Lithuanian, Ancient Greek, Latin, and Albanian are examples of H-languages that lack transitive "need." In other words, the presence of "have" is a necessary but not sufficient condition for licensing verbal transitive "need" in a given language.

In the following section, we present the relevant data and patterns exhibited by a variety of languages. These data highlight the generalization (1) that we address here: namely, that a language cannot have a transitive verb "need" without having "have." We present our analysis of "need" in section 3 and then conclude with a brief discussion of one apparent counterexample in section 4.

2. HAVING AND NEEDING: THE FACTS

A survey of languages suggests that Isačenko's (1974) intuition regarding the presence of certain modals such as "need" in H-languages versus B-languages extends far beyond Slavic. In this section, we summarize the patterns attested in a number of different languages.

---

2. In languages that have no overt case marking, we assume that a verb of possession is transitive if neither of its arguments is introduced by a preposition.

2.1. B-languages

Russian, Latvian, Hindi, Irish, and Hungarian are examples of B-languages lacking possessive "have." They are also languages that lack transitive "need."[3]

(2) *Possessive "be"*

    a. U   menja   *budet*   novaja   kniga.   (Russian)
       at   me.GEN will be new   book.NOM
       "I will have a new book."

    b. Man   *ir*   velosipēds.   (Latvian)
       me.DAT is bicycle.NOM
       "I have a bicycle."

    c. Mohan   ke-pass   ek   kitaab *hai*.   (Hindi)
       Mohan   GEN-near one book   be.3SG
       "Mohan has a book."

    d. Mari-nak *van*-nak kalap-ja-i.   (Hungarian)
       Mari-DAT be-3PL   hat-POSS.3SG-PL(-NOM)
       "Mari has hats."
       (Szabolcsi 1994:44)

    e. *Bhí*   cúpla   carr ag Seán an   uair úd.   (Irish)
       be.PAST several car at Sean ART time DEM
       "Sean had several cars at that time."

(3) *Nontransitive "need"*

    a. Mne   *nužna*   èta   kniga.   (Russian)
       me.DAT necessary.FEM that book.NOM.FEM
       "I need that book."

    b. Rebenok *nuždaetsja v* vašej pomošči / *vašu pomošč.* (Russian)
       child.NOM need   in your help.PREP /* your help.ACC
       "The child needs your help."

    c. Man   *vajag*   dakšu.   (Latvian)
       me.DAT need.3SG fork.GEN
       "I need a fork."

    d. Muj-ko pani   *caahiye*.   (Hindi)
       me-DAT water need
       "I need water."

e. Mari-nak *szükség*-e   van   kalap-ok-ra.   (Hungarian)
   Mari-DAT need-POSS.3SG is   hat-PL-onto
   "Mari needs hats."

f. Mari-nak   kalap-ok   *kell*-enek.   (Hungarian)
   Mari-DAT   hat-PL   need-3PL
   "Mari needs hats."

g. *Tá gá*   aige   leis   an   bpeann.   (Irish)
   is necessity by.him with the   pen
   "He needs the pen."

h. *Testaíonn*   arán   uaidh.   (Irish)
   is.deficient bread   from.him
   "He needs bread."

In each of these languages, possession is expressed with the verb "be" and the possessee occurs in the nominative case, while the possessor does not. In Latvian (2b) and Hungarian (2d), the possessor is dative, while in Russian (2a), Hindi (2c), and Irish (2e), it occurs as the object of an adposition.[4] These

---

4. We note that Russian does have a transitive verb *imet'* "to have, to possess, to own." However, it is not used productively to express possession colloquially; rather, it occurs primarily with abstract nouns, for example, in the phrases *imet' pravo* "to have the right," *imet' značenie* "to have significance," and *imet' v vidu* "to have in mind." When it does occur with concrete nouns, the focus is on ownership, as in *Ja imeju dom* "I have a house/I am a homeowner." This verb is inappropriate in broader "have"-contexts since it cannot be used to say, "I have a daughter" *#Ja imeju dočʹ*. This seems to disqualify (a silent counterpart of) it from being the target of "need"-incorporation, for reasons that will need to be made clear.

One possibility suggested by a reviewer is that "need"-incorporation may perhaps be incompatible with *imet'* if (a) *imet'* is used to express possession of concrete objects that is in some way more permanent, rather than transitory, and (b) transitive "need" is used for transitory possession, capable of expressing a stage-level property of subjects. This leads us to expect that sentences such as *#Ja imeju pivo* "I have a beer" are unacceptable, which is in fact the case.

Pushing this suggestion further, we note that the following two sentences appear to have different interpretations, depending on whether the sentence involves transitive *imet'* or the standard *u* + GEN construction normally used for possession in Russian (we thank Sonia Kasyanenko for discussion of these examples):

i) a. Včera   Ivan   imel   mašinu.
      yesterday Ivan.NOM   had   car.ACC
      "Yesterday Ivan was a car owner."

   b. Včera   u   Ivana   byla   mašina.
      yesterday at   Ivan.GEN   was   car.NOM
      "Yesterday Ivan had a car/had access to a car/was a car owner."

two patterns are widely attested among the world's B-languages (see Stassen 2009 for further examples and discussion). As suggested by (3), none of these languages uses a transitive verb "need." In Russian (3a), Latvian (3c), Hindi (3d), and Hungarian (3e–f), the "needer" occurs in the dative case, while in Irish (3g–h) it is preceded by a preposition.

The Russian, Hungarian and Irish examples in (3) show that there are (at least) two different ways of expressing "need" in various B-languages. Crucially, none of these predicates are transitive. Although the "needer" in (3b) occurs in the nominative case in Russian, the verb does not assign accusative case to its object; that is, it is not a transitive verb in accordance with (1).

2.2. H-languages with transitive "need"

Among the contemporary Indo-European languages, the majority of (geographically) European languages are H-languages. A number of them have a productive transitive verb "need." Although it seems that the vast majority of currently spoken languages in the world are B-languages, there are H-languages outside of Indo-European (e.g., some Austronesian, Australian, Central and South American, Khoisan, Nilo-Saharan, and creole languages). In this section, we present examples of transitive possessive "have" and "need" from Indo-European Czech, Spanish, and Swedish, as well as from a Native American Tupian language, Paraguayan Guaraní.[5]

(4) *Transitive possessive "have"*
    a. *Mají*   nové   auto.   (Czech)
        have.3PL new   car.ACC
        "They have a new car."

    b. Cristina *tiene*   un auto nuevo.   (Spanish)
        Cristina have.3SG a   car   new
        "Cristina has a new car."

    c. Anna *har*   en ny   bil.   (Swedish)
        Anna have.3SG a   new car
        "Anna has a new car."

The translations of these sentences suggest that while the *u* + GEN construction can indicate either transitory or permanent possession (i.e., a stage-level or individual-level property of the possessor), transitive *imet'* appears to be incompatible with transitory possession. We set aside further investigation of the differences between these two constructions for future research.

    d. A-*guereko* peteĩ óga. (Paraguayan Guaraní)
       I-have   one   house
       "I have a house."

(5) *Transitive "need"*
    a. Tvoje děti   tě   *potřebují.* (Czech)
       your children.NOM you.ACC need.3PL
       "Your children need you."

    b. Cristina *necesita*   un auto nuevo. (Spanish)
       Cristina need.3SG   a   car   new
       "Cristina needs a new car."

    c. Anna *behöver*   en ny   bil. (Swedish)
       Anna   need.3SG   a   new car
       "Anna needs a new car."

    d. Ai-*kotevẽ* peteĩ óga. (Paraguayan Guaraní)
       I-need   one   house
       "I need a house."

2.3. H-languages without transitive "need"

Thus far, two clear patterns have emerged: (a) B-languages that lack transitive "need" and (b) H-languages that have transitive "need." We now turn to H-languages that lack transitive "need." Examples are given from French, Albanian, and Farsi.[6]

(6) *Possessive "have"*
    a. J'*ai*   une voiture. (French)
       Ihave.1SG a   car
       "I have a car."

    b. Une *kam*   një laps. (Albanian)
       I   have.1SG.PRES a   pencil
       "I have a pencil."
       (Stassen 2009:65)

    c. Sean kitab *darad.* (Farsi)
       Sean book has.3SG
       "Sean has a book."

(7) *Nontransitive "need"*

    a.   J'   *ai*   *besoin*   *d'*   une   voiture.[7]   (French)
        I   have.1SG   need   of   a   car
        "I need a car."

    b.   Më   *nevojitet*   laps-i.   (Albanian)
        me.DAT   need.3SG   pencil.NOM-DEF
        "I need the pencil."

    c.   Sean   *ehtiaj*   beh   yek   kitab   *darad.*   (Farsi)
        Sean   need   to/for   one   book   has
        "Sean needs a book."

As these examples show, the existence of possessive "have" in a language is not a sufficient condition for licensing a transitive verb "need."

    Before we move on, let us briefly take stock. Table 4.1 summarizes the patterns considered thus far (see table 4.1). We include a number of languages here that were not discussed earlier, but for which we have gathered the relevant data.[8]

    Four logical possibilities present themselves in terms of the distribution of "have" and "need." Yet, as the table makes clear, one of these possibilities is not attested. We have not found a B-language that also has transitive "need." This is the primary generalization that any cross-linguistic account of "need" must come to grips with, and we bear it in mind in our analysis that follows.

---

7. Note that French also makes use of an impersonal construction with the verb *falloir* (and a dative "needer") to express "need." For example:

    i)   a.   Il   me   faut   ces   livres.
             it   me.DAT   needs   these   books
             "I need these books."

        b.   Il   me   les   faut.
             it   me.DAT   them   needs
             "I need them."

We omit further discussion of this construction here.

8. In addition to our informants/consultants mentioned earlier, we are grateful to the following for help with our data: David Adger (Scots Gaelic), Mark Baker (Amharic, Mapudungun, Mohawk, Sakha), Eric Besson (Ancient Greek), Ruth Brillman (Yiddish and Basque), Andrea Cattaneo (Bellinzonese), Oana Săvescu Ciucivara (Romanian), Beatriz Fernández (Basque), Carlos Guedes (Luxemburgish and Portuguese), Tricia Irwin and Hyejin Nah (Korean), Janet Klein (Turkish), Neil Myler (Peruvian and Bolivian Quechua), Léa Nash (Georgian), Nikolay Nikolov (Bulgarian), Mira Seo (Latin), Violeta Vázquez-Rojas (Purépecha), Judith Tonhauser (Paraguayan Guaraní and Yucatec Maya), Gunnar Hrafn Hrafnbjargarson, Halldór Sigurðsson, and Jim Wood (Icelandic).

Table 4.1 DISTRIBUTION OF TRANSITIVE "NEED"

	H-languages	B-languages
Languages with transitive "need"	Czech, Slovak, Polish, Slovenian, Croatian, Serbian (dialects), Belorussian, English, German, Yiddish, Luxemburgish, Dutch, Swedish, Norwegian, Icelandic, Spanish, Catalan, Basque, Paraguayan Guaraní, Purépecha (Tarascan), Mapudungun	***
Languages without transitive "need"	Bulgarian, Serbian (standard), Lithuanian, French, Italian, Bellinzonese, Portuguese, Romanian, Farsi, Armenian, Albanian, Latin, Ancient Greek	Russian, Latvian, Sakha, Bhojpuri, Bengali, Hindi, Marathi, Irish, Welsh, Scots Gaelic, Georgian, Hungarian, Turkish, Korean, Peruvian Quechua (Cuzco, Cajamarca, Huallaga), Bolivian Quechua, Yucatec Maya, Tamil, Mohawk, Amharic

3. ACCOUNTING FOR "NEED"

In light of the generalization just mentioned, our analysis of transitive verbal "need" will crucially rely upon the presence of "have" in a given language. We adopt a Hale and Keyser (1993, 2002)–style incorporation approach to transitive verbal "need," whereby nominal "need" raises and incorporates into unpronounced verbal HAVE.[9] The derivation we have in mind is roughly schematized in (8).[10]

(8)
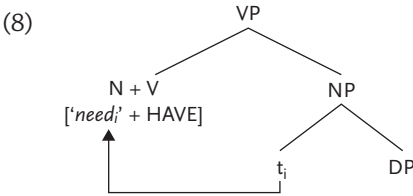
Incorporation of nominal "need" into verbal HAVE results in the appearance of a transitive verb "need" inheriting the accusative-case-licensing properties

---

9. This may be supported by Kayne's (2007a) argument that the double behavior of English *need,* as a lexical verb and as a modal, is inherited from the double behavior of English possessive *have* as a lexical verb and as an auxiliary, to which *need* incorporates.

10. We abstract away here from a decompositional approach to "have" as in Freeze (1992) and Kayne (1993), whereby "have" involves incorporation of a preposition into verbal "be." As far as we can tell, the decompositional approach to "have" is compatible with our analysis. The derivation would simply contain an additional instance of head movement, whereby "need" would be the spell-out of ["need" + P + BE].

of HAVE.[11] Strictly speaking, though, "need" is never a verb; that is, it is never exhaustively dominated by the node V.

An examination of the morphology of transitive "need" crosslinguistically lends further support to our Hale and Keyser–style incorporation analysis. Such an analysis might lead one to expect that nominal "need" and transitive verbal "need" will share (root) morphology in languages that have transitive "need"; that is, English should not be anomalous in this respect. Table 4.2 confirms the expectation that nominal and verbal "need" share morphology in other H-languages (see table 4.2).[12]

11. The proposal that transitive "need" involves unpronounced HAVE recalls in part Larson, Den Dikken and Ludlow (1997), Schwarz (2006), and Lechner (2007). However, these analyses have a different focus from ours in that they propose a structure whereby there is a HAVE embedded within a complement to verbal "need," whereas we are focusing on what is found above nominal "need." That is, we are proposing that nominal "need" is the complement of a higher HAVE, a proposal based on our examination of the crosslinguistic facts. If both proposals are correct for some languages, then in those languages a sentence like "John needs a new car" must contain two instances of HAVE, corresponding to the two overt instances of *have* in *John has a (pressing) need to have a new car.*

One reviewer suggests that perhaps silent embedded HAVE is all that is necessary to account for the generalization presented here. However, despite the strength of the syntactic and semantic arguments (dating back at least to McCawley 1974) suggesting that intensional transitives such as "need" and "want" involve silent embedded clausal complements, there are a number of arguments against taking this silent clausal complement to necessarily contain a silent embedded HAVE (as opposed to BE) in all languages.

First, as shown in Harves (2008), there is evidence (from temporal adverbial modification) for silent embedded clausal structure even in B-languages such as Russian that lack transitive "need" entirely. This is one of McCawley's (1974) original arguments in favor of silent embedded clausal structure.

> i) Ivanu   byli   nužny   den'gi   do   sobranija.
> Ivan.DAT were.3PL necessary.ADJ.PL money.NOM.PL before meeting
> "Ivan needed some money before the meeting."
>
> a. There was a time before the meeting at which Ivan needed some money.
> b. Ivan's need was to have some money before the meeting.

Since Russian lacks transitive "have," the silent embedded predicate modified by *do sobranija* in reading (b) must be something other than HAVE. Second, not all paraphrases of *need* are best paraphrased with HAVE; for example, *John needs a kiss* is best paraphrased as *John needs to get/be given a kiss* and not #*John needs to have a kiss* (pointed out by Harley (2004) for similar sentences with *want*). Third, positing a silent embedded HAVE for all intensional transitives, as in Larson, Den Dikken and Ludlow (1997), will not capture the fact that while transitive "need" does not occur in any B-language, transitive "want" occurs in some (e.g., in Russian and Hindi). For further details, see Harves (2008).

12. We also note here that a number of languages that lack transitive "need" exhibit shared root morphology between nominal "need" and intransitive "need," such as Russian (N *nužda*/V *nuždat'sja*), Bulgarian (N *nužda*/V *nuždaja se*), and Italian (N *bisogno*/V *bisognare*), among others. This may suggest that nominal "need" may incorporate to BE (or some other light verb) in these languages.

Table 4.2 THE FORM OF "NEED"		
	Nominal "need"	Transitive "need"
English	Need	Need
Swedish	behov	Behöva
Norwegian	behov	Behøve
Czech	potřeba	Potřebovat
Polish	potrzeba	Potrzebować
Slovenian	potreba	Potrebovati
Spanish	necesidad	Necesitar
Catalan	necessitat	Necessitar

As far as Case is concerned, we can say that in the absence of incorpora-tion, as in (9)–(10), *need* requires Case from *have* and *in,* respectively; *a new car* receives Case from *of.*[13]

(9)   *?They have need of a new car.*

(10)   *They are in need of a new car.*

On the other hand, for (11), in which *need* has incorporated to HAVE, we will follow Baker (1988) and say that incorporated *need* does not need Case, so that HAVE is available to assign Case to *a new car,* obviating the need for *of.*

(11)   *They need a new car.*

---

13. Case from "of" is also relevant to H-languages that lack transitive "need," such as French, Romanian, and Bulgarian.

i) a. J'   *ai*   *besoin d'* une   voiture.   (French)
       I   have.1SG   need   of   a   car
       "I need a car."

   b. Eu   *am*   *nevoie de* o   carte.   (Romanian)
       I.NOM   have.1SG   need   of   a   book
       "I need a book."

   c. Nikolaj   *ima*   *nužda ot* pomošč.   (Bulgarian)
       Nikolay.NOM   has.3SG   need   of   help
       "Nikolay needs help."

Why so many H-languages lack transitive "need" is a question that we leave for future research.

The structure shown in (8) underlies the derivation of transitive "need" in H-languages such as English, German, Icelandic, Czech, Basque, and Purépecha. The lack of transitive "need" in B-languages (e.g., Russian, Hindi, Korean, Georgian, Celtic languages) follows straightforwardly from an analysis that posits HAVE as a necessary component in the derivation of transitive verbal "need." Put another way, B-languages lack transitive "need" precisely because they lack transitive HAVE.

Our proposal clearly recalls the proposal made by Noonan (1993), who takes the absence of stative transitive verbs in Irish such as "know," "respect," "fear," and "love" to be traceable back to the absence in Irish of transitive "have." She argues for an incorporation approach to these predicates (in the style of Hale and Keyser) whereby an underlying noun incorporates into verbal HAVE (in those languages that have transitive verbal "know," "respect," "fear," and/ or "love"). Our proposal for transitive "need" is simultaneously narrower and broader than Noonan's proposal for Irish. It is narrower in that we have said nothing about any (derived) verb other than "need" (which Noonan does not discuss explicitly). It is broader in that her proposal is limited to Irish, whereas ours is formulated in terms of a universal cross-linguistic generalization.

The absence of transitive "need" in Irish is accounted for both by Noonan's proposal and by ours. The absence of transitive "need" in other B-languages is accounted for only by ours. The absence of transitive "know," "respect," "fear," and "love" in Irish is accounted for only by hers.

The question is whether our proposal for "need" can be generalized to other verbs, and whether Noonan's for Irish can be generalized to other languages. At first glance, it looks as if Noonan's caution in confining her proposal to Irish is well taken, in that Russian, for example, while lacking transitive "need," as previously discussed, does have stative transitives such as *xotet'* "to want," *ljubit'* "to love," and *znat'* "to know" (among others), suggesting that "have" is in fact not cross-linguistically crucial to the underlying representation of "want," "love," and "know" (as opposed to "need"). We leave further analysis of these predicates for future research.

4. AN APPARENT COUNTEREXAMPLE

The analysis presented here appears to account for an important aspect of the distribution of transitive "need" cross-linguistically: namely, it accounts for the lack of transitive "need" in B-languages, since transitive "need" requires a derivation involving incorporation of nominal "need" to silent HAVE, in the spirit of Hale and Keyser's work.

One may ask whether this analysis can truly be taken to hold universally. It might be the case that the generalization noted here is not a universal phenomenon, and that a number of other B-languages have a different strategy

that would allow them to have transitive "need" despite lacking "have." One language that initially seems to pose a challenge to our generalization is Finnish.

Finnish is canonically considered to be a B-language, since it lacks a morphologically distinct transitive verb equivalent to *have* for possession and instead uses the verb "be" that is found in locative and existential sentences. It also appears to have transitive "need."[14]

(12) *Transitive "need" in Finnish*
      Minä   *tarvitse*-n   sinu-t.
      I.NOM   need-1SG   you-ACC
      "I need you."

However, a close look at the Case marking on the possessee of possessive "be"-sentences reveals a striking difference with respect to the group of B-languages mentioned earlier.

(13) *Possessive "be" in Finnish*
      Minu-lla   *on*   *hän   / häne-t.
      I-ADESS   be.3SG   *him.NOM / he-ACC
      "I have him."
      (Pylkkänen 1998:4)

As (13) shows, the possessee is accusative in Finnish. This state of affairs contrasts sharply with the nominative case found on possessees in other B-languages (recall the examples in (2)). It appears that the "be" of possession in Finnish is an accusative case assigner. This behavior contrasts with "be" in Finnish locative, existential, and predicational sentences; here, only nominative case is grammatical.

(14) *a. Locative "be" in Finnish*
          Hän   / *Häne-t   *on*   huonee-ssa.
          he.NOM / *him-ACC be.3SG   room-INESS
          "He is in the room."

      b. Existential "be" in Finnish
          Huonee-ssa   *on*   vieras.
          room-INESS   be.3SG   guest.NOM
          "There is a guest in the room."

---

14. We thank Liina Pylkkänen for examples from and discussion of Finnish.

c. *Predicational "be" in Finnish*
   Hän   / *Häne-t   *on*   vanha.
   he.NOM / *him-ACC   be.3SG   old.NOM
   "He is old."

Taken together, these facts suggest that Finnish is neither a canonical B-language nor a canonical H-language. It differs from B-languages in assigning accusative case in possessive sentences, much like H-languages. Yet, like B-languages, and unlike H-languages, it lacks a morphologically distinct verb corresponding to *have*. The existence of such languages might suggest that the generalization stated in (1) should be rephrased as in (15).

(15)   All languages that have a transitive verb corresponding to *need* are languages that have an accusative-case-assigning verb of possession.

If this is the correct generalization, then Finnish has nominal *need* incorporating into an accusative-case-assigning BE.

   Alternatively, as proposed by Pylkkänen (1998), Finnish is not a B-language at all; it is an H-language that involves incorporation of a silent preposition into "be," just as in H-languages, accounting for its ability to assign accusative case. Yet, for some reason, Finnish lacks a morphologically distinct verb. If this is the correct analysis, then the generalization in (1) still holds.[15] The extent to which this generalization directly reflects a property of the human language faculty remains to be determined.[16]

5. CONCLUDING REMARKS

The cross-linguistic distribution of transitive verbal "need" presented here supports a particularly strong form of Hale and Keyser's (1993, 2002) proposal; that is, it suggests that a light V + N incorporation analysis is the *only* way the language faculty has to express verbal "need." More specifically, there can be no primitive (transitive) verbal "need." This raises interesting questions regarding the acquisition of transitive "need" by children. For instance, how

---

15. One must still account for the lack of nominative Case on possessors in this language as well. We leave this as a question for future research.

16. Preliminary evidence suggests that Hebrew is similar to Finnish. The verb *yeS* "be" used in possessive sentences also occurs with accusative Case on the possessee (see Boneh 2002 for examples and discussion). Hebrew also appears to have transitive "need." We omit further discussion of Hebrew here, however, since forms of "need" in this language (e.g., *carix* [benoni] and *hictarex* [past tense]) exhibit a number of morphosyntactic irregularities compared with other members of their binyanim. We leave an analysis of Hebrew "need" to future research and thank Daniel Harbour and Elisha Nuchi for bringing these facts to our attention.

do children know that transitive "need" involves lexical decomposition? How is transitive "need" acquired?[17] We are suggesting that Universal Grammar only makes one structure available for transitive "need," such that children do not have to learn that "need" involves lexical decomposition; they already know it. Our proposal therefore predicts that children will only acquire transitive "need" after (or around the same time as) they have acquired transitive "have."

   A recent study on the acquisition of *have* and *need* by 10 English-speaking children suggests that this prediction is borne out. Sugisaki (2009) analyzed 10 longitudinal corpora from the CHILDES database (MacWhinney 2000), which provides a total sample of more than 236,000 lines of child speech. The results of this study revealed that 4 children acquired transitive *have* significantly earlier than transitive *need* and that 6 children acquired these predicates at the same age. Crucially, no child acquired transitive *need* significantly earlier than transitive *have.* In contrast, this same study shows that the acquisition of transitive *want* does not follow a similar path. Within this same group of children, the statistical results show that 6 children acquired transitive *want* significantly earlier than transitive *have.* These results lend further support to the analysis of transitive "need" presented here, as well as to the analysis of transitive *"want"* presented in Harves (2008).[18] Harves argues that "want" does not rely on a silent counterpart of "have" cross-linguistically, unlike "need," given that a number of B-languages indeed have transitive "want" while lacking transitive "need." In other words, the prediction is that the acquisition of transitive "want" should not depend on the acquisition of transitive "have," in contrast to the acquisition of "need." It remains to be seen whether further acquisition studies of these predicates in other languages will yield the same results.

   17. We thank a reviewer for raising this question.
   18. One reviewer asks whether an input-based account might explain these acquisition facts as well—in other words, perhaps it is the frequency of *have, need* and *want* in the input that is relevant here. Sugisaki (2009) considers such an account, noting that indeed, transitive *have* is far more frequent in the input than transitive *need.* However, transitive *want* is also far less frequent than *have* in a number of cases; yet a number of the children acquired *want* significantly earlier than transitive *have.* In addition, since several children acquired transitive *have* and *need* at the same time, despite large discrepancies in these verbs' frequency in the input, Sugisaki concludes that frequency cannot be the crucial factor determining the acquisition of these predicates.

SECTION B
Silent Elements

CHAPTER 5

The Silence of Heads

1. INTRODUCTION

It is generally agreed that when a lexical item merges with a phrase,* the resulting syntactic object {H, XP} has as its head/label the lexical item H (rather than any element contained within the phrase XP).[1] This leaves open the question of what lexical item merges with what phrase. Put another way, what actually heads what (in one derivation or another, in one language or another)? And what are (some of) the principles that determine the answer to this question?

A related question is whether H is pronounced or silent. In sections 2 through 14, I will argue that H is silent more often than is usually thought. In the remainder of the chapter, I will consider the possibility that H in {H, XP} is invariably silent.

2. COMPLEMENTIZERS

It is widely thought that in English and similar languages an example of {H, XP} is {*that*, TP},[2] in which *that* is a lexical item that we call a complementizer,

---

* Earlier versions of this chapter were presented at the University of Geneva in June 2012, at the Workshop on Complement(ation), University of Rome 3 in April 2013, at the Workshop on Portuguese Syntax, University of Venice in May 2013, at Towards a Theory of Syntactic Variation, Bizkaia Aretoa, Bilbao (University of the Basque Country UPV/EHU) and at EdiSyn 2013, Konstanz in June 2013, at NYU in October 2013, at MIT in April 2014, at GLOW in Asia X, National Tsing Hua University, Taiwan, in May 2014, and at Goethe-Universität, Frankfurt am Main, in June 2014. I am grateful for useful comments and questions to all those audiences, as well as to the anonymous reviewers of an earlier draft of this chapter.

1. Cf. Chomsky (2013, 43).

2. For the purposes of this discussion, it wouldn't matter if we followed Cinque (1999, 106) and replaced TP by MoodP here, or if, thinking of Rizzi (1997), we replaced TP by, say, FinP.

and in which *that* heads {*that*, TP}. Yet Kayne (2010a) argued that English relative clause *that* is not externally merged with TP, but is rather a relative pronoun, in essentially the same sense in which English *which* is a relative pronoun. Both relative *that* and relative *which* are DP-internal determiners that have "lost" their associated noun in the course of the derivation, whether by raising or deletion.[3] They are of course two different kinds of determiners.

If relative *that* is a relative pronoun, then taking relative *that* to be a simple head externally merged high in the sentential domain, as it is in the complementizer analysis of relative *that*,[4] would be a mistake. Rather, relative *that* must be subject to (wh-)movement from below much as relative *which* is. Just as *which book* is moved in the derivation of:

(1)   the book which <book> they were reading

so, from this perspective, is *that book* moved in the derivation of:

(2)   the book that <book> they were reading

In both (1) and (2) <book> indicates that the noun *book* was moved along with/pied-piped by *which* or *that* (and subsequently either deleted in situ or moved further). Under this hypothesis relative *that* is not merged with a sentential phrase; instead it is merged with a nominal phrase, as determiners are in general.

In Kayne (2010a), I further argued that Romance relative clause *che/que* is also not a complementizer but a relative pronoun, with the difference being (compared with English *that* and *which*) that the Romance morpheme *che/que* is only a subpart of a complex determiner of the *was . . . für* type,[5] with Romance *che/que* corresponding specifically to German *was* (and English *what*).

For both English *that* and Romance *che/que*, the claim in that paper was extended beyond relative clauses. The occurrence of English *that* and Romance *che/que* in what we think of as simple sentential complements (whether to

---

3. Relative pronouns seem to be absent from strictly prenominal relatives, as noted by Downing (1978, 392–394) and Keenan (1985, 149)—for principled reasons, if Kayne (1994) is correct in taking relative pronouns to interfere with the leftward movement of the relative IP that is necessary to derive a prenominal relative, at least in languages in which relatives are consistently prenominal.

There are languages whose postnominal relatives seem to consistently lack (visible) relative pronouns. From the text perspective, it may be that those languages are, for reasons to be discovered, unable to strand a determiner in relatives in the way that English can strand *which* or *that*.

4. Going back to Bresnan (1972).

5. Whose split version is found in dialectal English, e.g.:

   i)   What did you buy for a car this year?

On *was . . . für* in non-English Germanic, see Leu (2008).

verbs, or adjectives, or nouns) was taken to reduce to their occurrence in relatives, insofar as sentential complements are, it was claimed, actually a subtype of relative clause.[6] Put another way, English *that* and Romance *che/que* are determiner-based relative pronouns even when introducing sentential complements; they are never complementizers in the usual sense of the term, that is, they are never externally merged with TP or with any sentential category similar to TP.

This approach to finite-clause complementizers, which takes them to be relative pronouns that are not heads in the sentential hierarchy, may carry over to non-finite-clause complementizers like English *for* (which is found introducing both relative clauses and apparently non-relative sentential complements). *For*, too, may turn out to be a subpart of a determiner, again of the *was . . . für* type,[7] and perhaps similarly for French *de* and for Italian *di* (despite their differing in syntactic behavior in certain respects from *for*[8]).

If *for, de* and *di* do turn out not to be externally merged heads in the CP area (whether via a relative pronoun-type analysis for them or via a more highly articulated analysis of adpositions), we will have reached the conclusion that, at least in the languages under consideration, there are no visible CP-area complementizer heads.[9] (The heads of the CP area will have turned out to be (largely) silent.[10])

3. SENTENCE-FINAL PARTICLES

The term "sentence-final particle" has been used for certain morphemes taken to be heads that are externally merged high in the sentential domain, that is,

---

6. Cf. in part Rosenbaum's (1967) idea that sentential arguments are accompanied by *it*. Also cf. Kayne (2008b).

7. Cf. Kayne (2010a, sect. 8); also section 10 below.

8. Cf. Kayne (1981b).

9. Cf. to some extent Starke (2004) and Jayaseelan (2008). This conclusion should in turn be related to the observation that the elements we call complementizers usually look like something else (determiners or prepositions), a surprising fact if complementizers were really a category of their own. (Though *zhe* has no non-complementizer-like use in (contemporary) Czech, as Pavel Caha (p.c.) tells me.)

It is to be noted that this observation would not be accounted for with any depth of explanation by merely saying that complementizers usually come about via "grammaticalization"; for relevant discussion, see Kayne (2010a).

Rigau (1984) had argued that the Catalan counterpart *si* of English *if* is not a complementizer. (Extended to *if*, this will require a revision of Kayne's (1991) account of *We're not sure whether/*if to leave or not* and related facts in Romance, as well as a rethinking of why French *si* does not license "stylistic inversion"—cf. Kayne and Pollock (2001).)

Ghomeshi (2001) had Persian *ke* not heading a functional projection. On complementizers that look like the (light) verb *say* in one language or another, see Koopman and Sportiche (1989).

10. On apparent focus and topic heads, see section 13 later in this chapter.

in Cantonese.[11] (Such sentence-final particles seem typically to have more interpretive content than what we call complementizers.) But rather than discuss Cantonese directly, let me instead jump to sentences in English that might also initially seem to lend themselves to an analysis involving heads that are externally merged high in the sentential domain.

For (colloquial) English, one might think, for example, of a sentence like:

(3)   We're on the list, right?

which has an interpretation close to that of a tag question. A possible analysis would have *right* in (3) analyzed as a "sentence-final particle" in the earlier sense. *Right* in (3) would be merged somewhere high in the sentential domain as a head. (The position of the phrase *we're on the list* that precedes *right* in (3) might or might not then be due to movement/internal merge.)

A second possibility, though, would relate (3) more directly to:

(4)   We're on the list, isn't that right?

by attributing to (3) a derivation containing, in addition to what is visible/audible, a silent ISN'T THAT (I will use capitals to indicate non-pronunciation.) The silence of ISN'T THAT in (3) might then be licensed as a whole, or else piecemeal. If (3) contains silent ISN'T THAT, as in:

(5)   we're on the list ISN'T THAT right

then *right* in (3)/(5) is not a sentence-final particle in the usual sense of the term, but rather an adjective akin to the adjective *correct* as in:

(6)   Is that correct?

Right in (3)/(5) is then not merged as a high head in the sentential hierarchy; it is a predicate adjective (as in (4) or (6)) that is associated in (3)/(5) with a copula that is silent. If (4) involves leftward movement of the phrase *we're on the list* past *isn't that right*,[12] so would (3), whose derivation would then more

11. See Matthews and Yip (1994, chap. 18) and Tang (2015).
12. For recent relevant discussion, see Haddican et al. (2014).

Any analysis of (3) will need to come to grips with facts such as the following. Alongside:

   i) We're on the list, isn't that so?

there is no interpretively parallel:

   ii) *We're on the list, so?

specifically include the movement of *we're on the list* past "ISN'T THAT right." The main point is that if (3) is essentially parallel in derivation to (4), then *right* in (3) is not a sentence-final particle, that is, is not a high externally merged head in the way that it might have been thought to be.

A fairly safe conjecture is:

(7)   Various elements that might have been taken to be sentence-final particles in various languages actually have the non-sentence-final-particle status that *right* has in (3)/(4).

The conjecture in (7) is to be interpreted loosely. It states that various other candidates for being sentence-final particles will turn out not to be simple functional heads merged high in the sentential hierarchy,[13] but instead will turn out to be subparts of more complex constituents of some kind (that may or may not closely match 'isn't that X").

Sentence-final particles have sometimes been noted to (sometimes) occur only in root sentences.[14] This seems also to be true of (3):

(8)   *That we're on the list, right, is the question.

(9)   *John would like to know whether (or not) we're on the list, right.

(The second of these is possible if *right* is associated with the matrix predicate, but not if *right* is associated with the embedding.) The preceding two examples indicate that the *right* in question cannot occur within an embedded sentence. The next two examples make the same point for *isn't that right*:

(10)   *That we're on the list, isn't that right, is the question.

(11)   *John would like to know whether (or not) we're on the list, isn't that right.

(Again, the second of these is possible, but only if *isn't that right* is associated with the matrix part of the sentence.) Consequently, the restriction to root sentences seen in (8)–(9) is compatible with the linking of (3) to (4).

As a second English example of a putative sentence-final particle, consider:

(12)   Where do they live, again?

in which *again* might initially be thought to be a sentence-final particle of the general sort under discussion and to be externally merged high in the sentential domain. But there is an alternative syntactic analysis of (12) that would

13. Cf. Tang (2015).
14. Cf. for example Law (2002) and Lin (2014).

more transparently capture the interpretation of (12).[15] This alternative analysis would relate (12) to:

(13)   ?Where do they live, tell me again?

by taking (12) to contain silent TELL and silent ME.[16] If (12) has an analysis as in:

(14)   where do they live TELL ME again

then *again* in (12) is an adverb associated with silent matrix TELL and is not a sentence-final particle externally merged high in the sentential structure.[17]

Somewhat similarly, we might take the apparent Taiwanese sentence-final particle *kong* discussed by Simpson and Wu (2002a; 2002b) to interpretively match, as they suggest, English non-particle *I'm telling you*,[18] as in:

(15)   He's here, I'm telling you.

---

15. Cf. Ross (1970), Sauerland (2009), and Sauerland and Yatsushiro (2014).

16. As always, there are interesting restrictions on silent elements, from the present perspective. (An analysis that attempted to do without silent element here, as, e.g., with late insertion on the semantic side, would have to grapple with all of the same restrictions, while losing the advantage of rich interaction with the syntax.) One is seen in:

   i)   Tell me again where they live   vs.
   ii) *Again where they live?

which contrasts in turn with:

   iii) ?Again, where do they livre?

A second is illustrated by:

   iv) Tell me later where they live   vs.
   v)   *Where do they live, later?

Relevant here might also be:

   vi) Come again?

17. A reviewer points out that this kind of *again* is not found with yes/no questions:

   i)   *Are you happy, again?

This might be due to *Where do they live, again?* being a subtype of echo question. (A sentence-final particle approach to this *again* would not be of help, as far as I can see.)

18. I am grateful to Audrey Li for discussion of *kong*.

which also seems limited to root sentences:

(16)   (*)The fact that he's here, I'm telling you, is very important.

More exactly, (16) can be interpreted as:

(17)   I'm telling you that the fact that he's here is very important.

but not as:

(18)   The fact that I'm telling you that he's here is very important.

In other words, Taiwanese *kong* may even synchronically correspond to the verbal subpart of *I'm telling you*,[19] rather than being externally merged as a "sentence-final particle."

   As a final, partially similar, example, consider Quebec French, as discussed by Vinet (2000), in which one has interrogative sentences like:

(19)   Ils dorment-tu? ("they sleep-you" = "are they sleeping?")

with a post-verbal *tu* that looks like the second-person familiar singular subject clitic, yet doesn't seem to have any place in the interpretation. One might try to think of this *tu* as being an interrogative particle externally merged in the CP-area, in Rizzi's (1997) sense, or a Force operator, as Vinet suggests.

   An alternative would be to take such Quebec French sentences to have something significant in common with English:[20]

(20)   Are they sleeping, do you know?

with *tu* in (19) now matching the *you* of (20) and corresponding, in Quebec French, to the subject of a silent matrix verb KNOW. (In (19) there is no

---

19. Simpson and Wu take *kong* to be a grammaticalized complementizer. From the present perspective, *kong* is a verb whose personal arguments can be silent (cf. in part Ross 1970) and whose sentential complement can prepose in the notable way they describe. The "grammaticalization" that *kong* has undergone involves the preceding two properties, rather than a change in category. Cf. Koopman and Sportiche (1989); also the section on complementizers that precedes this one. Relevant, in addition, is Etxepare (2010), whose proposal for a silent nominal, rather than verbal *tell/say*, will converge toward the text proposal as the latter brings in Hale and Keyser (1993; 2002) below.

20. Non-interrogative *you know* might be appropriate for other, exclamative examples given by Vinet, such as:

   i)   C'est-tu choquant! ("it is *tu* shocking")

inversion of *ils* and *dorment*; in addition, the derivation of (19) would, since *-tu* can be followed by VP-material, have to involve remnant movement.)

In Quebec French this *-tu* is limited to yes-no questions (as opposed to *wh*-questions, as Vinet (p. 382) points out). This limitation may, from the present perspective, now parallel the contrast between:[21]

(21) Did he go there, do you know?

and:

(22) (*)Where did he go, do you know?

with the latter having a different intonation and feeling possible to me only as two separate sentences.

If, in the preceding set of examples, *right, again, kong* and *tu* are not particles externally merged as high heads in the sentential domain, that is, they do not correspond to H in any {H, XP} with XP a sentential phrase, then the high sentential heads needed in these examples would again appear to all be silent, as in the discussion of complementizers earlier.

The next question is, how typical are *right, again, kong* and *tu* here?[22] If we take them to be typical, the safe conjecture in (7) gives way to the following more controversial pair of conjectures:

(23) All pronounced elements that could have been taken to be sentence-final particles in one language or another actually share the non-sentence-final-particle status that *right, again, kong* and *tu* share.

(24) The high sentential heads in question in such examples are all silent, in all languages.

To illustrate the point of (24), let us take (12), now with the analysis:

(25) where do they live [H [TELL ME again]]

---

21. This contrast holds if the matrix verb is *know*, but not if it is *think*.
The subject in these *-tu* sentences is subject to a definiteness requirement (that is also found with Quebec French subject clitic doubling) according to Morin (2009), whose idea that the preverbal subject is a topic is probably compatible with the text proposal.
22. A reviewer asks about cases of (strictly ordered) multiple sentence-final particles. From the present perspective, such cases would have something in common with:

    i) They're in Paris, I think, isn't that right?
    ii) *They're in Paris, isn't that right, I think(?)

Overt *again* is not a high sentential head, but rather an adverbial modifying silent TELL. The head H in whose specifier position is found, probably as the result of movement, the phrase *where do they live* is silent.[23]

4. PARTICLES OF THE ENGLISH *UP/DOWN/AWAY* TYPE

In addition to complementizers and sentence-final particles, another familiar set of candidates for being pronounced heads in some {H, XP} that results from external merge are particles such as *up, down* and *away* in English and other languages, especially from the perspective of den Dikken (1995, sect. 2.2.2), who takes such particles to head a small clause. However, Collins (2008, 28) takes these particles to rather be modifiers of a silent PLACE, in the manner of Terzi (2010). (In addition, Collins has locative particles co-occurring with a silent TO or AT,[24] in which case that silent TO or AT might correspond to the H in question, rather than the pronounced particle itself corresponding to H.)

A relevant supporting consideration for the view that these particles do not head a small-clause-like phrase that immediately contains the associated object DP (when there is one) is that the particle *away* is almost certainly de-composable into *a-* plus *way*, as suggested by the pair:

(26) Put/Take it away.

(27) Put/Take it aways.

(The latter is non-standard.) This pair recalls:

(28) It's quite a way(s) from here.

in which one can colloquially have (non-plural) *ways* instead of *way*, at least in certain cases.

Taking "particle" *away(s)* to contain the noun *way(s)* underdetermines the status of *a*, which may be a clitic-like preposition, as in:

23. Possibly, *where do they live* is in the Spec of another silent head H' that is higher than H.
24. Cf. Koopman and Szabolcsi (2000, 221).
It would be natural to extend Collins's proposal to apparently non-locative particles, as in:

    i) You'd better finish up that paper.

and to take there to be a silent adposition in (i), too. Cf. Lindner (1981) on the common properties of various instances of *out*; also the further discussion of *up* later.

(29)   They took aboard the supplies.

(30)   They set aside some money.

in which the *a-* of *aboard* seems very close to the *on* of:

(31)   They took the supplies on board.

and the *a-* of *aside* very close to the *to* of:

(32)   They set some money to the side.

From this perspective, neither *aboard* nor *aside* nor *away* is a plausible head; all are in fact phrasal.[25]

Of note is the fact that *on board* itself can (at least in my English) display particle-like behavior:

(33)   If we were to take on board the supplies right now, . . .

as opposed to:

(34)   *If we were to take on(to) the ship the supplies right now, . . .

thereby supporting the idea that particles are phrasal, insofar as *on board* is a phrase.[26] (The contrast here between *on board* and *on(to) the ship* suggests that a particle-like phrase may not contain a determiner.[27])

As a further consideration tilting in favor of a phrasal analysis of at least some English particles, consider:

(35)   He put on his coat/He put his coat on.

which almost certainly contains a silent pronoun or reflexive as the object of *on*, with *on* then not heading any phrase of the sort "on his coat" or "his coat on."[28]

---

25. On the question whether a pronounced adposition could ever be a projecting head, see section 11 later.

26. Cf. the clitic-like movement of "preposition + pronoun" in Berber (v. Ouhalla 2005), as well as:

   i)   If you want, I'll send on up the sandwiches (right away).

Algeo (2006, 135) has *away* in British English able to be used as *on one's way*.

27. Cf. Collins (2008).

28. In French the particle itself is silent, too, leaving only the French counterpart of *put*:

From a partially different direction, we can also note:

(36)   He walked along the river.

whose French counterpart:

(37)   Il marchait le long du fleuve. ('he walked the long of-the river')

clearly has *long* as a noun, thereby increasing the plausibility of taking English *along* to be prepositional *a-* + nominal (or adjectival) *long*.[29] If so, then in the particle examples:

(38)   They brought along their friends.

(39)   They brought their friends along.

along is almost certainly phrasal, too.

The conclusion, then, is that in sentences like:

(40)   They put away their books.

there is little likelihood that *away* corresponds to H and *their books* to XP in any instance of {H, XP}, at any point of the derivation. Though particles like

     i) Il a mis son manteau. ("he has put his coat")

The contrast in English between:

     ii) He took off his coat.

and

     iii) *?He has off his coat.

which contrasts in turn with:

     iv) He has his coat off.

may suggest even more hidden structure in (iv) than in (ii).
A silent pronoun/reflexive associated with *on* is called for in a similar way in the case of:

     v) We helped him on with his coat.

(fully acceptable to me, though rejected by some) as well as in (with *off* plus silent pronoun/reflexive):

     vi) We helped him off with his coat.

(fully acceptable to me, though less frequently accepted than (v))
29. Cf. Kayne's (2014, sect. 9) proposal that English *ago* is *a-* + *-go*, with *a-* akin to *on* (and *-go* to *going,* with *three years ago* then akin to *going on three years*).

up and *down* are not visibly built from two morphemes in the way that *away, aboard, aside,* and *along* arguably are, it is plausible that the same conclusion holds for them, as Collins (2008) had suggested.

5. *NEED* AND OTHER MODAL-LIKE ELEMENTS

Since *need* in English can have modal-like behavior:

(41)   He needn't leave so early.

(42)   *He needsn't leave so early.

(43)   *He needn't to leave so early.

it would seem reasonable to think that it should correspond to one of the sentential functional heads in the IP area, in the sense of Cinque (1999).

Yet Harves and Kayne (2012) and Kayne (2007a) have argued, respectively, that transitive verbal *need* cross-linguistically, and modal-like *need* in English, are not primitive verbal elements. Rather, sentences with modal-like *need* or transitive verbal *need* necessarily contain a silent light verb, in the manner of Hale and Keyser (1993; 2002). (The silent light verb in question is more specifically a counterpart of *have*.[30]) *Need* itself is a nominal element, not a verbal one.

If modal-like *need* is necessarily to be understood as involving a silent HAVE in combination with a nominal *need*, then modal *need* (and similarly for transitive verbal *need*) cannot itself be a head in the sentential projection line in the sense of Cinque (1999) (though silent HAVE might be such a head), contrary to what one might have thought.

30. Taking into account Harves and Kayne (2012) on Finnish, Levinson (2011) on Icelandic, and Halpert and Diercks (2013) on various Bantu languages, silent HAVE may not be directly at the heart of the matter. Rather, it may be that all languages that have a transitive verb corresponding to *need* are languages that either have an accusative Case-assigning verb of possession or else an accusative Case-assigning preposition of possession, with accusative then more central than HAVE itself.

Antonov and Jacques's (2014) discussion of Estonian suggests an additional licensing possibility for transitive verbal *need*, namely if the language in question has a noun "need" that can itself license accusative.

Antonov and Jacques (2014) also bring in data from Quechua, but as they note there is a complication due to the fact that the Quechua verb they translate as "need" actually has "want" as its primary meaning. (Neil Myler (p.c.) says that "need" may well never be an accurate translation of the Quechua verb in question.)

(Translation problems (and some acceptability judgment problems) arise for Antonov and Jacques's discussion of (Moroccan) Arabic, as brought to my attention by Jamal Ouhalla (p.c.), who suggests that a transitive "have" may actually be developing in parallel to a transitive "need," in that language.)

Cattaneo (2009, chap. 5) suggests that all modals should have a derivation à la Harves and Kayne (2012) and Kayne (2007a), that is, akin to what I have just described for English *need*. All modals would then be nominal elements that occur in combination with a light verb (or verbs).[31]

If this approach to *need* (and perhaps other modals) is on the right track, then instead of being headed by *need*, the modal VP (or *v*P) in (41) will be headed by a silent light verb, much as English *They laughed*, in the Hale and Keyser (1993; 2002) perspective, has *laugh* as a noun, and a VP/*v*P headed by a silent light verb, rather than by any pronounced element. *Need* is thus another example in which an initially plausible analysis may turn out not to be correct.

6. ASPECT

English progressive sentences like:

(44) They're playing baseball.

were argued by Bolinger (1971) to contain a silent preposition,[32] in effect:

(45) they are AT playing baseball

with AT a silent counterpart of *at*. If Bolinger was right/on the right track, then *-ing* itself in (44) is very unlikely to be an aspectual head, in which case any aspectual head present in such sentences would itself be silent (assuming that *be* is also unlikely to count as an aspectual head).

Similarly, consider:

(46) They're in the process of finishing their paper.

(47) They're on the point of resigning in protest.

Although *in the process of* and *on the point of* can be taken to express aspectual notions, these notions would seem to be arrived at compositionally (perhaps with some idiosyncrasy), starting from the nouns *process* and *point* (which are obviously not in the sentential projection line in the sense of Cinque (1999)) and the adpositions *in* and *on*. If there is a projecting, specifically aspectual

---

31. If Cattaneo is correct, then clitic climbing cannot be restricted to monoclausal environments in quite the sense of Cinque (2004). The extent to which the non-monoclausal approach to clitic climbing of Kayne (1989b) is compatible with the proposed syntactic complexity of modals remains to be determined.

32. Cf. the discussion in Collins (2008, note 13), which contains the idea that *-ing* could be a light noun, forcing raising to spec,AT, in a way that is orthogonal to the main point of the text.

head in these examples, it is therefore very likely to be a silent one.[33] By extension, it may be that there are no pronounced projecting aspectual heads, that is, no pronounced aspectual heads corresponding to H in {H, XP}, in the sentential projection line, contrary to appearances.

In this vein (cf. also the earlier discussion of English particles), the aspect-like *up* of:[34]

(48)   You should drink your milk right up.

may be associated with silent elements that make it similar to:

(49)   ?You should drink your milk right up to the end of it.

with *it* taking *your milk* as antecedent. Putting this another way, (48) is to be thought of as:

(50)   you should drink your milk right up TO THE END OF IT

with silent IT having *your milk* as its antecedent. If (50) is on the right track, then *up* in (48) is more likely to be part of a PP "up TO THE END OF IT" than it is to be a sentential aspectual head.[35]

7. TENSE

Partee (1973) called attention to analogies between tenses and pronouns. A variant of Partee's idea would focus, instead, on analogies between tenses and demonstratives, as suggested especially by languages with multiple past or future tenses distinguished by distance from the present,[36] in analogy (it would seem) to demonstratives being distinguished in terms of (some notion

---

33. Bolinger's approach to English carries over to at least some other languages, to judge by Laka (2006) and Coon (2010). The text discussion is related to a possible point of weakness in the cartography approach, whose category labels, as for example in Cinque (1999), are often too complex to be plausible primitives.

34. Cf. perhaps the Slavic aspectual particles/prefixes discussed by Łazorczyk (2010).

35. A reviewer notes that (i) is not paralleled by (ii):

    i)   Finish up your milk!
    ii)   *Finish up to the end of it your milk!

However, I find improvement in:

    iii)   ?Finish up your milk to the end of it.

36. As in Great Lakes Bantu languages—cf. Nurse and Muzale (1999, 527). For relevant discussion of "remoteness" morphemes, see Rimell (2005).

of) distance from the speaker. This arguably demonstrative facet of tense might then be expressed as follows.

What we think of as a tense morpheme is in fact a demonstrative morpheme restricted to co-occurring with a silent noun TIME. A sentence like:

(51)   They called yesterday.

would at first approximation correspond to:

(52)   they call AT -ed TIME yesterday

The -ed is the restricted demonstrative morpheme in question, akin to that (apart from the restriction to TIME), and [AT -ed TIME] in (52) is a PP parallel to at that time.[37]

The plausibility of there being a silent AT in (51)/(52) is indirectly enhanced by pairs like:[38]

(53)   Back at that time, they were all happy.

(54)   Back then, they were all happy.

alongside the impossibility of:

(55)   *Back at then, they were all happy.

suggesting that (54), too, contains a silent AT.

The plausibility of there being a silent TIME in (51)/(52) is indirectly supported by sentences like:[39]

(56)   They'll leave soon.

which almost certainly contains as a subpart:[40]

(57)   AT A soon TIME

---

37. In which case there would be redundancy in a sentence like:

   i)   They called at that time yesterday.

If demonstratives are phrasal, as argued by Leu (2007), -ed must be accompanied by silent elements specific to demonstratives, in addition to being accompanied by silent AT and TIME.
   38. Cf. Katz and Postal (1964, 134). For a different view, see Larson (1985).
   39. Cf. Liao (2015).
   40. On other instances of TIME, see Kayne (2003b; 2014).

This is suggested by the relative acceptability of:

(58)   ?They'll leave at the soonest time possible.

in which *soon* co-occurs with overt *time*.

One might wonder in passing about the contrast between (58) and the unacceptable:

(59)   *They'll leave at a soon time.

This contrast is probably to be related to the higher position within DP of superlatives as compared with simple adjectives, also seen in English in the contrast:

(60)   They're the best of friends.

(61)   *They're good of friends.

and in Persian, in the fact that only superlative adjectives are prenominal.[41] In effect, overt *time* requires *soon* not to be too close to it, structurally speaking, while silent TIME does not have that requirement.

There is reason to think that this special positional character of superlatives is also seen in English in:[42]

(62)   ?Of all the students, John's the one who's written the fewest number of good papers this year.

vs.:

(63)   *John's written (a) few number of good papers this year.

41. Cf. Ghomeshi (1996, 145).
42. Cf. Kayne (2005b) on the presence of silent NUMBER modified by *few* in:

    i) John's written (a) few good papers this year.

Stephanie Harves (p.c.) tells me that she accepts:

    ii) the few number of friends that I have

though not:

    iii) *I have a few number of friends

suggesting that at least for some speakers the definite article has a role to play here that is independent of superlative *-est*. (It is likely that there are also speakers who accept (iii) itself.)

Overt *number* is incompatible with a *few* that is too close by, much as overt *time* with respect to *soon*. The linked unacceptability of (63) and (59) (vs. the linked acceptability of (62) and (58)) may in turn be related to the fact that (52) has no fully overt exact counterpart:[43]

(64) *They call at -ed time yesterday.

(Since there are no superlative demonstratives, we would not expect a counterpart with tense to (62) or (58).)

The analogy between tense and demonstratives leads, then, to the conclusion illustrated in effect in (52), namely that the pronounced tense morpheme *-ed*, which might be thought of as a clitic/affixal variant of *then*, is not itself a projecting head in the sentential domain, and therefore does not correspond to the H of a sentential {H, XP} in the way usually thought.[44] (If (52) is on the right track, then verb movement will turn out to be an instance of phrasal movement, a result that would converge with Nilsen (2003) on Scandinavian V-2 and with Jayaseelan (2010) more generally.[45])

8. ADJECTIVES AND ADVERBS

Cinque's (1999; 2010b) work on adverbs and adjectives leads to the conclusion, in his terms, that both adverbs and adjectives sit, for the most part, in specifier positions whose corresponding head is silent.[46] This conclusion converges with one aspect of the preceding sections of this chapter; in {H, XP}, H is silent in a substantial number of cases.

43. In the following:

i)   They called at that time yesterday.

there must now be two PPs containing the noun *time/*TIME, with one perhaps modifying the other.
44. Whether tense morphemes project at all reduces now to the question whether demonstratives project DP-internally, which they cannot, strictly speaking, if they are phrasal.
45. Cf. the English that allows sentences like (cf. Johnson 1988):

i)   Should have John said that in public?

(Possibly, *have* in such examples is really *of*—cf. Kayne 1997.)
If verb movement is phrasal, then HMC effects will need to be rethought.
46. This conclusion is orthogonal to the question whether adjectives and adverbs reach their specifier positions by external or by internal merge.
Pereltsvaig (2007) argues that properties of Russian adjectives support the existence of DP in Russian, despite the absence of overt articles of the English kind.

9. DETERMINERS

Leu (2015) argues that most determiners are phrasal, rather than being simple heads.[47] If they are phrasal, then they themselves clearly cannot project as heads, that is, they do not correspond to H in any {H, XP}. Leu takes that position for determiners in general (e.g., for *every,* for *which* and for demonstratives), apart from the definite article itself. At the same time, he notes that in some cases the definite article in some languages seems to depend on the presence of another subpart of what we call DP. For example, in Slovenian[48] there is a prenominal definite article that appears only preceding a prenominal adjective. Leu's interpretation of this (and of comparable facts in Swiss German and in some Scandinavian languages) is in part that this definite article forms a constituent with the prenominal AP and that it does not head the containing DP. If so, then the DPs in question in these languages must have a silent D, as many languages do in a more obvious way (e.g., English bare plurals).[49]

   There are instances of a similar phenomenon in (standard) English, too:[50]

(65)   *John would like a one.

(66)   *John would like a one that's blue.

(67)   John would like a blue one.

Following Leu's reasoning, the indefinite article in (67) may form a constituent with *blue* (plus silent elements) that does not contain *one*:

(68)   [a blue] one

in which case *a* in (67) does not head the DP *a blue one* (whose head must therefore be silent).

   A possible generalization from the discussion in this section would be that pronounced *the* and *a* never correspond to the head of what we call DP (whatever the exact constituent structure and whatever silent elements might be present). Whether such a generalization is tenable remains to be seen. If it is tenable, then DPs have silent heads to a greater extent than usually thought.

---

47. Cf. Charnavel (2011) on French counterparts of *the same*, i.e., *le même*, and of *a common/a single,* i.e., *un même*.
48. Cf. Marušic and Žaucer (2006).
49. On silent Ds, cf. Longobardi (1994). A reviewer points out that enclitic determiners (such as in Scandinavian languages) lead to questions similar to those that arose for *-ed* in the section on tense earlier.
50. For more detailed discussion, see Kayne (2017a).

10. ADPOSITIONS I. *DE* AND *OF*

In non-polarity contexts, the French preposition *de* ("of") can appear DP-initially only if followed by a prenominal adjective:[51]

(69)   Marie achète de bons livres. ("M buys of good books" = "M buys good books")

(70)   *Marie achète de livres.

(71)   *Marie achète de livres qui sont bons. ("M buys of books that are good")

This contrast recalls the preceding discussion of (65)–(67). It suggests, for (69), the constituent structure shown in:

(72)   [de bons] livres

in which case *de* in (69) is clearly (especially given antisymmetry) not the head of *de bons livres*.

More than (69), colloquial French would have, with a definite article following *de* (*des = de + les*):

(73)   Marie achète des bons livres. ("M buys of-the good books" = "M buys good books")

(74)   Marie achète de la bonne bière. ("M buys of the good beer" = "M buys good beer")

With the definite article thus added, an adjective is not required:

(75)   Marie achète des livres.

(76)   Marie achète de la bière.

Despite this, it is, given (72), plausible to take (74) to contain *de la bonne* as a constituent:

(77)   [de la bonne] bière

in which case *de* would again not be the head of the whole phrase, in this case *de la bonne bière*.

Plausible in turn, given both (72) and (77), is to take French phrases like:

(78)   quelqu'un de célèbre ("someone of famous" = "someone famous")

---

51. In addition, the adjective must be plural—*cf.* Pollock (1998).

to be as in:

(79)   quelqu'un [de célèbre]

and to simultaneously take *de* not to be the head of the whole phrase *quelqu'un de célèbre*,[52] but rather to be within a relative-clause-like constituent *de célèbre* (a "reduced relative clause"). From this perspective, *de la bonne* in (77)/(74) and *de bons* in (72)/(69) would be prenominal reduced relative clauses of a particular sort.[53] If so, then in all of (69), (74), and (78), the D head would itself be silent.

The analysis suggested here for (78), in which French *de* introduces a reduced relative, cannot be mechanically transposed to English, if only because English disallows (for reasons that remain to be discovered) a word-for-word counterpart of (78), as well as exact counterparts of (69) and (74):

(80)   someone (*of) famous

(81)   Mary is buying (*of) good books.

(82)   Mary is buying (*of the) good beer.

Yet English *of* does arguably introduce a relative clause in cases like:[54]

(83)   You have a funny way of wording your letters.

There are (at least) two specific reasons for thinking that *of wording your letters* in (83) is a subtype of relative clause. One is that the *of*-phrase cannot be omitted:[55]

(84)   *You have a funny way.

which recalls:

(85)   We would prefer the ones *(that are on the table).

The second reason is that in:

(86)   You have a different way of wording each type of letter, don't you?

---

52. Contrary to Kayne (1994, sect. 8.1).
53. This is compatible with Cinque's (2010b) claim that some prenominal adjectives are reduced relatives, and others not.
54. Cf. Kayne (2008b).
55. It may be that (i) contains a silent *of*-phrase and/or that the *way* in (i) is distinct from that of the text example:

    i)   You have a funny way about you.

it is perfectly natural to interpret *each* as having scope over *a different*. Both of these properties of (83) can be understood to follow from a relative clause analysis of the raising type. *A funny way* and *a different way* (both accompanied by a silent counterpart of *in*, and possibly without the indefinite article) originate within the embedding:

(87)   . . . wording your letters IN a funny way

(88)   . . . wording each type of letter IN a different way

The phrases *a funny way* and *a different way* raise to become, derivationally speaking, the head of the relative. The natural scope interpretation of (86) is licensed prior to that raising, in the manner of "reconstruction." The unacceptability of (84) will follow on the assumption that in (83) *a funny way* must originate within an embedded sentence, very much as *headway* must in:

(89)   Everybody is admiring the headway *(that we made).

    From this perspective, English has finite relatives introduced by *that* (or sometimes zero) or a *wh*-phrase; it has infinitival relatives introduced by *for* or *to* or a prepositional wh-phrase; and now we see that English has gerundial relatives introduced by *of*. Gerundial relatives cannot be introduced by an overt wh-phrase of any sort, for example:

(90)   *You have a funny way in which wording your letters.

though this property is almost certainly not specific to these relatives, but is rather shared with embedded interrogatives:

(91)   *We've been wondering (about) where going this summer.

reflecting a general property of English gerunds.[56]

56. Despite which, there is some evidence that gerunds allow successive cyclic movement—see Kayne (1981a).
  The unacceptability of the text example without *about* might be related to:

    i)   *We've been wondering the time.

  though an analysis based on Case (cf. Pesetsky (1993)) would have to come to grips with examples like:

    ii)   John has been wondering if we should leave right away, and we've been wondering the same thing.

  as he notes.

In section 2 earlier, I suggested that *that* and *for* in relative clauses (and sentential complements) might each be a relative pronoun, that is, a determiner in the case of *that*, and a subpart of a determiner in the case of *for*. If (83) and (86) contain relative clauses introduced by *of*, the question arises as to the possible relative pronoun status of *of*, in those sentences. Presumably, *of*, like *for*, would correspond to only a subpart of a determiner.[57] If so, then in (83) and (86) *of* could clearly not be the H of {H, XP}, where XP is the gerund phrase.[58] (The head of *of wording your letters* in (83) must then be silent, and the same holds for the head of *of wording each letter* in (86).)

11. ADPOSITIONS II

In the spirit of Baker (1985; 1988), Halle and Marantz (1993), Kayne (1994, sect. 4.5) Julien (2002), Starke (2009), and Cinque and Rizzi (2010), among others, I have been following the hypothesis according to which the atomic elements of the lexicon, as far as merge is concerned, are no bigger than single morphemes. (This hypothesis came up most explicitly in the discussion of particles like *away* in section 4.) Another way to put this is to say that candidates for H in {H, XP} must be monomorphemic. If so, then adpositions that are bimorphemic (and for which the term "adposition" is, strictly speaking, misleading) are precluded from corresponding to H in {H, XP}. One relevant example is seen in English in:

(92)   despite that

whose similarity to:

(93)   in spite of that

---

57. The whole determiner might be *what in the way of,* thinking in part of German *was für* and in part of the following counterpart in English:

    i)   What are you planning to buy in the way of a car this year?

58. This discussion may carry over to the *of* of derived nominals such as:

    i)   the removal of the evidence

which were argued to be relative clause structures by Collins (2006) and Kayne (2008a); cf. also Kayne (2017b). If they are, then the *of* in (i) is not the head of *of the evidence*. (If so, the head of *of the evidence* must be silent.) Note that in the papers mentioned *-al* does not change the category of *remove*.

    Whether a similar analysis of *of* can extend to cases like *a large number of mistakes* and/or to (non-standard) *He should of left* (Kayne 1997) remains to be worked out. (If *of* is akin to a relative pronoun, then it is not a "linker" in the sense of den Dikken 2006a.)

makes it virtually certain that *despite* contains the morpheme *spite* and therefore also a morpheme *de-*.[59]

A second example is seen in the set:

(94)   behind, before, below, between, beyond

which are almost certainly to be analyzed as containing a *be-* morpheme in addition to *hind* (cf. *hindsight, hindquarters*), *fore* (cf. *come to the fore*), *low, -tween* (cf. *twin*) and *-yond* (cf. *yonder*). A third is:

(95)   without, within

with a component morpheme *with-* (cf. *withhold*) that pairs with either *out* or *in*. A fourth arguably involves the same *a-* mentioned earlier in section 4 in the discussion of *away* as *a-* + *way*. This *a-* is found in prepositions in cases like:

(96)   atop the mountain

(97)   astride the horse

If the preceding is on the right track, we could think of *despite, behind, before, below, between, beyond, without, within, atop* and *astride* (and others like them) as "complex prepositions" associated with a constituent structure such as:

(98)   [a- top] H the mountain

with H a silent head. Alternatively, this H (or perhaps *a-* itself) might occur in some or all of these cases in a structure more like:

(99)   a- H [top the mountain]

with "top the mountain" a construct-state-like phrase.[60]

Whether a comparable constituent structure should be envisaged for the monomorphemic prepositions *to, at, by, with* is an open question.[61] (If it should be, then Kayne's (1999; 2004a) proposal that adpositions are merged

---

59. Some English allows *in despite of*, suggesting that *despite that* might be "IN despite that," with a silent counterpart of *in*. Interesting questions arise here concerning the appearance vs. non-appearance of *of*, especially when one takes into account *on board the ship*.

60. Cf. Longobardi (1996).

61. What we call Case morphemes may (often) be a subtype of this latter class of adpositions; for recent relevant discussion, see Pesetsky (2014).

If applicative morphemes of the Bantu sort are subtypes of adpositions, then they probably fall into this latter class, too.

outside VP will need to be revised. This open question includes that of English *by* in passives, as discussed by Collins (2005) in terms of Voice.[62])

The partial similarity between *and* and certain instances of *with* discussed in Kayne (1994, sect. 6.3), following Lakoff and Peters (1969), suggests the possibility that *and* might be an adposition and therefore fall under the preceding discussion.[63] The existence in English of *or else*, as in:

(100)   You'd better do it. Or else (they will).

is of interest, insofar as *else* is normally restricted to cooccurring with light nouns:

(101)   something else, everybody else, noplace else

or with the arguably (even) more complex *where* and *one*:[64]

(102)   nowhere else, elsewhere, everyone else

The possibility therefore arises that *or else* involves at least as much extra material as a silent light noun, in which case *or* would very likely not be a projecting head with a sentential complement, even when it appears to be.

12. DERIVATIONAL SUFFIXES

The possible relative clause approach to derived nominals such as *the removal of the evidence* mentioned two sections ago does not require taking *-al* there to be a projecting head, especially if *-al* is itself what is relativized. It is plausible to think that as goes *-al*, so go nominal *-ion, -ing, -ness,* and *-ity*. (Verbal *-en, -ify, -ize* may be light verbs.) The morpheme *-ish* might be phrasal like *more or less*;[65] the morpheme *-less* as in *shoeless* might be phrasal in the way that *without* is. In other words, it might be that none of these suffixes are projecting heads in the way usually assumed.[66]

---

62. It remains unclear how to integrate into Collins's perspective the passive *by*-like morpheme, namely *par*, that occurs without a participle (but with an infinitive) in French causatives—cf. Kayne (1975, sect. 3.5)—in a way that recalls German and Dutch IPP sentences.

63. The implications for the restrictions on the (apparent) coordination of heads discussed in Kayne (1994, sect. 6.2) remain to be explored.

64. On *where* and *place*, see Kayne (2007b).

65. Cf. Duncan (2016).

66. Going back to Williams (1981).

13. FOCUS AND TOPIC PROJECTIONS

The Gungbe topic head discussed by Aboh (2004, sect. 8.1.3) and Rizzi (1997) might be a form of copula, thinking of (the imperfect analogy with) English cleft sentences. If it is, then the question of whether there are pronounced projecting heads related to topic projections becomes a(n open) question concerning the projecting ability of the copula. Whether other overt morphemes that appear to be focus or topic heads can be analyzed in this way remains to be seen.[67]

14. AGREEMENT MORPHEMES

Following in part Hale (1973) and related work, it seems likely that (at least) first and second person agreement morphemes of the sort widely found in European languages are (incorporated) pronouns. If such pronominal agreement morphemes therefore originate in or within an argument position,[68] they clearly cannot be pronounced sentential heads in the way proposed by Pollock (1989) (although his arguments that they be separate from T will still hold). There could, though, be a corresponding sentential head that is silent, just as third person agreement often is.[69]

In some languages, in some cases, there is a verbal number (plural) agreement morpheme that is clearly distinct from person agreement. Almost certainly similar is Spanish plural -n and Italian plural -n(o).[70] And arguably similar is the English -s discussed by Paddock (1990) for (Vernacular) Newfoundland English, which allows both of the following:

(103)   It bees cold here. (generalization/ multiple instances)

(104)   'Tis cold here. (present time)

---

67. Kayne's (1994, Preface) analysis of Japanese -wa as a sentential head will have to be revised, if there can be no such projecting heads.

Where the -t- of French subject clitic inversion fits in is not clear, though if projecting heads are necessarily silent, then Kayne and Pollock's (2012; 2014) analysis of this -t- will need to be revised.

68. Cf. also Poletto (2000) on subject clitics of the North Italian type. Whether these subject clitics and pronominal agreement morphemes adjoint to a silent head or move to a Spec position is a separate question.

Pronominal object clitics, too, are very likely to originate in or within argument position, as in Kayne (1975), in which case they cannot be pronounced sentential heads, contrary to Sportiche (1995) and Cuervo (2003). For an argument that at least some pronominal object clitics are actually phrasal, see Kayne (2008c). For an argument that object clitics of different persons move to different heights, see Săvescu-Ciucivara (2009).

69. Cf. Harris (1969) on Spanish third person singular verbal agreement.

70. On French -ent, see Kayne and Pollock (2014). On cases in which Spanish -n appears more than once, see Kayne (2010b).

Paddock suggests more specifically that the *-s* of (103) is the verbal counterpart to the plural *-s* found with nouns. This suggestion of Paddock's would be compatible with having this *-s* being a functional head in the sentential hierarchy (cf. also Shlonsky (1989)).

Alternatively, thinking in part of the discussion of tense morphemes in section 7, it might be that the *-s* of (103) is part of a larger phrase akin to *many times*:

(105)   it be MANY TIME --s cold here

in which case this *-s* would not be part of the sentential projection line. Whether this kind of analysis can be extended (with modification) to plural morphemes that appear to function only as agreement morphemes (i.e. that appear to be "uninterpretable") remains to be seen.

15. SILENT (SENTENTIAL) HEADS I

In many of the preceding sections, e.g. in the discussion of complementizers, of sentence-final particles, of *need*, of aspect, of tense, of focus and topic and of agreement morphemes, we have seen that familiar analyses with a pronounced head H (with complement XP, as in {H, XP}) in the sentential projection line may give way to alternative analyses in which that pronounced head is no longer in the sentential projection line. Instead the corresponding head is silent.

Combining this with the observation that many of the sentential heads in Cinque's (1999) analysis of adverbs are silent, we arrive at the following conclusion:

(106)   Sentential heads are very often silent.

which seems to differ only in degree from the widespread view that sentential heads can sometimes be silent.

The conclusion stated in (106) seems weak, though, in at least two ways, if we interpret (106) as a hypothesis. First, (106) seems difficult to test, insofar as the term "very often" is not precise. Second, (106) seems unlikely to be derivable from any set of general principles. We might therefore consider strengthening (106) to:[71]

(107)   All sentential heads are silent.

71. The "doubly-filled Comp filter" tradition had already noticed that there are fewer pronounced heads than might be expected; cf. especially Starke (2004). For another view with some similarities to the one being proposed here, see Borer (2013).

which looks to be more readily testable. A key question would then be, why would (107) hold, if correct?

A possible answer might lie within the question of what counts as atomic for Merge. We usually take morphemes to be atomic lexical items with respect to Merge. Yet morphemes are complex. Setting aside for the purposes of this paper the question of purely semantic features, morphemes have phonological features and formal features, which can be thought of as being bundled or assembled into a lexical item.[72] Taking a cue, though, from recent discussions with Chris Collins, and thinking of Agbayani and Ochi (2014) and references cited there, let me take such bundling or assembling to necessarily be an instance of Merge.

A problem seems to arise. If a lexical item is constructed by merging a (structured) set of phonological features/segments with a formal (syntactic) feature (or perhaps features), then a lexical item is not atomic, and so cannot, strictly speaking, be a head H. Put another way, we can produce a pronounced lexical item via Merge, but only at the cost of having that lexical item not be a true head. This apparent problem may provide the beginning of an account of (106)/(107), as follows.

A lexical item/morpheme associated with phonological features and at least one formal feature cannot be simplex. Therefore it cannot be a (sentential) head, as noted. Instead, we have the following partial derivation, for what we think of as a lexical item LI (with phonological features) that is supposed to merge with a phrase XP. The phonological features (PF) and formal features (FF) associated with LI merge with each other:[73]

(108)   { PF(LI), FF(LI) }

The resulting syntactic object is then merged with XP, yielding:

(109)   { { PF(LI), FF(LI) }, XP}

The approach to be developed here will have certain points in common with Distributed Morphology (cf. Halle and Marantz 1993), without adopting "late insertion," either in their sense or in the sense of nanosyntax (v. Starke 2009). Informally put, I will end up having phonological and formal features "distributed in space" (i.e. in distinct positions) rather than "distributed in time," as in DM.

72. Cf. Chomsky (2001, 10), going back in part to Chomsky's (1995, sect. 4.4.4) "move feature" idea.

73. A variant of this idea (cf. Agbayani and Ochi 2014) would be to have the formal feature(s) FF(LI) first merging with XP, yielding {FF(LI), XP}, followed by merging the phonological features PF(LI), yielding:

　　i) { { PF(LI), { FF(LI) , XP} }

with FF(LI) again being the head/label of the entire syntactic object, so that all heads would be silent, as in the text formulation.

Thinking of Chomsky (2013, 43) and his discussion of labeling and minimal search, it is plausible, especially if PF(LI) is itself complex[74] and if FF(LI) is a single feature, to take the head of the new syntactic object given in (109) to be FF(LI), which is by definition silent. (106)/(107) then follows.

Although (106)/(107) is stated for sentential heads, the point is of more general import. There is no reason to think that the type of derivation indicated in (108)/(109) should be restricted to heads in the sentential projection line. The merge sequence indicated in (108)(109) will consequently hold for any lexical item associated with phonological features that is merged with an XP. If so, then we appear to have, as a generalization of (106)/(107) (thinking in part of the earlier discussions of determiners, particles and adpositions):

(110)   All or most heads are silent.

which is in need of clarification.

16. SILENT (SENTENTIAL) HEADS II

(110) is not sufficient. In the earlier sections on sentential elements such as complementizers, sentence-final particles, *need*, aspect, tense, focus and topic and agreement morphemes, as well as in the sections on determiners, particles and adpositions, the claim was made that what is usually taken to be the head of a certain phrase is not actually the head of that phrase, which should rather taken to be silent. The notion of "silent" used in those sections is stronger, though, than what is stated in (110).

Consider, for example, tense. Familiar tense morphemes were suggested in section 7 to be demonstrative morphemes occurring as subparts of phrases

74. It would also suffice if the labeling algorithm ignored phonological features.

It may be that PF(LI) is always complex, even if the LI in question is monosegmental. This would be so if phonological segments are built up from phonological features by Merge, and if phonological segments cannot be monofeatural.

If phonological features are brought together by Merge, and if it holds with complete generality that the output of Merge is associated in one way or another with linear/temporal order (cf. especially Kayne 2011), then the expectation arises that phonological features within a segment must always be (totally) linearly/temporally ordered. (Such ordering is already suggested for particular cases by terms like "prenasalized stop" (cf. Maddieson (1989)) or "prestopped nasal" (cf. Turpin et al. (2014) and Round (2014)); it would presumably impose boundary conditions on the phonetics, without requiring the phonetics to display such ordering directly.)

If PF(LI) is generated by Merge and is subject to being externally merged with FF(LI), then we might expect PF(LI) to also be subject to internal merge (cf. in part Chomsky (1995, sect. 4.4.4; 2013, 46)), which could be taken to underlie, from the perspective of the copy theory of movement (cf. Chomsky (2000, 114)), the existence of morphophonological/syntactic reduplication—cf. Marantz (1982), Travis (2003), and Frampton (2009). ((Partial) reduplication might involve remnant movement.)

akin to "at that time," with the tense morpheme corresponding to *that*. This is compatible with (110), but does not follow from it, since (110) would also be compatible with:

(111)   { { PF(T), FF(T) }, XP}

with silent FF(T) the head, PF(T) the set of phonological features associated with the tense morpheme (e.g. *-ed*), and XP the phrase that best corresponds to the complement of T, say AspP. Consequently, if the analysis suggested in section 7 is on the right track and superior to (111), something further must be at issue.

A key difference between (111) and the analysis of section 7 lies in the absence in (111) of any counterpart to the silent noun TIME seen also in cases like:

(112)   Have you been waiting long?

(113)   Have you been waiting a long time?

It is virtually certain that (112) contains silent TIME (and perhaps a silent indefinite article).[75] Section 7 took the position that ordinary tense morphemes are like *long* in (112) in needing to be accompanied by silent TIME. The next question is why TIME is needed both in (112) and with tense morphemes.

Kayne (2005b, Appendix) had proposed:[76]

(114)   UG imposes a maximum of one interpretable syntactic feature per lexical item.

Setting aside the wording of (114), as well as for now the question of uninterpretable features,[77] the intuition that (114) was intended to express is that lexical items are limited to making a minimal contribution to interpretation.

This is intended to mean, for example, that if *long* (112) contributes an interpretation corresponding to some notion of magnitude, it cannot by itself also contribute the notion of "time." For (112) to be interpreted as involving time, (112) must necessarily contain the (silent) noun TIME, parallel to overt *time* in (113).

---

75. Languages differ here (for reasons to be elucidated). French would have to have *longtemps* ("long time"), with overt *temps*.

76. This proposal has a point in common with the claim made in Kayne (1994; 2011) that heads can be associated with at most one Spec. Cf. also Cinque and Rizzi (2010).

77. If Kayne (1994; 2011) is correct in excluding multiple specifiers, uninterpretable features will almost certainly fall under the present discussion.

In parallel fashion, a tense morpheme such as English *-ed* cannot simultaneously contribute "time" and "in the past" to the interpretation; on the assumption that it contributes something like "in the past," it must be accompanied by silent TIME. For this reason, *-ed* cannot simply match {PF(T), FF(T)} in (111), with XP equal to AspP. (If *-ed* is (part of) a demonstrative, as argued, then it will appear as {PF(T), FF(T)} in some {{PF(T), FF(T)}, XP}, but the XP there will be equal to NP or some similar phrase that demonstratives cooccur closely with.)

Akin to tense morphemes, from this perspective, are sentence-final particles, which are arguably associated with too complex an interpretation for them (more exactly, for their FF, if the discussion of (109) is on the right track) to be able to stand alone as a sentential head; rather, further silent elements of one sort or another must be present. Aspectual morphemes are presumably also akin to tense morphemes in this regard. Leu (2015) has taken a similar position for most determiners, as discussed in section 9; they are never simple lexical items that are associated with no silent elements. As suggested in section 4, particles like English *away* are not simple lexical items, but are rather bimorphemic; whether a monomorphemic particle unaccompanied by any silent element is possible is an open question.

17. SILENT (SENTENTIAL) HEADS III

The discussion of (109) concluded that a formal feature FF, rather than a whole lexical item with its phonology, is the head/label of a phrase. In this technical sense, (107) is true (see also note 66). Yet (109) readily allows a lexical item to look like a pronounced head, to the extent that PF(LI) is present and a sister to FF(LI).

Yet, the earlier sections on sentence-final particles, tense, aspect, etc. attempted to show that even that appearance is misleading, in the sense that the following (modeled on (109), with XP (say, AspP) a phrase in the sentential projection line) is not the right way to think about a tense morpheme like English *-ed*:

(115)   { { PF(T = *-ed*), FF(T) }, AspP}

Instead, *-ed* must be taken to be subpart of a larger demonstrative phrase that (115) does not accommodate.

The section preceding this one suggested that (115) could in fact be excluded by recourse to (114), and that that effect of (114) might well extend beyond tense to sentence-final particles, aspectual morphemes, determiners, particles like *up*, etc., forcing them all out of the main projection line and into phrases (containing silent elements) whose existence we might not have been aware of, such as the demonstrative phrase in the case of tense.

The applicability of (114) to (109), which is repeated here:

(116)   { { PF(LI), FF(LI) }, XP}

is, however, limited to cases in which LI would have had to be too complex in interpretation. (114) would allow any instance of (116) in which LI is either uninterpretable or makes an appropriately minimal contribution to interpretation. In such cases, the LI in question would give the appearance of being a (sentential) head. A good candidate for such an LI would be a complementizer, especially from Rizzi's (1997) split-CP perspective.

In other words, if (114) were the only principle imposing limits on (116), we should expect to find many such instances involving a minimally interpretable (or uninterpretable) LI in the sentential projection line. But it is not clear that we do (if the empirical thrust of this paper leans in the right direction). If we do not find such instances, then (116) must be being suppressed, (at least) in the sentential projection line, by more than just (114).

A possible proposal would be the following. This proposal will be more transparent if we use the variant of (116) given in note 73, which is:[78]

(117)   { { PF(LI), { FF(LI), XP} }

In (117), PF(LI) is in a specifier-like position with respect to the head/label FF(LI). Assume, with Kayne (1994) or (in a different way) Kayne (2011), that multiple specifiers are prohibited. Then any FF(LI) head associated with a PF(LI) will be prohibited from having another LI or a phrase as (second) specifier.

Put another way, a pronounced LI will be unable to have (the equivalent of) a specifier. Consequently, if some FF needs another full LI or phrase as specifier, that FF will of necessity lack an associated PF of its own, that is, it will have to be silent. If all FFs in the sentential projection line need such "filled specs," then all the heads/labels in that projection line will have to be silent. (In effect, pronounced LIs will be restricted to occupying positions in which they would not need such a "filled spec.")

---

78. Both variants will have the initial step of a derivation able to merge PF(LI) with FF(LI), with the latter counting as head/label, perhaps because PF(LI) is always complex—see note 74. It may be that little *n* (cf. Marantz 1997) is unnecessary from the present perspective; nor would Chomsky's (2013, 47) prohibition against roots as labels be necessary.

In having PF(LI) subject to syntactic computation, the present proposal is not in the spirit of the "late insertion" aspect of DM (Halle and Marantz 1993), nor with the phrasal spellout aspect of nanosyntax (Starke 2009).

18. CONCLUSION

On the basis of considerations involving complementizers, sentence-final particles, *need*, aspect, tense, focus and topic, agreement morphemes, determiners, particles and adpositions, it appears that many more heads in the sentential projection line (and elsewhere) are silent than is usually thought. This reflects in part the fact that all projecting heads are technically silent (since they are just formal features),[79] and in part the fact that the presence of phonological features precludes the presence of a(n other) specifier.

79. This will account for the doubly-filled Comp filter and its descendants; for a different approach, see Starke (2004).

CHAPTER 6

"A Note on Some Even More Unusual Relative Clauses"

1. SOME GENERAL POINTS ON RELATIVE CLAUSES

In the spirit of Chomsky (1970) on "passive," the notion 'relative clause' is unlikely to be a primitive of the language faculty.* This was explicitly recognized in Chomsky (1977), to the extent that the wh-movement operation that plays a role in the derivation of relative clauses also plays a role elsewhere (e.g., in interrogatives). Rizzi (1997) might be interpreted as backtracking from this position insofar as the landing site for wh-movement in relatives is different (Spec,ForceP) from the landing site in interrogatives (Spec,FocP/IntP).

The difference in landing site, though, could be factored out from the common movement operation, and taken instead as something to be explained. The following proposal is based on the fact that the wh-phrase in headed relatives is in a relation to the "head" of the relative in a way that has no exact counterpart in interrogatives, which lack a comparable "head":

(1)   Wh-movement in relatives cannot (normally) land below ForceP (or TopP[1]) because of locality requirements holding between the "head" of the relative and the wh-phrase.

The informal formulation in (1) abstracts away from the question of the correctness of the raising analysis of relatives.[2] In what follows, I will assume the raising approach (perhaps not crucially).

In addition to wh-movement, a second, related aspect of relative clauses that is not specific to them is the very presence of overt wh-words. A proposal expressing this non-specificity would be (cf. Postma 1994):

(2)   a.   The *which* of English (headed) relatives is identical to the *which* of English interrogatives (and to the *which* of *every which way*).

        b.   The *where* of English relatives is identical to the *where* of English interrogatives, as well as to the *where* of *somewhere, nowhere, anywhere, everywhere, elsewhere*.

        c.   And similarly for other wh-words in whatever language.

Needless to say, the surrounding syntactic environment must be at least partially different in relatives, interrogatives and indefinites.[3]

Note that (2) does not state that the sets of wh-words occurring in relatives and interrogatives and indefinites have to match perfectly. In English, *where* occurs in all three, but *who* occurs only in relatives and interrogatives. In Italian, *quale* ("which") occurs in both relatives and interrogatives, but *cui* ("who/ what")[4] occurs only in relatives and *chi* ("who") occurs only in interrogatives (and free relatives).

---

1. Cf. Cinque (1982) on links with topicalization.
2. See Brame (1976, 125), Schachter (1973), Vergnaud (1974; 1985), Kayne (1994, chap. 9), Bianchi (1999), and Kato and Nunes (2009).
Headless relatives may be hidden instances of (adjunct) interrogatives, thinking of the similarity between:

i)   We'll buy whatever you suggest.

and

ii) No matter what you suggest, we'll buy it.

For a suggestion along such lines, see Lin (1996).

3. It is not essential to this discussion whether *everywhere* is a true indefinite; v. Beghelli and Stowell (1997).
4. Italian *cui* is arguably an oblique form of *che,* i.e., *ch-+-ui*, with oblique (possibly bimorphemic; cf. Martín (2012)) *-ui* lacking in Spanish (and similarly for Italian *lui, altrui*). (Note that non-oblique *che* does occur in interrogatives in Italian.)

This point about wh-words not being specific to relative clauses carries over to those relative pronouns that are clearly related to demonstratives (such as German relative *d*-words). If Kayne (2010a) is correct, this point also holds for English *that*, which occurs both as a relative pronoun and as an ordinary demonstrative.

The proposal in (2) can be understood as a particular case of a more general approach that is also illustrated by English numerals.[5] Consider:

(3)   They have seven children.

(4)   Their youngest child has just turned seven.

(5)   It'll be exactly seven in a couple of minutes.

Example (3) shows an ordinary instance of the numeral *seven*. In (4) and (5), a bare *seven* appears to be interpreted as an age and as a time of day, respectively. Kayne (2003b) argued that cases like (4) and (5) are best analyzed in terms of the presence of silent nouns, with (4) containing (at least) the noun YEAR (capitalization indicates silence) and (5) containing (at least) HOUR.[6]

2. UNUSUAL RELATIVE CLAUSES (WITH MORE THAN ONE RELATIVE PRONOUN)

Like interrogatives, relatives can sometimes to some extent contain more than one wh-word:

(6)   (?)Mary Smith, whose husband's love for whom knows no bounds, is a famous linguist.

(7)   ?The only woman whose husband's love for whom knows no bounds is Mary Smith.

In (6) and (7), both of the wh-words/relative pronouns are related to the head of the relative. It may be that *whose husband's love for whom* in (6) and (7) has been pied-piped by the initial *who(se)*, rather than by *whom*. This *whom* appears in any case to be in situ within the larger wh-phrase. Yet there is evidence that this *whom* is involved in a movement relation, perhaps of the parasitic gap sort.[7] This is suggested by the existence of ECP-like effects, as in:[8]

---

5. Cf. Kayne (2016) on English *there* and more generally on anti-homophony.
6. This approach, in which interpretations are constrained by the availability of silent elements, looks likely to be more restrictive that the allosemy-based approach of Marantz (2010) and Wood and Marantz (2017). This will be especially clear if the language faculty disallows elements that would be consistently silent in all languages.
7. For some discussion, see Kayne (1983a, 239ff.).
8. On the Empty Category Principle, see Chomsky (1981).

(8) ?Mary Smith, whose husband's desire for me to paint a picture of whom is perfectly understandable, is a very famous linguist.

(9) *Mary Smith, whose husband's desire for whom to paint a picture of me is perfectly understandable, is a very famous linguist.

3. EVEN MORE UNUSUAL RELATIVE CLAUSES

There also exist relative clauses containing two relative pronouns such that only one of them is related to the head of the relative.[9] These are for me somewhat more marginal than the preceding, but are still surprisingly close to acceptability (in the English of some speakers). An example is:[10]

(10) ?That car over there belongs to my old friend John Smith, whose long-standing attachment to which is well known to all his friends.

Here, *who(se)* is related to the head of the relative *my old friend John Smith*, but *which* is not; rather, *which* is related to the subject of the matrix sentence, *that car over there*.

As in (8)–(9), sentences like (10) show ECP-like effects. These can be detected by comparing the following two examples. The first is:

(11) ??That car over there belongs to my old friend John Smith, whose long-standing desire for me to buy which is well known to all his friends.

9. There is a point of similarity here with Stowell's (1985) discussion of parasitic gap examples such as:

i) Who did your stories about amuse?

which for some speakers (but not me, in this case) allow an interpretation in which two distinct individuals are at issue.
It remains to be understood what underlies the variation in speaker judgments, both in the case of (i) and in the case of the unusual relatives discussed in the text.
10. Another is:

i) ?That car over there just ran into my old friend John Smith, whose inability to get a good view of which was a determining factor in the accident

This kind of relative is more difficult as a restrictive:

ii) ???That car over there belongs to the very person whose attachment to which is so well known.

Although more marginal than (10), (11) nonetheless contrasts sharply with:

(12) *That car over there belongs to my old friend John Smith, whose long-standing desire for which to be sold quickly is well known to all his friends.

Replacing the embedded infinitive following *desire* with a finite sentence results in an appreciable drop in acceptability, but the contrast remains clear:

(13) ???That car over there belongs to my old friend John Smith, whose long-standing desire that I buy which is well known to all his friends.

(14) **That car over there belongs to my old friend John Smith, whose long-standing desire that which be sold quickly is well known to all his friends.

It seems clear that the extra deviance of (12) and (14), as compared with (11) and (13), is akin to the greater difficulty that holds in a general way for extraction of or from within subjects as compared with extraction of or from within objects.

4. STEPS TOWARD AN ANALYSIS

The raising approach to ordinary relative clauses, when extended to cover relative pronouns, leads one to take what we call relative pronouns to come about as the result of stranding a particular kind of determiner.[11] For example, a head + relative clause structure such as:

(15) books which I've read

will have a derivation that looks like:[12]

(16) I've read which books -> wh-movement
      which books I've read <which books> --> raising of NP to "head" position, stranding the relative determiner *which*
      books which <books> I've read <which books>

---

11. Various details are discussed in Kayne (2008b; 2010a).
12. I abstract away from questions concerning the "outside" determiner, for example *the* in:

i) the books which I've read

For relevant discussion, see Leu (2014).

The convenient informal term "relative pronoun", then, is usually to be understood as short for "determiner occuring within a relative clause and stranded by movement of its associated NP to the position of the "head" of the relative."[13] Let me call the movement operation that strands *which* in the last pair of lines in (16) "relative pronoun stranding", henceforth abbreviated as RPS.

It seems natural, however, to also take the *which* of (10)–(14) to be a relative pronoun (in almost exactly the same sense), despite the unusual position of its antecedent. This is supported by the fact that it is also possible to find examples of such unusual relatives in which the unusual relative pronoun is *who(m)*:

(17)   ?My old friend Mary Jones is still unaware of yesterday's discovery, the capacity of which to surprise whom cannot be exaggerated.

In (17), *which* is related to the nearby "head" *yesterday's discovery* in a familiar way, whereas *whom* is related not to that head, but rather to the matrix subject *my old friend Mary Jones*.

To say that the *which* of (10)–(14) and the *whom* of (17) are relative pronouns is to say, then, that they have been stranded by RPS, despite the fact that the antecedent in question is not the head of the relative. Put another way, in (10)–(14) and in (17) RPS has moved the NP associated with *which* and *whom* to the position of matrix subject, hence out of the relative clause entirely.

That RPS can apply out of a relative clause might seem surprising, but the difficulty of extraction out of a relative clause is often exaggerated. For a detailed survey, see Cinque (2010a). To his examples of extractions leaving a gap might well be added, thinking back to Ross (1967),[14] examples in which the extraction leaves behind a resumptive pronoun.

For all of (10)–(14) and (17) the question arises as to what precisely has been moved. RPS may perhaps be moving a full DP in such examples, rather than a NP. Alternatively, RPS may be moving just NP, in a more familiar way, if sideways movement is allowed.[15]

---

13. Alongside relative *who* there is no **who person*. Possibly, *who = wh- + -o*, with the latter a noun, thinking of Bernstein (1993) on Spanish *uno*. Alternatively, *who* is a determiner and there is a link to **mine book* (cf. Bernstein and Tortora 2005) and/or to French *Lequel (*livre) veux-tu?* ('the-which (book) want-you) (cf. Kayne 2008a) and other cases of the same sort.

14. Cf. Boeckx, C. (2001; 2003). Kayne (2002a) extends this tradition to all pronouns, even those with antecedents in A-positions.

That (resumptive) pronouns may reflect movement is not taken into account by Bošković (2015).

15. On sideways movement, see Bobaljik and Brown (1997) and Nunes (2001).

That the *which* of (10)–(14) and the *whom* of (17) are relative pronouns (and not just pronouns) is also suggested by the following considerations. Sentences like (10)–(14) and (17) require that *which* or *whom* be pied-piped as part of a phrase containing the other (ordinary) relative pronoun. This is shown by the contrast between (17), for example, and the unacceptable:

(18)   *My old friend Mary Jones is still unaware of yesterday's discovery, which will definitely surprise who(m).

The pied-piping in (17) now recalls the pied-piping of ordinary relative pronouns seen in:

(19)   the book the first chapter of which is being widely discussed.

That the *which* of (10)–(14) and the *whom* of (17) are not just ordinary pronouns is shown by:

(20)   *My old friend Mary Jones is still unaware of yesterday's discovery, even though it's very likely to surprise who(m).

As a final point to this chapter, we can note that the "head" of the relative cannot be "skipped" entirely (even if the relative contains a resumptive pronoun linked to it):

(21)   **That car over there belongs to my old friend John Smith, a picture of which shows how tall he is.

This may be due to a requirement that the head of a relative clause must in all cases originate together with some relative pronoun (and that in (21) there is no option for a silent relative pronoun).

CONCLUSION

Relative clauses can be found that contain a relative pronoun whose antecedent is not the head of the relative. The familiar relation between the head of a relative and the relative pronoun can thus be seen as a special (even if overwhelmingly frequent[16]) case of a more general relation between a relative pronoun (a stranded determiner) and its antecedent (whose movement has stranded that determiner). The piece of relative clause syntax that is the antecedent-relative pronoun relation is less specific to relative clauses that it might have seemed.

16. In languages that have relative pronouns. For a proposal on why prenominal relatives lack relative pronouns, see Kayne (1994, chap. 9).

The Unicity of *There* and the Definiteness Effect

1. INTRODUCTION

English sentences such as:

(1)   There are ghosts.

are often called "existential sentences" and are characterized by the presence of an "expletive" subject *there* that is in some relation to its post-verbal "associate," here *ghosts*. Such existential sentences are subject to a well-known "definiteness effect," which in some cases is very strong, in particular with unstressed definite pronouns. One relevant contrast is:

(2)   One wonders if it really exists.

(3)   *One wonders if there really exists it.

An unstressed *it* can be the pre-verbal subject of *exists* as in (2), but cannot be the post-verbal associate in (3).

The strength of this definiteness effect with unstressed pronouns is found even in so-called "list"-sentences, where the definiteness effect seems otherwise to be suspended. For example, as a follow-up to *Who can we get to help us?*, one can have:

(4)   Well, there's John.

despite the fact that simple proper names normally act as definites. In the right context, one can also have:

(5) Well, there's him.

if *him* is stressed. Whereas if that pronoun is unstressed, the result is unacceptable:

(6) *Well, there's 'im.

(7) *Well, there is 'im.

whether or not *is* is reduced.

I will return very briefly later to the suspension of the definiteness effect in list contexts. For now, let me focus on the contrast between (2) and (3), which bears on the proper formulation of a potential universal spoken of by Szabolcsi (1994, 182) in the following terms:

(8) the semantic universal that existential verbs only combine with indefinite noun phrases

This is essentially the definiteness effect elevated to universal status. Taking the definiteness effect to be universally valid is plausible and desirable, but the formulation in (8) cannot be exactly right, given the acceptability of (2), in which *exists* itself combines with definite unstressed *it*.

What the contrast within English between (2) and (3) suggests is that (8) be reformulated as:

(9) When cooccurring with expletive *there* (or a counterpart of it in other languages), existential verbs only combine with indefinite noun phrases.

(This reformulation of the definiteness effect as a universal also drops the term "semantic" from (8).)

In further support of (9) over (8), we can note some contrasts that are quite clear even with lexical DPs, for example in the context of a treasure hunt where the participants are getting discouraged:

(10) The treasure definitely exists, so keep looking.

(11) *There definitely exists the treasure, so keep looking.

and similarly:

(12) That the planets exist is obvious.

(13) *That there exist the planets is obvious.

A point about other languages is in order. The counterpart of expletive *there* referred to in (9) may in some languages (for example, Danish[1]) resemble English *there* in occupying subject position. In others, as Burzio (1986, 148) noted for Italian *ci*, there may be an element that is a good match for *there* in many respects, except for position, in that Italian *ci* ("there") ends up in an object clitic position rather than in an ordinary subject position.[2] Like Italian in this respect are French and Catalan, with object clitics *y* and *hi*, respectively. A third group of languages may have, instead, a silent counterpart of *there*.[3] For the Romance family, this is arguably the case for Spanish (except perhaps for the present tense, with -*y*), for Portuguese and for Romanian.

The preceding paragraph takes it for granted that all languages will have individuable existential sentences that show a clear definiteness effect, at least with unstressed pronouns.[4] In those languages, at least in those sentences, there will be a silent counterpart of *there* if there is not an overt one. (No silent counterpart of *there* would be necessary in a language that showed no definiteness effect at all.)

Abbott (1993, 41), in approaching the definiteness effect from the perspective of pragmatics, claims that "the function of existential sentences is to draw the addressee's attention to the existence and/or location of the entity or entities denoted by the focus NP" (where "focus NP" corresponds to "associate" as used earlier). As in the earlier discussion of Szabolcsi (1994), it seems clear that Abbott has in mind existential sentences with *there*, not all existential sentences, in particular not those that are like (2), (10) or (12). The question that pragmatics alone cannot answer, though, is why it is exactly existential sentences with *there* that are associated with the specific pragmatic function that they appear to be associated with.

Why, then, is there a definiteness effect in certain existential sentences, and why does it correlate with the presence of expletive *there* (and its counterparts in other languages)?

2. *THERE* AND ANTI-HOMOPHONY

To answer this last question, I think we have to ask what is in ways a more basic one, that is, what is the status of the expletive *there* in question? It is often taken to be the case that expletive *there* is:[5]

---

1. Cf. Allan et al. (1995, 160).
2. Cf. also Freeze (1992, 568).
3. In agreement with Chomsky (1995, 154).
4. On how to bring out the definiteness effect in Italian, see Belletti (1988, 9). The analysis to be developed here will not need to bring in her use of partitive Case. How closely Finnish partitive corresponds to French (sub-DP) *de*-NP as discussed in Kayne (1981c, 95ff.) remains to be determined.
5. Cf. Chomsky (1995, 154).

(14) i)   uninterpretable (that is, contributes nothing to the interpretation of sentences in which it occurs)

ii)   externally merged in a relatively high Spec position

In agreement with Moro (1997; 2000, 125), Sabel (2000), Choe (2006), and Deal (2009),[6] I will take (ii) to be false, and will therefore look for a more natural source for expletive *there*.

That leads in turn to the general question of homophones, which the language faculty clearly tolerates in some cases. A few examples from (my) English are:[7]

(15)   one/won; two/to; four/for; eight/ate; red/read(past tense); sew/so

The two elements of each pair of homophones arguably have in common only their phonological realization. In each of these pairs, the two elements have distinct spellings. An often cited example with identical spelling is:

(16)   bank/bank

with one being the bank of a river, the other a financial institution. Whether these two really have nothing whatsoever in common (apart from their phonology and apart from both being nouns) is not quite as clear, it seems to me, as it is in (15). Be that as it may, if we take (English-type) orthography to reflect a set of informal linguistic hypotheses, it becomes tempting to put forth the following conjecture (at least for English):[8]

(17)   If X and Y are functional elements and are homophones, then X and Y cannot have the same spelling.

Let us now consider the case of *there/there*, where one is the expletive at issue, and the other what we think of as locative *there*. If (17) is correct, then it follows that these two instances of *there* cannot be homophones (since they have the same spelling and are both functional elements). In which case, they must have more in common than their phonology (a conclusion that is difficult to reconcile with the idea that one of them is an uninterpretable expletive). But if *there* and *there* are not homophones, then the most appealing

---

6. Deal provides many more relevant references.

7. For a pair like *their/there*, if there is a common morpheme *th-*, we can take there to be a pair of homophones *-eir/-ere*.

8. I am grateful to Thomas Leu for insightful discussion bearing on this question.

It may be, thinking of Chomsky and Halle (1968, 69, 184n), that distinct orthography correlates with distinct underlying phonology.

For the purposes of this chapter, I set aside the important question of idioms.

hypothesis is surely that they are identical (in particular in how they exter-
nally merge), and that there is only one *there* in English.

This leads to the only at first glance implausible conclusion that in a
sentence like:

(18) There is a problem there.

there are two instance of the same *there*. In fact, if we don't mind mixing
registers a bit for the purposes of exposition, and if we take *therefore* to be
there + for(e) (cf. *for that reason*), we can construct a single sentence with four
apparently distinct *there*s, one example being:

(19) Therefore, there's a problem there in that there paper of yours.

in which the last *there* is what Bernstein (1997) called a demonstrative rein-
forcer, seen in the following paradigm, in non-standard English:

(20) that there dog; this here dog; them there dogs; these here dogs

Yet if (17) is correct, no two instances of *there* can be homophones, and (19)
must contain four instances of the same *there*.[9] (The *there* that Bernstein
called a "demonstrative reinforcer" I will henceforth call "deictic," since I will
be suggesting that it needn't always cooccur with a demonstrative.)

3. ANTI-HOMOPHONY AND AFFIXES

Before going on to spell out more in detail how all these instances of *there* can
be, despite appearances, the same element, let me briefly note the effect of the
word "functional" in (17), which is to in fact allow for homophones with identical
orthography if at least one of the pair is part of the non-functional (truly lexical)
part of the lexicon, for example in the following pair (assuming *see* to be lexical):

(21) saw/saw (past tense of *see*, instrument for cutting wood)

that is, (17) allows these two instances of *saw* to be true homophones despite
the common orthography.

On a different tack, the question arises as to whether the X and Y of (17)
are to be taken to be words or morphemes or, plausibly, either words[10] or

---

9. Unless we were to countenance (arguably less restrictive) recourse to "overlapping
interpretations" of *there* in a way that would recall Wood and Marantz (2017).
10. *There* itself is almost certainly (at least) bimorphemic, if we compare it to *where*
and then compare the pair *there/where* to the pair *then/when*.

single morphemes. If we interpret (17) to cover morphemes, too, we arrive at cases like:

(22)   un-/un-

where one is the negative prefix of, for example, *unintelligent* and the other the reversative prefix of, for example, *unpack*. If these two instances of *un-* fall under (17), they cannot be homophones and must, as in the discussion of *there*, be identical, that is, there must be just one prefix *un-*.[11] This has some plausiblity, insofar as *unpack* has a negative component. The syntactic environment of these two instances of *un-* would of course be different, including the possible presence of different silent elements.

Less plausible for the extension of (17) to prefixes would appear at first to be:

(23)   in-/in-

where one is the negative prefix seen in *intolerable* and the other the preposition-related *in-* of *incision* (cf. *excise*). On the other hand, there's the question whether the notion "same spelling" in (17) should be sensitive to the fact that negative *in-* has a variant *il-* seen in *illegal* and a variant *ir-* seen in *irreducible*, while the prepositional *in-* prefix does not.

As far as suffixes are concerned, we might think of:

(24)   -er/-er

where one is the comparative suffix and the other the agentive one. Here identification of the two does seem implausible; whether this is compatible with the strongest possible interpretation of (17) will depend on whether (17) can "see" the difference that holds between comparative and agentive *-er* with respect to the syllable structure of what *-er* attaches to.[12]

Additional consequences of (17), if (17) is taken to cover morphemes within larger words, would be that all instances of *-ing* that are pronounced the same are the same element,[13] that past tense *-ed* and past participial *-ed* are the same,[14] that verbal *-s* and plural *-s* are the same,[15] and that (if apostrophes are

11. The *-n* of which may well be a separate morpheme identical to the negative *n-* of *not, n't, no, never*.

12. And/or comparative *-er* might actually be bimorphemic, as suggested by *more* (and perhaps *fore*), with the *-e-* in comparatives then identical to the *-e-* of superlatives, whose morphemic status, separate from superlative *-st*, is suggested by *most, least, first, last, best, worst*.

13. And similarly for *-ion*, despite the process vs. result ambiguity, which might involve silent EVENT vs. silent RESULT.

14. As argued by Solà (1994).

15. Relevant here is Postma's (1993) proposal that English verbal *-s* is a reflexive.

to be ignored) possessive -*s* is the same as these two.[16] In addition, we would almost certainly expect that comparative *less*, as in *less time*, and the suffixal -*less* of *timeless* are the same, again despite appearances.[17]

4. SUBTYPES OF *THERE*

Returning to *there*, we can distinguish, in (19), the following subtypes of *there*:

(25) i)   expletive *there*
      ii) locative *there*
      iii) the *there* of *therefore*, akin to *thereby, thereof*
      iv) deictic *there*

   Along the lines of Kayne (2004b),[18] let me take locative *there* to be related to deictic *there* as follows. There is strong parallelism in the following:

16. The execution of this last idea might be that plural -*s* occurs in a possessive structure with a silent noun SET, that is, *books* would be as in:

   i) book 's SET

with *three books* looking like:

   ii) [three book] 's SET

akin to:

   iii) a set of three books

On SET, see Kayne (2006b).

17. A link between them might well pass through the similarity between the following two sentences:

   i)   We have less time than we used to have.
   ii) ?We are without the (amount of) time that we used to have.

An example of a problem for this general approach as extended to subword morphemes might be English -*en*, which seems to be a past participle morpheme in, say, *bitten*, but an inchoative/causative morpheme in *blacken*. (Yet the two never seem to co-occur.)

A non-problem, on the other hand, is:

   iii) atop a mountain

since the preposition-like *a*- of *atop* arguably lacks the -*n* of the indefinite article.

The phonological identity in French between prepositional *en* ("in") and pronominal clitic *en* ("thereof") mentioned by Pollock (1998, note 5) may suggest that the clitic itself corresponds to an adpositional counterpart of the *of* of English *thereof*; for relevant discussion, see Kayne (2004b, sect. 3).

18. Cf. Katz and Postal's (1964, 128) proposal to analyze *where* as parallel to *(at) what place,* but with *place* deleted (and somewhat similarly for *there*).

(26)   We went there yesterday.

(27)   We went to that there place yesterday. (non-standard)

that is to be expressed by taking *there* in (26) to be the one visible piece of a larger phrase (capitals will be used to indicate silent elements):

(28)   we went TO THAT there PLACE yesterday

The *to, that* and *place* seen in (27) are also present in (26), except that in (26) they are not pronounced. The *there* of (26) is not at all locative per se. Rather the *there* of (26) simply is the deictic *there,* embedded in a locative PP most of whose pieces are silent. (The term "locative *there*" is henceforth to be understood only in this manner.[19])

   Similarly, the *there* of *therefore* should be linked to the deictic *there* of (non-standard) *for that there reason*, with *therefore* then reflecting a larger phrase:

(29)   THAT there REASON for(e)

in which there has been leftward (phrasal) movement of *there* past *for(e)* in essentially the mode of van Riemsdijk (1978).[20] The *there* of *thereby* arguably has WAY in place of REASON. The *there* of now archaic (for me) *thereof* is accompanied by THING:

(30)   They have spoken thereof. (archaic)

(31)   they have spoken THAT there THING of

Summing up, both locative *there* and the *there* of *therefore, thereby, thereof* are instances of deictic *there* embedded within a larger PP of one sort or another whose other nominal pieces are silent.

5. THE DERIVATION OF EXPLETIVE *THERE*

That leaves expletive *there*. For it to reduce to deictic *there*[21] it must be locally associated with some noun (or noun phrase). Thus in an ordinary sentence such as:

---

19. Note that in:

   i)   There's a place that I would like to show you.

there is the expletive one and is not locative, since there is no locative PP present.
   20. The phrasal character of this movement aligns with Barrie and Mathieu's (2016) analysis of noun-incorporation as phrasal movement. For more details on how the movement(s) take place and on the licensing of the silent elements accompanying *there*, see Kayne (2004b).
   21. Cf. É.Kiss (1996, 135).

(32)   There were books on the table.

there cannot be merged by itself into a sentential Spec position; it must first merge with some N(P). In (32) there appear to be two candidates, *books* and *table*, but in the general case the latter, that is, *table*, is not a viable candidate, as shown by:

(33)   There were books on this table.

(34)   There were books here.

In (33), *table* is accompanied by *this*, which is otherwise sharply incompatible with *there*:

(35)   *this there table

In (34), there is a silent noun PLACE, but also *here*, which precludes any plausible source for *there*, given:

(36)   *this here there place; *this there here place; *that here there place; *that there here place

I conclude that in all of (32)–(34), *there* must initially merge with *books*.[22]
    That expletive *there* can do so is suggested by:

(37)   them there books; these here books (both non-standard; *them* is non-standard for *those*)

in which case we should think of, say, (32) as having a derivation containing as a substage:

(38)   were [there books] on the table

    This conclusion leads in turn to the question of:

(39)   Them there things ain't no good. (non-standard)

(40)   *There things ain't no good.

22. This proposal has something in common with that of Sabel (2000); also with Chomsky's (1995, 156) idea that the associate LF-adjoins to *there*.
    Another question is whether DP-internal deictic *there* might itself be associated with a preposition (especially plausible if deictic *there* originates within a relative clause, in which case its merging with *books* would be DP-internal, but not strictly initial); cf. Freeze (1992, 564), Schütze (1999, note 23), and Avelar (2009, 153).

The fact is that, within a DP, deictic *there* can normally only occur if accompanied by a demonstrative (non-standard *them*, in (39)). There is thus an apparent conflict with the occurrence in (32)/(38) of deictic *there* with no demonstrative *those/them* present. (Put another way, how can we distinguish (32) from (40)?)

There is evidence from Hebrew that this challenge is less onerous than it might appear to be. Ordinary Hebrew demonstratives have the property that (as in a number of languages) they co-occur with the definite article:

(41)   ha-yalda ha-zot ("the girl the dem.")

Yet Hebrew also crucially allows, according to Sichel (2001, chap. 1, note 6):

(42)   yalda zot

with no definite article, yet with the same demonstrative element. In addition, while (41) as a direct object would be preceded by the morpheme *et* that normally precedes definite direct objects, (42) would not be. Sichel concludes that (42) is an instance of a demonstrative that is not definite.

The parallel with English is imperfect. Yet it has some force, I think. In Hebrew, the demonstrative can sometimes (with interpretive consequences) do without the definite article. In English, the deictic can sometimes (arguably with interpretive consequences) do without the demonstrative. Thus Hebrew indirectly increases the plausibility of taking English expletive *there* to be the same *there* as the DP-internal deictic one.

There remains the more specific question of (40) vs. (32) (repeated here):

(43)   There were books on the table.

If *there* in (43) originates within a phrase "[there books]," why can a phrase of that form not successfully appear in examples like (40)? Here I would like to take advantage of a point made by Szabolcsi (1994, sect. 5) concerning Hungarian possessives, that is, concerning the Hungarian counterparts of English definite *our friend* and indefinite *a friend of ours*. Szabolcsi shows that in the case of the definite possessive DP in Hungarian, the possessor may or may not be extracted from within that DP. Whereas when the containing DP is indefinite the possessor must be extracted.[23]

23. Kayne's (1993, sect. 1.2) proposal concerning *of* moves in that direction for English *a friend of his*.

Transposing freely to deictic *there*, we have:[24]

(44)   If deictic *there* is (minimally) embedded within an indefinite DP, then
       that DP must be split apart by movement.

Part of the derivation of (43) might now be illustrated as in:

(45)   were [there books] on the table -->
       there were [<there> books] on the table

In (45) expletive *there* (= deictic *there*) reaches its sentential Spec position as
the result of extraction from within the DP that is often called its "associate."
Given that there is ultimately only one *there*, this DP-internal source must be
the only source available for expletive *there*.
    Alternatively, the derivation of (43) might involve remnant movement,
along the following (simplified) lines:[25]

(46)   [there books] on the table --> raising of "books"[26]
       books [there <books>] on the table --> merger of V
       were books [there <books>] on the table --> remnant movement
       [there <books>] were books <[there <books>]> on the table

In what follows I will prefer (46) to (45).

24. As in the Hungarian case, a question arises as to why such extraction/splitting is
obligatory.
   The label DP is being used for convenience, the essential point being that *there* starts
out within the associate, whatever the exact label. The associate can be complex, as in:

    i)   There are books you need to read on the table

   Similar in one way to the text analysis is Basilico's (1997) taking expletive *there* to
start as sister to a small clause.
   There itself may well be definite, as suggested by its initial *th-*, yet its presence must
not make the containing DP definite. This may reinforce the idea that deictic *there*
originates in a relative clause—for discussion, see Kayne (2008b, sect. 5).
   25. Cf. Androutsopoulou (1997) on the use of remnant movement in the splitting
apart of noun and adjective in Greek. The remant movement step in the text deriva-
tion must not violate Rizzi's (1990) Relativized Minimality. Allowing for changes in
theory, the text proposal has a point in common with Safir's (1987, 84) chain relation,
and with Deal's (2009, 286) non-movement Agree relation, though the text proposal
expresses the relevant relation in terms of movement from within the associate, and
takes expletive *there* to be deictic *there*.
   26. Possibly, this initial movement of *books* could be assimilated to Koster's (1994,
262) proposal for movement into Spec,PredP.

6. THE DEFINITENESS EFFECT

We are now in a position to return to the definiteness effect, the clearest instance of which, as discussed earlier, involves unstressed (anaphoric) pronouns, as in:[27]

(47) One wonders if it really exists.
(48) *One wonders if there really exists it.

By previous discussion, *there* in (48) must originate within the associate DP, which in (48) is *it*. Just as the associate started out in (43)/(45)/(46) as "[there books]," so then must it start out in (48) as "[there it]." But this is not a plausibly well-formed DP, given:[28]

(49) They don't want that there dog in their yard. (non-standard)

(50) *They don't want that there it in their yard.

If this is correct, that is, if deictic *there* cannot combine with (an unstressed pronoun such as) *it* in the way that it can combine with a noun like *dog*, then we have the beginning of an account of the definiteness effect.

---

27. This is presumably true even in languages that are otherwise freer than English with respect to the definiteness effect. The unstressed pronouns in question are those that correspond to the entire associate, not just to part of it. Not at issue, then, are cases like Italian:

    i)   Ce ne sono due. ("there of-them are two")

in which object clitic *ne* corresponds to only a subpart of the associate, and similarly, I suspect, for Spanish:

    ii)   Los hay. ("them there-is")

with an analysis based on the presence of a silent element akin to SOME, but with no *of*.

On differing sensitivity to definiteness in two dialects of Catalan, see Rigau (2005, 792); similarly, for two varieties of Spanish, Longa et al. (1998, 13).

The incompatibility of expletive *there* with an unstressed pronoun associate might be related to Pollock's (1998, 318) discussion of the incompatiblity of *en* and *le* originating from within the same DP.

In the Italian example:

    iii)   Una sorella, ce l'ha anche Gianni ("a sister, there it has also G" = "J has a sister, too")

expletive *ce/ci* must originate with "una sorella" rather than with unstressed pronominal "l(a)."

28. Though languages that are freer than English with respect to modified pronouns will need to be taken into account; cf. Hestvik (1992).

More than that, we can now see why the definiteness effect comes into play in (48) but not in (47), even though (47), too, is an existential sentence. The reason is that the definiteness effect has specifically to do with when exactly expletive/deictic *there* has a well-formed source. Since there is no *there* in (47),[29] there is no definiteness effect there, either.

However, as mentioned toward the beginning of this chapter, there are also clear cases of the definiteness effect with lexical nouns preceded by the definite article, as in the following, in the context of a treasure hunt (where the participants are getting discouraged):

(51)   The treasure definitely exists, so keep looking.
(52)   *There definitely exists the treasure, so keep looking.

The account suggested for (48) (in terms of (50)) does not carry over to (52). Something more general is needed (that may ultimately include (48), too). Pursuing the key idea that expletive *there* (= deictic *there*) must originate within the associate, we conclude that in (52) *there* would have to originate within the phrase *the treasure*:

(53)   definitely exists [the there treasure]

The question is why, starting from (53), we cannot reach (52).

The answer cannot simply be that (52) contains an extra determiner (*the*) as compared with (43), since some overt determiners are compatible with expletive *there*, that is, some determiners, the weak ones (in Milsark's (1977) terms), trigger no definiteness effect violation, while others (the strong ones, in his terms), do:

(54) There were three/many/several/no/some books on the table.

The determiners in (54) are all fine with expletive *there*. A generalization of the derivation in (46) for these (weak) determiners would (using *some*, but similarly for the others) look like:

(55)   [there some books] on the table --> raising of "some books"
        some books [there <some books>] on the table --> merger of V
        were some books [there <some books>] on the table --> remnant movement
        [there <some books>] were some books <[there <some books>]> on the table

29. Not even a silent one, and similarly for (64), (66), and (68) later.

We are now in a position to return to the question why (52), with overt determiner *the*, cannot be derived using a derivation parallel to (55). From the current perspective, the answer must be that *the* in (52) cannot occupy the same position relative to deictic *there* as *some* and the other weak determiners. *Some* and the others can, as illustrated in (55), occur between *there* and the noun. For the numerals, *many* and *several*, this positioning finds support in:

(56)   them there three/?many/?several books (non-standard)

For *some* and *no* (and for *any*), we find different behavior (for reasons that remain to be elucidated):

(57)   *them there some/no/any books

    The contrast between (56) and (57) recalls:

(58)   the three/many/several books that we were reading

vs.:

(59)   *the some/no/any books (that we were reading)

In other words, deictic *there* in (56)/(57) patterns with *the* itself, suggesting (though not implying) that *the* and deictic *there* cannot co-occur at all. But if so, then there can be no derivation parallel to (55) in which *the* replaces *some*, in which case (52) is not derivable, given present assumptions.

    Of course deictic *there* does co-occur with *that* (and with plural demonstrative *them* in non-standard English), so the preceding discussion needs to be sharpened if we are to account for definiteness effects with *that*, as in (again in the context of a treasure hunt (where the participants are getting discouraged)):

(60)   That treasure definitely exists, so keep looking.

(61)   *There definitely exists that treasure, so keep looking.

To my ear, with this kind of anaphoric *that*, there is a clear definiteness effect. The question is, could (61) incorrectly have been derived via a derivation that would track (55), given that *that* and *there* are mutually compatible:

(62)   That there book ain't no good. (non-standard)

The answer is no, the reason being that, for (55) to proceed smoothly, *some books* must, in the first step of (55), be a subconstituent of "[there some

books]." By transposition, to derive (61) we would need "[there that treasure]" (with *that treasure* a subconstituent), which has the opposite order from the well-formed (62):[30]

(63) *There that book ain't no good.

Now if the ill-formedness of (63) indicates that "[there that N]" is never available, it follows that it is not possible to substitute *that* for *some* in (55), in which case (61) is excluded as desired.

Summing up, the definiteness effect found in sentences with expletive *there* reflects the fact that certain determiners interfere with the derivation illustrated in (55) that in effect takes deictic *there* and makes it look like what we call expletive *there*.[31]

7. APPARENT EXCEPTIONS TO THE DEFINITENESS EFFECT

Let me now return to instances of the definiteness effect with *the*. We have seen earlier:

(64) The treasure definitely exists, so keep looking.

(65) *There definitely exists the treasure, so keep looking.

and similarly:

(66) That the planets exist is obvious.

(67) *That there exist the planets is obvious.

To these we can add (in the context of *We have a cat and a dog. We know where the dog is, but . . .*):[32]

---

30. Afrikaans becomes relevant here in ways that I will not pursue; cf. Kayne (2004b, sect. 2.1) and Leu (2015, 19).
On the impossible existential in (i):

   i) *Them there were three books on the table.

see Kayne (2008c, sect. 7).
I leave open the question of the indefinite-like *this* of:

   ii) Why is there this newspaper on my desk?

31. An alternative "manner of interference" to the one given in the text might attempt to bring in Guéron's (1980, 666) Name Constraint or Fiengo and Higginbotham's (1981, 402) Specificity Condition.
32. Extraction from a position following/below the associate sharpens judgments, as noted in Belletti (1988, 11–12) for Italian.

(68)   We're not sure which room the cat is in.

(69)   *We're not sure which room there's the cat in.

On the other hand, well-known exceptions to the definiteness effect with *the* have been brought forth. For example, Abbott (1993, 45) cites:

(70)   There is the most beautiful house for sale in the next block!

In the discussion immediately following (59), I suggested that the reason for the ill-formedness of sentences like (65), (67), and (69) lies in the incompatibility, within the associate, between *the* and *there*. (In particular, one cannot have "[there the books]" parallel to the possible "[there some books].") At that point it was unnecessary to note that this is (not surprisingly) a local incompatibility, in the familiar sense that *the* can perfectly well appear embedded more deeply within the associate, in examples like:

(71)   There were photographs of the sun on the wall.

(72)   There were books by the physicist Mary Smith on the table.

At an early stage in the derivation of these, the associate would have the form "[there photographs of the sun]," "[there books by the physicist Mary Smith]," with no problem arising, that is, no conflict between *there* and the more deeply embedded *the*.

With examples like these at hand, a proposal that comes to mind is to relate (70) to:

(73)   There is a house of the most beautiful kind for sale in the next block!

by postulating for (70) a silent noun KIND, with (70) then best thought of as:

(74)   there is [the most beautiful KIND] house for sale . . .

The indicated constituent structure has the effect that *the* is too embedded to clash with *there*. The associate will be as in:

(75)   [there [the most beautiful KIND] house]

with "the most beautiful KIND" a complex modifier. In (75) *there* and *the* find themselves at two different levels of DP and do not conflict.

In the same vein, consider the sensible interpretation of:

(76)   J has the same eyes as his mother.

which is almost certainly to be related to:

(77)   J has eyes of the same kind as his mother's.

suggesting that (76) should be taken to include:

(78)   [the same KIND] eyes

much as in (75), apart from the presence of *there*.

   The silent KIND that underpins the compatibility of (70) with the definiteness effect is further found in:

(79)   We'll be having three different wines tonight.

with the analysis:[33]

(80)   three different wine KIND s

in which the apparent plurality of the mass noun *wine* is attributed to the plurality of KIND, in which case *wine* does not need to be "shifted" to a count noun.

   We can note in passing that there also exists evidence for a silent INSTANCE, in sentences like:

(81)   The ball hit John in the nose, which is an important part of the human body.

The non-restrictive relative in this example takes as antecedent *the nose* in what seems to be a generic sense.[34] Yet we simultaneously understand the nose in question to be John's. Sense can be made of this paradox if we take (81) to be something like:[35]

(82)   the ball hit John in HIS INSTANCE OF the HUMAN nose, which . . .

8. *THERE* AND QUANTIFIERS

As (64)–(69) indicate, the definiteness effect correlates in English with the presence of *there*; it is not a property of existential sentences per se. Another pair of examples of the same general type is:

---

33. Cf. Kayne (2003b, note 26).
34. Cf. Kayne (1975, chap. 2, note 119).
35. On "instance," cf. the discussion of "token" in Vergnaud and Zubizarreta (1992).

(83) The funny thing is, the majority of linguists used to be available for telephone interviews.

(84) *The funny thing is, there used to be the majority of linguists available for telephone interviews

Here there is no KIND and *the* conflicts, within the associate, with *there*. As expected, if *the* is replaced by *a*, the conflict disappears:

(85) The funny thing is, there used to be a majority of linguists available for telephone interviews

   Very much like (83) vs. (84) is the pair:

(86) Most linguists used to be available for telephone interviews.

(87) *There used to be most linguists available for telephone interviews.

Going back to Milsark (1977, 21), it has been known that *most* triggers the definiteness effect. From the present perspective, it is natural to express the strong similarity between *most* and *the majority* by taking (86) to be as in:

(88) THE most PART linguists . . .

with *most* accompanied by silent THE and silent PART, thinking of the fact that the French counterpart of *most* is *la plupart* ("the most/more part").[36] In this way, the definiteness effect seen with *most* in (87) reduces to the definiteness effect that holds with *the*, with *there* in (87) incompatible with this THE. Alternatively (in part), thinking of the fuller French phrase *la plupart des linguistes* ("the most/more part of-the linguists," (88) should be replaced by:

(89) [THE most PART] THE linguists

with the second (generic) THE the one that is incompatible with deictic/expletive *there*.
   There is, to my ear, a contrast between (87) and the relatively acceptable:

(90) Where did there used to be the most syntacticians?

The reason for this contrast lies in part, I think, in the fact that (90) is to be grouped with (70) in containing a silent noun (though a different one from

---

36. And similarly for Italian, as noted by Belletti (1988, note 16). On silent PART, cf. Tsai's (1994, 24n) suggestion (based on one by Lisa Cheng) that *The whole house has burnt down* should be read as *All parts of the house* . . . ; cf. also Moltmann (1997).

the one in (70)) that provides the constituent structure necessary to avoid a definiteness effect violation:[37]

(91)   [the most NUMBER] syntacticians

with the associate in (90) then starting out as in:

(92)   [there [the most NUMBER] syntacticians]

in which there is no generic THE in the way there is in (89).

Moving from *most* to *all*, we can see that there exist some clear definiteness effects with *all*, too:

(93)   These days, all linguists are available for interviews.
(94)   *These days, there are all linguists available for interviews.

Thinking of Longobardi (1994), we can readily take these, too, to contain a silent (generic) THE that in (94) conflicts with *there* internal to the associate DP. With overt *the*, there are some also clear definiteness effects (as in a context like *John has lots of cats and lots of dogs . . .*):

(95)   Right now, all the cats are in the kitchen.
(96)   *Right now, there are all the cats in the kitchen.

Again, we can attribute the definiteness effect here to *the* (rather than directly to *all* itself).

As is well known, going back to Milsark's (1977, 6) work, the definiteness effect is also found with *every*. A clear case for me is:

(97)   Is somebody/anybody/nobody/everybody home?
(98)   Is there somebody/anybody/nobody/*everybody home?

Either *every* here is directly incompatible with the presence within the associate (*everybody*) of *there*, or there is a silent THE that is.[38] As is also well

---

37. On NUMBER, see Kayne (2002b; 2005b; 2007c).
38. And similarly for *each* in Milsark's (1977, 6):

   i)   *There was each package inspected

as well as for the (unavailable) universal-like interpretation of his (p. 8):

   ii)   There are koala bears in Australia

and for the restriction seen in:

known, there are other sentences with both *every* and *there* that are fine, for example, from Abbott (1993, 45):

(99)   There is every reason to be suspicious.

This kind of sentence may fall under earlier discussion, if the structure contains as a subpart:[39]

(100)   [every KIND] reason

   Arguably falling under the definiteness effect, too, is the absence of a wide-scope reading for *three books* in:[40]

(101)   There must be three books on the table.

From the present perspective, a wide-scope ("specific") reading of *three books* must in general require the presence of a "specific" D (a more general D than the one restricted to definites), covert in English but arguably overt in Gungbe; see Aboh (2004, chap. 3). That D must, in English and more generally, be incompatible with expletive/deictic *there* in the same way as definite *the* itself.[41]

9. LIST CONTEXTS

The definiteness effect is apparently lifted in so-called "list" contexts, for example,:

(102)   What should we read? Well, there's the book on the table.

(103)   Who can we invite? Well, there's John.

   iii)   *There are linguists intelligent.

which he (pp. 11–16) assimilates to the definiteness effect.

39. And/or *cf.* Postma and Rooryck (1996).
40. Cf. Heim (1987).
41. The ill-formedness of (i) can similarly be taken to reflect the presence of a covert definite or specific D (required by the presence of *all*):

   i)   *There will all be three books on the table.

The ill-formedness of (ii) (v. Chomsky (1995, 275)) might be related to this:

   ii)   *There seem to each other to be five people here.

More needs to be said about examples like:

   iii)   There's a certain person I want you to introduce me to.

from Guéron (1980, note 57), in which there must not be such a blocking D.

Perhaps the definites here are actually embedded within hidden indefinites, so that (103), say, is to be understood as:

(104)   . . . there's SOMEBODY WE CAN INVITE, (NAMELY) John

10. *THERE* AND NON-SPECIFIC SUBJECTS

One might wonder why English bothers at all with expletive *there* (= deictic *there* raised, as a remnant, to subject position), and similarly in part for other languages. Sentences with expletive *there* as subject contain an "associate" that must be, not only indefinite, but also, as (101) shows, non-specific. (The term "definiteness effect" is therefore imperfect.) This inversely recalls the fact that some languages prohibit non-specific subjects.[42]

In other words, sentences with expletive *there* might be a "response" to the impossibility of non-specific subjects,[43] insofar as expletive *there* sentences provide a way for languages to allow arguments to be non-specific that would otherwise be expected to raise to subject position, with expletive *there* itself (or the remnant phrase containing it) fulfilling an EPP(-like) role.

This way of understanding the existence of expletive *there* would be maximally strong if the following held universally:

(105)   Non-specific subjects are prohibited.

which doesn't seem to be the case, given that English appears to readily allow non-specific subjects:

(106)   A solution to this problem must exist.
(107)   Somebody had better be there when we arrive.

Yet non-specific indefinite subjects have unexpected properties, as discussed by Sauerland and Elbourne (2002, 297), who state that sentences like:

---

42. Cf., for example, Cheng and Sybesma (2005) and Huang et al. (2009, 294).
43. This is close to a point made by Deal (2009, 313–314); what follows attempts to go even further.
A more technical difference is that the present proposal takes the associate to never remain in its external merge position, contrary to Deal's position on "inside verbals"; cf. the proposal in Kayne (2010c) to the effect that "all DP arguments must move at least once." Diesing (1992) and Mahajan (1992) might then be interpreted as showing only that indefinites necessarily end up lower than definites, perhaps in a way related to focus being lower than topic, as in Jayaseelan (2001); cf. also Koster's (1994) distinction between movement of definites to Spec,AgrOP and movement of indefinites to Spec,PredP.

(108)   How likely to win is an Austrian?

lack the non-specific reading for *an Austrian* that is available in:

(109)   An Austrian is likely to win.

Sauerland and Elbourne take this to reflect a restriction on (total) scope re-construction that goes back to work by Barss (1986).

The contrast in interpretation between (108) and (109) would seem, though, to be related to similar facts concerning idiom chunks that don't fall under the usual notion of scope:

(110)   Headway is likely to be made.
(111)   *How likely to be made is headway?

as well as to comparable facts concerning inverse copula sentences:

(112)   The winner is likely to be Mary.
(113)   *How likely to be Mary is the winner?

That these facts are all related is reinforced by the fact that (for me) there is improvement in the unacceptable examples if the relevant DP/NP is replaced by a pronoun. Clearly better than (113) is:

(114)   ?How likely to be Mary is it?

Similarly the following allows a non-specific interpretation more readily than (108):

(115)   How likely to win is one, in your opinion?

The improvement is slighter in the idiom case, but I have the judgment:

(116)   ??How likely to be made is it?

Chomsky's (1993, 39) discussion of idioms, if generalized to *headway* in sentences like (110), would have *headway* necessarily interpreted in a position lower than its visible one, that is, in its pre-movement position following *made*. A variant of his idea would have *headway* raising to subject postion not by itself but as part of a larger remnant phrase that includes a silent copy of *made*, as in (the simplified):[44]

44. The agreement in *Tabs were being kept on them* might involve a combination of Agree with pied-piping.

(117)   [<made> headway] was made < <made> headway >

Made raises, then the phrase containing the silent copy of *made* plus *headway* raises past *made* to subject position (perhaps in successive cyclic fashion). A similar derivation for inverse copula sentences like (112) would have *Mary* raising out of the small clause, followed by remnant movement of the whole small clause (in a way partly like Moro 1997):

(118)   [<Mary> the winner] was Mary < <Mary> the winner>

In both cases, then, the subject would be a remnant phrase that is larger than the visible *headway* or *the winner*. My proposal for (109), in the non-specific reading of the subject, is a parallel one. Rather than the subject being non-specific *an Austrian*, the subject is rather a remnant phrase, as in the sketchy:[45]

(119)   [<win> an Austrian] will win < <win> an Austrian>

The general suggestion, then, is that what seem to be non-specific subjects in English (and in some other languages) are remnant phrases of which the non-specific indefinite is a proper subpart. If so, then (105) is tenable and we can in fact understand the existence of sentences with expletive *there* as another means by which the language faculty can accommodate non-specific subject-like arguments without violating (105).

    If (105) is correct, then expletive *there*, or rather the remnant phrase containing it, must not count as non-specific.[46] A question arises as to how large a remnant phrase there is in subject position in sentences with expletive *there* such as:

(120)   There are books on the table.

Up until now, I have been assuming "[there <books>]." Possibly the remnant phrase is larger than that (containing a silent copy of the verb, too), given that expletive *there* (= deictic *there*) acts like (108)–(116):[47]

(121)   There is likely to be another demonstration.

(122)   *?How likely to be another demonstration is there?

   45. The landing site of this remnant phrase might be distinct from that of referential subjects, as in É. Kiss (1996).
   46. Cf. É. Kiss (1996, 134).
   47. Cf. Baltin and Barrett (2002).

11. THE MISSING EXPLETIVE *HERE*

A question not usually asked is why English has an expletive *there* but no expletive *here* (instead, or in addition).[48] If it did, we would have, alongside (or instead of):

(123)   There's something wrong, isn't there?

sentences like:

(124)   *Here's something wrong, isn't here?

which are not possible, even though English does allow sentence-initial *here* in cases like:

(125)   Here's your book.

in which *here* is likely not in subject position and in any case is not parallel to expletive *there*.

The question why there is no expletive *here* parallel to expletive *there* seems to me to be essentially like the question why there is no complementizer *this* parallel to (or instead of) complementizer *that*. The answer given to the complementizer question in Kayne (2008b; 2010a) was, in part:

(126)   i)   What we think of as complementizer *that* is really a relative pronoun.
        ii) What we think of as a relative pronoun is really a (stranded) determiner.
        iii) Complementizer *that* is a stranded demonstrative determiner.

This answer continued as:

(127)   i)   *This* is necessarily associated with a first-person morpheme.
        ii) *That* is not necessarily associated with any person morpheme.
        iii) The stranding that plays a role in the derivation of complementizer *that* is blocked by the (first) person morpheme associated with *this*.

48. Cardinaletti (1997, note 3) gives an answer to the parallel question concerning German (and similarly for Icelandic) sentence-initial-only *es*, proposing, in a way akin to what I'm proposing here for *there*, that it does not externally merge into Spec,CP.

Hence, *this* cannot appear as a complementizer.

The derivation of expletive *there* proposed earlier, for example in (46), repeated here:

(128)   [there books] on the table --> raising of "books"
         books [there <books>] on the table --> merger of V
         were books [there <books>] on the table --> remnant movement
         [there <books>] were books <[there <books>]> on the table

involves, in the transition from the first line to the second line, the stranding of *there* by the raising of the NP *books*. Generalizing (127), we have:

(129)   i)   *Here* is necessarily associated with a first-person morpheme.
         ii)   *There* is not necessarily associated with any person morpheme.
         iii) The stranding that plays a role in the derivation of expletive *there*
               is blocked by the (first) person morpheme associated with *here*.

If so, we have an account of why there is no expletive *here*.[49]

We can note in passing that this account depends on the remnant movement approach to expletive *there*. If *there* were subextracted by itself from "[there books]," it would not be easy to see why a parallel derivation with *here* could not have been available.

The approach to expletive *there* that I have been pursuing, in which expletive *there* necessarily originates DP-internally as a particular case of deictic *there*, also provides a ready account of the fact that English has no expletive *then* instead of or in addition to expletive *there*:

(130)   *Then's something wrong, isn't then?

The reason is that there is no DP-internal deictic *then* parallel to DP-internal deictic *there*:[50]

49. Similarly, I suspect, the first-person morpheme associated with *here* will play a role in accounting for the fact that no Romance language (as far as I know) has a *here/there* distinction in its object clitics.
   Possibly, this kind of consideration extends to gender, for example, to the fact that French has m.sg. *il* as an expletive subject clitic, but not f.sg. *elle* (apart from the agreement configurations discussed in Kayne and Pollock 2010; 2014), thinking of Ferrari's (2005) proposal that feminine gender (in Italian) involves an extra morpheme as compared with masculine gender.
   Ferrari's proposal might also be relevant to the fact that some English (not mine, which prefers "singular" sex-neutral *they, them, their*) has sex-neutral *he, him, his*, whereas there appears to be no English with a parallel natural use of sex-neutral *she, her, her*. On the other hand, the extra gender morpheme for feminine in Romance is compatible with the Romance word for *person* being feminine in gender, in a sex-neutral way.
   50. On why this might be so, see Kayne (2008c, sect. 9).

(131) That there thing ain't no good. (non-standard)

(132) *That then thing ain't no good.

English also lacks an expletive *that* that would parallel expletive *there*:

(133) Are there any mistakes in your paper?

(134) *Are that any mistakes in your paper?

Similarly:

(135) There's nobody here.

(136) *That's nobody here.

despite English allowing subject *that* in other types of sentences. From the present perspective, the absence of expletive *that* parallel to expletive *there* can be attributed (as with *here*, though not in exactly the same way) to a blocking effect of *that* (vs. *there*) on the extraction indicated in the first two lines of (128). Put another way, those first two lines could not be transposed to:

(137) [that books] on the table --> raising of "books"
       books [that <books>] on the table

the reason arguably being the same as that responsible for the cases in which *that* induces a definiteness effect, as discussed starting with (61).

On the other hand, expletive *there* can be "replaced" by an expletive *it* in some varieties of English,[51] though I think the term "replace" gives the wrong impression, as suggested by French, whose counterpart of:

(138) There is a book on the table.

is:

(139) Il y a un livre sur la table. ("it there has a book on the table")

in which there are two visible "expletives," *il* and *y*. Burzio (1986, 148) had noted that Italian object clitic *ci* is, apart from its object clitic status, a good match for English expletive *there* in existential sentences. It is virtually certain that the same holds for French *y*, that is, that the *y* of (139) is a good match for English expletive *there* in (138) apart from the object clitic vs. subject difference. In which case the subject clitic *il* in (139) must have some

---

51. See Freeze (1992, 575) and references cited there.

other status.[52] Whatever that status is,[53] it seems plausible to take the expletive *it* of some varieties of English to match this French *il*, rather than to match French *y* or standard English *there*. (If so, then varieties of English with expletive *it* in existential sentences will in all likelihood have a silent counterpart of *there* in such sentences.)

12. *THERE* AND AGREEMENT

In standard English, the verb in a sentence with expletive *there* seems to agree directly with the associate:

(140)   There are/*is books on the table.

However, the present analysis has *there* as a remnant that includes a silent copy of the associate, as seen in the last line of (128), repeated here:

(141)   [there <books>] were books <[there <books>]> on the table

If the number features of this silent copy are visible to agreement, then the agreement seen in (140) may just be ordinary subject-verb agreement, without downward movement-less agreement being necessary, at least not there.[54]

As Henry and Cottell (2007, 286–287) note,[55] Belfast English has optionality of agreement, for example, in:

(142)   There has/have been several people arrested.

(143)   There has/have several people been arrested.

Possibly, Belfast English allows the number features of the silent copy within the remnant subject to be ignored. And/or there might be a link to the fact that Belfast English agreement differs in other ways from that of standard English, as discussed by Henry (1995, chap. 2).

Henry and Cottell (2007, 297) go on to note (cf. Chomsky 1995, 384) that many speakers of English (in what for me is only (very) colloquial English) accept:

(144)   There's lots of books on the table.

52. One needs to ask why French (and the same for other Romance subject clitic languages) has no *there*-like subject clitic. This may be related to Freeze's (1992, 574) observation that English is exceptional (though nb. Danish, as mentioned earlier) in having its expletive *there* in subject position.
53. For discussion, as well as for discussion of the *be/have* difference, see Kayne (2008c, sects. 11, 13).
54. On downward agreement, see Chomsky (2001). For a critical view, see Koopman (2003).
55. I am grateful to Danfeng Wu for bringing this paper to my attention.

without accepting:

(145)   *There is lots of books on the table.

(146)   *There was lots of books on the table.

This recalls comparable facts, in equally colloquial English, in non-existential, non-definiteness-effect sentences with *where*, as noted by Dixon (1977):

(147)   Where's the lions?

(148)   *Where is the lions?

Nathan (1981) adds examples with other wh-phrases:

(149)   How's the horses?

(150)   When's the races?

(151)   What time's the games?

Why *'s* acts differently from *is* in all these cases (whose range indicates that the type of agreement seen in (144) is not intrinsically linked to expletive *there*) for this set of speakers remains to be understood.[56]
    Nathan (1981) also notes that the plural in question must, in all the relevant cases, follow *'s*, as in the following contrast (my examples):

(152)   ?Where's all the children?

(153)   *All the children's in the kitchen.

This recalls Greenberg's (1966) Universal 33:
(154) When verbal number agreement is suspended in an order-sensitive way, it's always when the verb precedes the NP.
as well as many other agreement facts, though not all, for reasons that remain to be fully understood.
    I conclude that the non-standard agreement facts of (142)–(153) are compatible with the present analysis,[57] which takes expletive *there* to originate

---

56. There might be a link to the possible identity of verbal *-s* and possessive *'s* mentioned in note 16.

57. As opposed to Henry and Cottell (2007, 293), who took the optional agreement in Belfast English to go against Sabel's (2000) "stranding analysis" (which the present one resembles in part).

In taking expletive *there* to originate within the "associate," this analysis also has something in common with Kayne's (1972, 90) analysis of French subject clitic doubling, which could also (anachronistically) be called a "big DP" analysis. French subject clitic doubling is pursued by Kayne and Pollock (2012; 2014); there are also points

as a deictic *there* contained in a phrase later moved to subject position as a remnant.

13. THE INTERPRETABILITY OF *THERE*

From the perspective of this analysis, the question alluded to earlier of the interpretability of expletive *there* must be related to the question of how exactly DP-internal deictic *there* is interpreted,[58] for example, in (non-standard) *that there book*, and more specifically how deictic *there* is interpreted when unaccompanied by *that* (keeping in mind, from (129), that deictic *there* is, or at least can be, more "neutral" than deictic *here*, insofar as *here* is always associated with a person morpheme, while *there* is not). From this perspective, it seems unlikely that expletive *there* is entirely uninterpretable, as it was taken to be in Chomsky (1995, 154).[59]

14. RESTRICTIONS ON *THERE*

In (my) colloquial English, expletive *there* occurs only with *be*. Although the following are perfectly possible in some register(s) of English, they are for me impossible in colloquial English:[60]

in common with Collins and Postal (2012); for an extension to pro-drop, see Pollock (1998, 311). Whether agreement morphemes themselves could be integrated into a "big DP"–cum-stranding picture remains to be seen.

Deal (2009, note 31) observes that a "big-DP" account of the sort being developed here must address the question of "supersize DPs" that might allow more than one expletive *there* per associate. Such "supersize DPs" are probably needed for pronouns in Kayne (2002a) and might be appropriate for:

    i)   ?There looks like there's a problem here.

58. Relevant here is the question whether DP-internal deictic *there* originates within a relative clause (cf. Kayne 2008c, sect. 5) and the question whether deictic *there* is accompanied DP-internally by a P (cf. note 22).

59. Close to Chomsky is Groat's (1995) taking expletive *there* to be interpreted as "null."

60. As opposed to:

    i)   There they go.

like:

    ii)   Here they come.

which do not involve expletive *there*, despite having some special properties.

(155)   There exist solutions to all these problems.

(156)   There have arrived several letters for you.

In this respect, my colloquial English is like both standard Italian and standard French, whose counterparts of expletive *there* (*ci* and *y*, respectively) are limited to existentials with *be* (in Italian) and with *have* (in French).[61]

As for why *be* is singled out by Italian and colloquial English, it may be that *be* is associated with less structure than any other verb. If we consider the schematic derivation given earlier:

(157)   [there books] on the table --> raising of "books"
        books [there <books>] on the table --> merger of V
        were books [there <books>] on the table --> remnant movement
        [there <books>] were books <[there <books>]> on the table

it might be that the landing site needed for the first movement step is unavailable in these languages except with *be*.

Such an account would have something significant in common with Deal's (2009) fine-grained account of the contrast between (155)/(156) and sentences like:

(158)   *There melted lots of ice yesterday.

Deal takes this contrast to depend on the presence in (158) (vs. the absence in (155)/(156)) of "a CAUSE head . . . whose syntax requires an event argument in Spec,vP,"[62] with that argument preventing expletive *there*, which for Deal is normally externally merged in Spec,vP, from appearing.

The analysis developed in this chapter differs sharply from Deal's in having expletive *there* (= deictic *there*) externally merged, not in Spec,vP, but rather DP-internally. Yet Deal's idea could be taken over into the present analysis by saying that the remnant movement step in the last part of (157) must target Spec,vP (before expletive *there* moves on higher). It would remain to be understood why (my) colloquial English disallows even (155)/(156), why French and Italian disallow counterparts of (155)/(156) with an overt expletive *y* or *ci*, and especially why Piedmontese expletive object clitic *ye,* which looks like a good counterpart of expletive *there,* is found more widely, occurring as it does,

---

61. In Italian, expletive *ci* is also found with possessive *have* (for discussion, see Kayne 2008c), in which case the definiteness effect does not seem to hold consistently, for reasons to be discovered. How much various idiomatic instances of *ci* (and of *y*) have in common with the expletive ones remains to be determined.

62. A similar conclusion was reached on the basis of other considerations by Kayne (2009a).

according to Burzio (1986, 123), with all unaccusatives, including in cases like (158).[63]

The remnant movement step that takes "[there <books>]" past "books" in (157) is subject to another constraint that is likely to fall under Deal's idea or my variation on it, as illustrated in:

(159) *We bought there some books yesterday.

which is (not good, for word order reasons, with locative *there* and) sharply unacceptable with expletive *there*. It may well be that the entire object phrase itself must occupy Spec,vP at some point in the derivation (as is widely assumed to be the case for transitive objects), leaving no space for the remnant containing expletive *there*.

This point carries over directly to a different type of example:

(160) *We showed there our book to some students yesterday.

which, again, is sharply unacceptable with expletive *there*. As in the preceding paragraph, this can be attributed to the presence of a direct object, even though the potential source of *there* is the prepositional object. If unergatives with prepositional objects necessarily have a silent direct object that must occupy Spec,vP,[64] then the same holds of:

(161) *We will allude there to some problems in our talk.

which is impossible with expletive *there*.

Perhaps related to (161) is:[65]

(162) *There seemed to some people that we were right.

That the embedded CP could be acting as a direct object may be supported by the fact that in French it can be "pronominalized" by object clitic *le*:

(163) Il le semble. ("it it seems")

Somewhat different from the preceding is a question raised by the following contrast:

---

63. Perhaps there is a link to the fact that Piedmontese object clitics generally follow past participles in a way that Italian and French object clitics do not.
The definiteness effect in Piedmontese needs looking into, since Burzio (1986, 122) gives an example with expletive *y(e)* and a post-verbal definite subject; cf. note 4.
64. Cf. Kayne (1993, sect. 3.4).
65. Cf. Chomsky (1993, 26b).

(164) Is there a problem with this analysis?

(165) *Is a problem there with this analysis?

The derivation of (164) will track that of (157). The question is why the associate *a problem* cannot skip over expletive *there*, yielding (165). A possible answer is that to move to subject position the associate would have to pass through Spec,vP, thereby interfering with *there*'s access to that position. Quite different is a question posed by:

(166) There was rain last week.[66]

(167) *There rained last week.

From the present perspective, it may be that the presence of expletive (=deictic) *there* within the DP containing *rain* interferes with the incorporation of nominal *rain* necessary for the derivation of:

(168) It rained last week.

if Hale and Keyser (1993; 2002) are on the right track. As for the mode of interference, it might be that prior to "incorporation," (the remnant containing) *rain* must move through Spec,vP.[67]

In what for me is only non-colloquial English, it is sometimes possible to have expletive *there* co-occurring with an object and a post-VP subject, as in:[68]

---

66. English does not allow this with an adjective:

    i) *There was hot last week.

whereas Danish seems to, according to Allan et al. (1995, 161). Similarly, with impersonal passives, English disallows:

    ii) *There was danced last week.

as opposed to Danish, as well as to Dutch, according to Safir (1987, 78). The unacceptability of (i) and (ii) in English can be attributed to *there* having no (indefinite DP) source. Why exactly Danish *der* and Dutch *er* are freer remains to be understood.

67. Alternatively, there might be a link, given the *th-* of *there*, to the exclusion of *the* in compounds:

    i) They're real (*the) Bronx-lovers.

In:

    ii) There's been a lot of snowing this year.

the associate must be *a lot of snowing*, rather than *snow* itself.

68. Example adapted from Curme (1977, vol. II, 5).

(169)   There reached his ear the sound of voices and laughter.

Adapting ideas of Deal's (2009, 315), I take this type of expletive *there* sentence not to involve *there* being in or passing through Spec,vP, and to involve VP-fronting. Without the VP-fronting, we would have a type of sentence that is impossible in standard English (colloquial or not), though productively possible in Belfast English, as discussed by Henry and Cottell (2007), for example:

(170)   There shouldn't anybody say that.

Whether this difference between Belfast English and standard English correlates with other differences remains to be seen.

   To judge by the examples that Henry and Cottell (2007) provide, Belfast English sentences like (170) show a definiteness effect,[69] whereas Deal (2009, 314) takes sentences like (169) not to. In fact, (169) itself has a *the* and one can also think of:

(171)   There walked into the room the very person we had been talking about the day before.

On the other hand, thinking of the discussion of (75) earlier, it might be that *the* in (169) and (171) does not c-command the DP-internal deictic *there* in its pre-movement position. If so, then the expletive *there* of (169) and (171) can be treated exactly as that of "core" sentences such as:

(172)   There's a book on the table.

15. CONCLUSION

If we take the identity in form between expletive *there* and various other instances of *there* (not only locative *there,* but also deictic *there* and the *there* of *thereby*) not to be accidental, we are led to the conclusion that expletive *there* originates DP-internally as an instance of deictic *there* (as in non-standard *that there book*) and that the definiteness effect plays out entirely DP-internally as a conflict between deictic *there* and certain determiners.

   69. Although indefinites are restricted to quantified ones in a way that doesn't hold in standard English; see Henry and Cottell (2007, 280).

Notes on French and English Demonstratives (with Jean-Yves Pollock)

English sentences such as:

(1)   John appreciates that book.

(2)   John appreciates this book.

can both be translated into French as:

(3)   Jean apprécie ce livre. ("Jean appreciates *ce* book")

so that *ce* seems neutral between *that* and *this*. To express the English distinction, French adds *-là* or *-ci*:

(4)   Jean apprécie ce livre-là. ("Jean appreciates *ce* book-there")

(5)   Jean apprécie ce livre-ci. ("Jean appreciates *ce* book-here")

in a way that recalls in part non-standard English:

(6)   John is reading that there book.

(7)   John is reading this here book.

with (6) akin to (4) and with (7) akin to (5).

   The difference in word order, whereby English has *there/here* prenominal in (6)/(7) and French has *-là/-ci* postnominal in (4)/(5), was analyzed by

Bernstein (1997) in terms of a movement operation that in French moves the noun to the left of *-là/-ci*, starting from an English-like order, in a way that recalls the difference between French and English adjective position, as in Cinque (2005; 2010b).

English allows *that* and *this* to occur without any visible noun present, as in:

(8)   John appreciates that.

(9)   John appreciates this.

We take these to involve a silent noun THING (capitals will be used to indicate non-pronunciation), that is, such examples are to be understood as:[1]

(10)   . . . that THING

(11)   . . . this THING

the idea being that demonstratives invariably require the presence of a noun (whether silent or pronounced) and that THING is appropriate for these cases.

Of interest is the fact that the closest French counterparts of (8) and (9) are:[2]

(12)   Jean apprécie cela.

(13)   Jean apprécie ceci.

in which the *-là* and *-ci* of (4)/(5) (though orthographically lacking their hyphen and accent) must appear. It is natural to think that, as in (8) and (9), French (12) and (13) contain THING.:

(14)   . . . ce THING là

(15)   . . . ce THING ci

Of special interest is the fact that *ce* by itself, that is, without either *-là* or *-ci*, is not possible here:

(16)   *Jean apprécie ce.

---

1. Thinking of sentences like:
   i)   He appreciates everything you've done.
   ii)   He doesn't appreciate anything one does for him.

2. There is a third form *ça*, as in:
   i)   Jean apprécie ça.

that we plan to discuss in another chapter.

unless a relative clause is added:[3]

(17)   Jean apprécie ce que tu dis. ("J appreciates *ce* what you say")

The contrast between (16) and (17) recalls:

(18)   *John wants the ones.

(19)   John wants the ones you just mentioned.

    This point of similarity between *ce* and *the* suggests, thinking especially of Leu (2007; 2008), that we should take French *ce* to in fact be a definite article akin to English *the*, with the difference that *ce* is specialized to require co-occurrence with a deictic element (that is, *ce* is restricted to (almost always) occurring within a demonstrative structure, unlike *the*).
    The facts of (16)–(19) can now be understood in terms of the informal generalization given in:[4]

(20)   When a definite article accompanies a light element such as *ones* or THING, there must be an overt (reduced) relative clause present.

3. Close to this is the interrogative example:

    i)   Jean ne sait pas ce que tu as fait. ("J neg knows not the what you have done" = "J doesn't know what you've done")

and the (prepositional) sentential complement example:

    ii)   Jean tient à ce que tu partes. ("J is-anxious to the what you leave" = "J is anxious for you to leave")

both of which may involve relative clauses (cf. Pollock 1992 on (i) and Kayne 2008b on (ii)).
4. A partially separate question is what licenses silent THING. One case of THING with other than a definite article is almost certainly:

    i)   Jean apprécie tout. ("J appreciates all/every")

Why (i) contrasts with:

    ii)   **John appreciates every.
    iii) *John appreciates all.

remains to be worked out, as does the reason for the impossibility of:

    iv) *The which you are saying is unimportant.
    v) *Le que tu dis est sans importance. ("the what you say is without importance")

This characterizes (18) vs. (19) directly. Allowing for the relative to be reduced allows for:[5]

(21)   John wants the ones just mentioned.

(22)   He wants the ones on the table.

Now for (16) to be possible, it would, as in (12)–(15), have to contain THING:

(23)   . . . ce THING

But by (20), this is not possible, since (16)/(23) lacks the required relative (which is correctly present in (17)). On the other hand, (12)–(15) is permitted if *-là* and *-ci* are reduced relatives.[6]

The difference between *ce* and *that/this* seen in (16) vs. (8)/(9) indicates that in English the presence of *that* or *this* in the context of THING is sufficient to meet the requirement imposed by (20). Thinking again of Leu's (2007; 2008; 2015) proposal that demonstratives consist of a definite article plus a deictic element, *that* and *this* are to be understood as:

(24)   th- + -at

(25)   th- + -is

where *th-* is the definite article and *-at* and *-is* are overt deictic elements (bound morphemes corresponding to *there* and *here*) that, by virtue of being reduced relatives, play the crucial role in allowing (8)/(9) to respect (20).

The impossibility of (16) reinforces the idea that in French *ce* itself is not a deictic element capable of playing such a role (but is rather a definite article) and

---

5. Possibly, even these text examples are demonstrative in some sense, given the similarity between:

   i)   The ones that are on the table are not worth reading.
   ii)   Those that are on the table are not worth reading.

From the text perspective, French must have two definite articles (as seems clearly to be the case for the dialect described by Cochet (1933)), namely *ce* and *le* (these are the masculine singular forms). *Ce* appears (almost always) within demonstrative structures, *le* in other definite article contexts.

6. We leave open the question why *ce* does not allow for other types of reduced relative, for example:

   i)   *Jean comprend ce écrit dans ce journal. ("J understands *ce* written in this newspaper")

In all likelihood, (i) is to be related to:

   ii)   ?We appreciate that *(which is) proposed in your paper.

does not itself correspond to a reduced relative. (That *ce* is not deictic at all (just as English *th-/the* is not) is supported by the neutrality of (3) mentioned earlier.[7])

In addition to (16) and (17) falling under (20), so do the following (close French counterparts of (18) vs. (19)):

(26) *Jean veut ceux. ("J wants *ce* them")

(27) Jean veut ceux que tu as mentionnés. ("J wants *ce* them what you have mentioned" = "J wants those that you have mentioned")

Apart from some archaic examples, the impossibility of (16) is representative of all instances of bare object *ce*, whether direct object or prepositional object. Similarly, bare subject *ce* is usually impossible, in contrast with *cela* and *ceci*:[8]

(28) Cela plaît à Jean. ("that pleases to J")

(29) Ceci plaît à Jean.

vs.

(30) *Ce plaît à Jean.

In all of (28)–(30), silent THING is present. In the first two of these, (20) is satisfied by virtue of the presence of the reduced relative *-là* or *-ci*. In (30), on the other hand, (20) is violated, though it can, as expected, be rescued by the addition of a (full) relative:

(31) Ce que tu dis plaît à Jean. ("the what you say pleases to J" = "what you say pleases J")

7. French *-là* is itself closer to neutral than is English *that*. Grevisse (1993, sect. 670) mentions:

  i) Cela/*Ceci vous plaît, les vacances? ("that/*this you please, the vacations")

French even allows:

  ii) Viens là! ("come there")

where English would have:

  iii) Come here!

8. In an extremely literary register of French, the restriction against subject *ce* is lifted in certain ways with post-verbal subject *ce*, even though it remains strong with pre-verbal subject *ce*, as in the text discussion. This post-verbal vs. pre-verbal contrast, which we will not pursue here, recalls discussions of little "pro" in Old French; cf. Adams (1987).

In subject contexts (as opposed to object contexts), though, there is apparently a major exception to (20). Bare *ce* (or its phonologically reduced form *c'*) is possible as the subject of the verb *être* that corresponds to English *be*. There is, for example, a sharp contrast between (30) and the following (with *c'*):

(32)   C'est agréable. ("*ce* is pleasant")

(33)   C'est un homme agréable. ("*ce* is a man pleasant")

(34)   C'est notre ami Jean. ("*ce* is our friend J")

Sentences with *be* and with an unreduced subject *ce* are also possible, for example:

(35)   Ce n'est pas agréable. ("*ce* neg. is not pleasant")

(36)   Ce sera agréable. ("*ce* will-be pleasant")

(37)   Ce n'est pas un homme agréable.

(38)   Ce n'est pas notre ami Jean. etc.

Conversely, sentences like (30) remain impossible with reduced *ce*—even in a phonologically favorable environment (where the verb begins with a vowel), for example:

(39)   *C'évite de travailler trop. ("*ce* avoids to work too-much" = "that avoids working/having to work too much")

(40)   *C'impressionne tous tes amis. ("*ce* impresses all your friends")

The unacceptability of (30) and (39)–(40) can be attributed, as in the discussion of (16), to a violation of (20). The question is why (32)–(38) should behave differently. Our initial answer is that these do not contain THING, and so do not run afoul of (20). This answer leads, of course, to the question why (30) and (39)–(40) must contain THING if (32)–(38) do not need to.

Our answer to this further question is in part that the contrast in French between (32)–(38), with *be*, and (30)/(39)–(40) is related to the special status that *be* has in (certain kinds of) specificational sentences in both English and French. Consider in particular the contrast between:

(41)   This is my friend Bill.

(42)   That's my friend Bill over there.

in which a (superficially) bare *this* or *that* can be linked to a human DP and the following, in which a human antecedent for bare *this* or *that* is not possible:[9]

(43)   This friend of mine often discusses syntax with that *(one).

(44)   That friend of mine often discusses syntax with this *(one).

Against the background of (43) and (44), why, then, are (41) and (42) possible, as well as the following?:

(45)   This is that friend of mine I was telling you about.

in which *this* is linked to *that friend of mine*, contrasting with (44).

    Our answer is as follows. What (43) and (44) show is that bare *this* and *that* cannot co-occur with a silent noun that would, in pro-nominal fashion, take another lexical noun as antecedent:[10]

(46)   * . . . friend . . . that/this FRIEND . . .

In (41), (42), and (45), on the other hand, the initial *this* or *that* is not associated with FRIEND in the same way. Thus (41), for example, is, as a first approximation, not simply to be analyzed as:

(47)   *this FRIEND is my friend Bill

Consequently there will be no violation of the sort seen in (43) and (44).
    To see this more clearly, let us take into consideration:

(48)   John has written three papers this year, but Mary has written five.

9. These sentences are to some extent acceptable without *one* if they have a derogatory reading, which we take to involve *this/that* accompanied by THING, akin to:

    i)   This friend of mine often discusses syntax with that thing (over there).

10. Possible to some extent is:

    i)   The table needs to be repainted, but John says he refuses to paint that again.

arguably with the analysis:

    ii)   . . . table . . . that TABLE THING . . .

in which silent THING plays a crucial role that it cannot do in the text example since *friend* is +human. (Nor, evidently, is PERSON available in the way THING is, for reasons to be elucidated.)

in which, contrary to (43) and (44), English does allow a silent anaphoric noun, without any need for *one(s)*. (In fact (48) does not even allow *ones* following *five*.) A preliminary proposal might be that (48) should "simply" be analyzed as:

(49) . . . three papers . . . five PAPERS

but that would make it hard to understand why French does not allow a direct counterpart of (48):

(50) *Jean a écrit trois papiers cette année, mais Marie a écrit cinq.

French requires there to in addition be a pronominal element *en* present:

(51)   Jean a écrit trois papiers cette année, mais Marie en a écrit cinq.

This *en* (which occupies a clitic position) can be thought of as equivalent to English *of them*, as in the somewhat marginal:

(52)   ?John has written three papers this year, but Mary has written five of them.

This example is modeled on one pointed out years ago to one of the authors by David Perlmutter. His example is more natural:

(53)   I need a taxi. That's too bad. Two of them just went by.

   The existence of (51)–(53), and in particular the need for pronominal *en* in (51), suggests that an improvement on (49) as an analysis of (48) would be (setting aside the question of *of*):[11]

(54) . . . three papers . . . five THEM PAPERS

with a pronoun obligatorily present (though allowed to be silent in English in (48)).[12]

   11. On:

      i) Two of *(them) just went by.

   cf.:

      ii) I just finished the first chapter (*of).

   Probably, the question whether a silent NUMBER is present in *five papers* (cf. Zweig (2006)) is orthogonal to the text proposal that a pronoun is necessarily present in (48)/(54).
   12. The presence of the anaphoric silent noun alongside the pronoun recalls Kayne (1972; 2002a), Kayne and Pollock (2012; 2014), and Uriagereka (1995) on clitic doubling and extensions thereof.

For some/many speakers of English, the plural counterparts of (43) and (44) are acceptable:[13]

(55) These friends of mine often discuss syntax with those.

(56) Those friends of mine often discuss syntax with these.

presumably with an analysis akin to that given in (54), namely:

(57) . . . those/these THEM FRIENDS

Other speakers/varieties of English appear to require *ones* in (55)–(56) (which for some/many speakers is in turn not possible); for those speakers who require *ones* in (55)–(56), (57) must not be admissible. The inadmissibility of (57) for them is matched by the general inadmissibility of (43) and (44) without *one*, which now translates into the general inadmissibility of:

(58) * . . . this/that friend . . . that/this HIM/HER FRIEND

with HIM/HER here corresponding to THEM in (57).

Returning to (41), (42), and (45), we can now propose that the key difference between them and (43) and (44) is that in (41), (42), and (45) there is no pronominal element corresponding to the THEM/HIM/HER of (57) and (58).

Thus (41), repeated here:

(59) This is my friend Bill.

is not to be analyzed as:

(60) *this HIM FRIEND . . . my friend Bill

Nor is the following:

(61) These are my friends Bill and Sam.

to be analyzed as:

(62) *these THEM FRIENDS . . . friends Bill and Sam

Rather than *those papers*, non-standard English has *them papers*, which may (possibly with a silent THOSE present) be showing us such a doubling structure directly; cf. Hestvik (1992).

13. The contrast for some between singular and plural here recalls:

  i) The poor are/*is worthy of support.

contrary to (57), which is the proper analysis for (55)–(56), for those speakers for whom (55) and (56) are acceptable.

Our proposal is that (59)/(41) has a derivation in which, in the spirit of Szabolcsi's (1983; 1994) analysis of possessive sentences,[14] *this* and *my friend Bill* originate as a complex DP that does not contain the verb. That complex DP splits up in the course of the derivation, with *this* ending up in subject position and *my friend Bill* ending up postverbal.[15] Possibly, this splitting up takes place via the extraction of *this*. More likely, a remnant movement derivation is at issue, in which case we would have, with unpronounced copies here represented with capitals:

(63) [this MY FRIEND BILL] is my friend Bill . . . THIS MY FRIEND BILL

The essential difference between (59)/(41), in which *this* and *my friend Bill* are legitimately linked, and (44), repeated here:

(64) That friend of mine often discusses syntax with this *(one).

in which bare *this* cannot be linked to *that friend of mine*, is the one seen by comparing (63) to (58). The essential difference lies in the presence of a pronoun in (58) vs. the lack of corresponding pronoun in (63).

Specificational sentences like (59) are characterized by a derivation in which the two phrases on either side of the copula originate as one. This avoids the need for a pronoun to be present and distinguishes such specificational sentences from run-of-the-mill sentences like (44) in which the two relevant phrases correspond to distinct arguments and do not originate as one complex DP.

Returning to the discussion of French (30)–(40) and to the fact that subject *ce* is possible only if the verb is *be/être*, we see that the generalization in question can more revealingly be understood as:

(65) Subject *ce* is possible only as the subject of a specificational sentence.

The reason that (65) holds has to do with (20), which we repeat here in a form narrowed down to French:

(66) When *ce* accompanies a light element such as THING, there must be an overt (reduced) relative clause present.

---

14. Our proposal also has something in common with Moro's (1997), insofar as the complex DP idea has something in common with his small-clause idea.

15. The text proposal will require revisions in proposals concerning the semantics of this type of specificational sentence (for example, those in Heller and Wolter (2007) and Moltmann (2009)).

Now bare subject *ce* normally requires THING, since demonstratives require the presence of a noun. But in a French specificational sentence like (34), repeated here:

(67) C'est notre ami Jean. ("*ce* is our friend J")

ce does not need to be accompanied by THING, since it is accompanied by the trace/copy of *notre ami Jean*, given the kind of derivation suggested in (63), which transposes to French (67) as:

(68) [ce NOTRE AMI BILL] est notre ami Bill . . . CE NOTRE AMI BILL

Ce is here accompanied by the noun *ami* (or its trace/copy),[16] so no THING is necessary, from which the irrelevance of (20)/(66) follows, thereby correctly allowing (67), in a way that is compatible with the general prohibition against bare subject *ce*.

   This account of (34)/(67) must be extended to the examples (32) and (33), which we repeat here:

(69) C'est agréable. ("*ce* is pleasant")

(70) C'est un homme agréable.[17] ("*ce* is a man pleasant")

Essentially following Pollock (1983), we take (70) to be specificational (and thereby to fit into the previous discussion) without argument, except to note the similarity between (70) and:

(71) Now that's an intelligent woman (for you)!

which seems straightforwardly specificational. Put another way, if we can show that (69) is specificational, then all of (67)–(70) with subject *ce* will be. Consequently, we turn to the more challenging case of (69).

16. *Ce* itself does not agree in number or gender with the head noun:

   i) C'est nos amis. ("*ce* is our friends")
   ii) Ce sont nos amis. ("*ce* are our friends")

This is presumably related to the non-agreement of *ce* in:

   iii) ceux-là ("*ce* them there")

on which, see Kayne (2010a). On the plural verbal agreement in (ii) (and on its impossibility with *ça*), see Pollock (1983).
   17. As discussed in Pollock (1983), this is the normal French counterpart of English *He's a pleasant man*.

Before doing so, however, we note briefly that (70) shares the familiar property of (English and French) specificational sentences to the effect that they are incompatible with small clauses:

(72) *I consider this my friend Bill.

(73) *Je considère ce/ça un homme agréable.[18]

recalling:

(74) *I've always considered my best friend John.

and reinforcing the idea that (70) is an instance of a specificational sentence.
    As for (69), which gives rise in French to pairs like:

(75) Elle est belle, la mer. ("she is beautiful, the sea")

(76) C'est beau, la mer. ("*ce* is beautiful, the sea")

with slightly different interpretations, we propose the following, which has interpretive plausibility and allows taking (69) and (76) to be specificational. Such sentences as (69) and (76) are to be related to sentences like:

(77) C'est quelque chose de beau, la mer. ("*ce* is some thing of beautiful, the sea")

with (76) to be analyzed as:

(78) ce est QUELQUE CHOSE (DE) beau, la mer

in which *quelque chose* is present, but silent.
    Looking back to (67)/(68), we have, for (77) a remnant movement type derivation that yields (setting aside *la mer*):[19]

(79) [ce QUELQUE CHOSE DE BEAU] est quelque chose de beau . . . CE
      QUELQUE CHOSE DE BEAU

18. With certain restrictions, *ça*, another demonstrative form, occurs in sentences like:

    i) Ça n'est pas un homme agréable.

yet is excluded from the corresponding small-clause sentence. We take (i) to be specificational in the same way as with sentences with subject *ce*.

19. Alternatively, as earlier, *ce* might be extracted directly from a constituent of the form "ce quelque chose de beau."
    A third possibility might perhaps be movement of such a large constituent, followed by selective pronunciation of subparts; *cf.* Groat and O'Neil (1996) and for recent discussion Ott (2009).

For (76)/(78), this becomes:

(80) [ce QUELQUE CHOSE DE BEAU] est QUELQUE CHOSE DE beau . . .
      CE QUELQUE CHOSE DE BEAU

  If this proposal for (76) is on the right track, we have a unified account of the exceptions to the generalization that bare *ce* cannot be a subject (or object or prepositional object). The exceptions all have the property that *ce* originates within a post-copula DP constituent, in a way that allows such sentences as (76) to avoid falling under (66), exactly as in the discussion of (67).

  As usual, there remain open questions. Our proposal for (76) does not immediately account for the following contrast:

(81) C'est là quelque chose de beau.

(82) *C'est là beau.

The *là* of (81) is the French counterpart of *there* that we saw earlier in (4) and (12). Given (79) as indicating the derivation of (77), it is essentially certain that *là* in (81) originates within the same post-copula constituent that *ce* originates in, that is, that we start out in the derivation of (81) with something like "ce là quelque chose de beau,"[20] with that derivation subsequently splitting that constituent into three parts. (Possibly, thinking of Kayne (2006a), the presence of overt *là* in (82) interferes with the silence of (the middle instance of) QUELQUE CHOSE in (80).)

  A second, at least partially open question is how best to integrate cases in which *ce* is the subject of auxiliary *be/être*, such as:

(83) C'est arrivé hier. ("*ce* is arrived/happened yesterday")

The most straightforward proposal would be:

(84) ce est QUELQUE CHOSE (DE) arrivé hier

with *arrivé hier* a reduced relative, such that (83) resembles:

(85) That's something that happened yesterday.

  A different kind of question amounts to asking what exactly the relation is between the members of pairs like:

(86) This is John Smith.

  20. A separate question is where exactly the demonstrative elements *ce* and *là* originate within that DP. For recent discussion, see Leu (2007; 2008) and Sybesma and Sio (2008).

(87) My best friend is John Smith.

Put another way, should our proposal for (86), in which *this* originates within the post-copula DP constituent containing *John Smith*, be extended in some fashion to (87)? Of interest here is the fact that an English sentence with a pronoun in place of the proper name in (87):

(88) My best friend is him.

has no direct French counterpart:

(89) *Mon meilleur ami est lui.

Rather, French has:

(90) Mon meilleur ami, *c*'est lui.

which leads to thinking that the acceptable:

(91) Mon meilleur ami est Jean.

contains a silent *ce*, as in:

(92) mon meilleur ami CE est Jean

in which case so might (87), as illustrated in:

(93) my best friend THIS/THAT is John Smith

If so, then the tack we have taken explicitly for specificational sentences like (86) and (90) may have applicability to all specificational sentences.[21]

21. We leave open in this chapter the question where *my best friend* is first merged in such sentences (it might well be à la Moro (1997)), as also the question why object clitics cannot (with one exception) intervene between *ce* and a following verb, as well as the question why *ce* is usually incompatible with raising of the *seem*-type.

Some Thoughts on *One* and *Two* and Other Numerals

1. INTRODUCTION

The term "numeral" is a familiar one.* It gives the impression that *one, two, three* . . . , etc. form a homogeneous class of elements. In this chapter, I will try to show that numerals do not form a homogeneous class, and that there are three major subclasses. Numeral *one* is the only member of its subclass. Numeral *one* is associated with a classifier, and is necessarily accompanied by (a possibly silent counterpart of) *single* or *only*. With *two, three* and *four*, coordinate structures are involved. From *five* on up, a silent counterpart of *set* is necessarily present.

2. ONLY ONE *ONE* (ANTI-HOMOPHONY)

In many languages, what we think of as numeral *one* has the same form as the indefinite article (for example, French *un*). In English, though, what we think of as numeral *one* is distinct in form from the indefinite article *a(n)*. To apparently complicate things further, English prenominal *one* is itself not always numeral-like, as we can see from:

(1)   John has written only one paper this year.

(2)   Mary has just written one hell of a paper.

---

* This chapter is closely based on a talk presented at the Lorentz Center Workshop in Leiden in March 2016.

The numeral interpretation perceived in (1) is absent in (2). Other examples of a similarly non-numeral prenominal *one* are found in:

(3) There's one John Smithfield here to see you.

(4) One day, he'll realize that we were right.

(5) At one time, they were friends.

Perlmutter (1970) took prenominal *one* to be the same element in both (1) and (2). In support of Perlmutter's unified approach to these two instances of *one* is the fact that all of (1)–(5) are equally incompatible with plural nouns:

(6) *He's written only one papers this year.

(7) *She's just written one hell of papers.

(8) *There's one John Smithfields here to see you.

(9) *One days, he'll realize that we were right.

(10) *At one times, they were friends.

The fact that *one* is the same element in (1) as in (2)–(5) can itself be taken to follow from a general principle that bars homophones. The formulation given in Kayne (2016), originating in a discussion of English *there*, was (for languages with an English-type orthography):[1]

(11) If X and Y are functional elements and are homophones, then X and Y cannot have the same spelling.

The appeal to orthography in (11) should be interpreted as a stand-in for an appropriate notion of abstract phonology.[2] For example, (11) allows English to have, as accidental homophones, *to* and *two*, which differ orthographically,

---

1. I am grateful to Thomas Leu for insightful discussion bearing on this question. English *there* at first glance has (at least) four identities:

    i) There's a problem with your analysis. (expletive *there*)
    ii) Don't go there! (locative *there*)
    iii) That there book ain't no good. (deictic *there*, non-standard)
    iv) They spoke thereof this morning. (referential non-locative *there*, productive in Dutch, German)

The proposal in Kayne (2004b; 2016) takes all of (i)–(iv) to be the same element, with the apparent differences traceable to differences in the syntactic environment, including the presence of one or another silent element. The expectation is that all cases of merely apparent homophony will be amenable to similar treatment (as, for example, in Kayne (2010a) on English *that* and French/Italian *que/che*).

2. Cf. Chomsky and Halle (1968, 69, 184n).

but also almost certainly differ phonologically, given the *-w-* in *two*, whose phonological presence is supported by its being pronounced in *twelve, twenty* and *twin*.[3]

It should be further noted that (11) leads to the conclusion that prenominal *one,* in addition to being one and the same element in all of (1)–(5), must be the same element as the *one* of both of the following:

(12)   a blue one

(13)   blue ones

The *one* of (1)–(5) and the *one* of (12)–(13) cannot be accidental homophones.[4]

3. *ONE* IS A DETERMINER

The *one* of (1)–(5) looks like a determiner of some sort. And Perlmutter (1970) and Barbiers (2005; 2007) did take there to be a close relation between prenominal *one* and the indefinite article. Perlmutter (p. 234) more specifically took English to have, as a source for the indefinite article, "a rule which obligatorily converts unstressed proclitic *one* to *an*."[5]

Perlmutter's formulation/rule was not immediately able, as he himself noted, to account for generic-like *a/an*, given the absence of a comparable generic prenominal *one* that would be its source:[6]

---

3. In addition, the non-pronunciation of the *w* in *two* is arguably a consequence of English never allowing word initial /twu . . . / (and similarly for other stop consonants).

The coexistence of *to* and *too* might be linked to their different spelling; alternatively the difference in spelling does not reflect any abstract phonological difference in this case and they are in fact the same element, as may be suggested by a link between *too* and (*in addition) to* (cf. German *dazu* ("there-to")).

4. For evidence supporting this conclusion, see Kayne (2017a).

5. Left open by this reference to stress is the fact that English sometimes allows a stressed indefinite article, as in:

i)   I can't give you the book (you want), but I can give you a book.

in which *a* rhymes with *say*. This stressed *a* does not license NP-ellipsis:

ii)   * . . . but I can give you a.

suggesting that Borer's (2005, 111n) primarily phonological account of the impossibility of (ii) with unstressed *a* is not general enough.

6. I am setting aside the reading in which *one spider* can correspond to *one type of spider*, arguably as "one TYPE OF spider."

Perlmutter suggests that generic *a/an* might perhaps derive from *any one*, but note:

i)   Any/*A spider whatsoever would be able to eat that insect.
ii)   Hardly any/*a spider would eat that insect
iii)   Not just any/*a spider could have done that.

(14)   A spider has eight legs and many eyes.

(15)   One spider has eight legs and many eyes.

The generic-like reading of (14) does not carry over in any exact way to (15).
    The rule that Perlmutter suggested was meant to treat pairs like:

(16)   That was a hell of a paper.

(17)   That was one hell of a paper.

as involving, respectively, an unstressed and a (somewhat) stressed variant of
the same element *a/one*, with the same interpretation. As just noted, the kind
of pairing that holds for (16) and (17) does not hold for (14) and (15). In part
similarly, the intended pairing breaks down for:

(18)   too long a book

which has no counterpart with *one*:[7]

(19)   *too long one book

    A third such problem for Perlmutter's conversion rule lies in:

(20)   a few books

(21)   *one few books

where, again, the indefinite article has no *one* counterpart to serve as a plau-
sible source.
    A fourth problem for the pairing of *a* and *one* can be seen in:

(22)   They're selling one-drawer desks in the back of the store.

(23)   *They're selling a-drawer desks in the back of the store.

in which, this time, pre-nominal *one* is possible, but cannot be replaced by *a/an*.
    Despite these several discrepancies between *one* and *a/an*, I will, in partial
agreement with both Perlmutter and Barbiers, take there to be a significant
relation between *a/an* and *one*, to be broached in the next section.

7. Possibly related to this is:

        i)   a half a day
        ii) *a half one day

    On (i), see Wood (2002).

4. *ONE* IS A DETERMINER ASSOCIATED WITH A CLASSIFIER

Let me try to execute the idea that *a/an* is a reduced form of *one* in a different way from Perlmutter (and Barbiers). Let me start from the generic-like (14) and in particular from the fact that the contrast between (14) and (15) is reminiscent of a fact from Chinese. According to Cheng and Sybesma (1999, 533–534; 2012, 640), a singular classifier in Chinese cannot occur within a generic DP (whether or not *yi* ("a/an/one") is present).[8]

This leads me to think that *one* cannot occur in (15) with the generic-like reading of (14) for the same reason that singular classifiers are excluded from Chinese generic DPs. This leads in turn to the following proposal:

(24)   An English DP with *one* contains a singular classifier.
        (Conversely, an English DP with *a/an* can (perhaps must) lack a classifier.)

The idea that *one* is always associated with a singular classifier has something in common with Perlmutter's idea that *a/an* is a phonologically "reduced form" of *one,* though by reinterpreting the notion of "reduction" as the more specific notion of the absence of a classifier, we are able to formulate an account of (14) vs. (15) that Perlmutter's less specific proposal was unable to do. More specifically put, the phrase *one spider* in (15) must, by (24), be associated with a singular classifier. But, judging from Chinese, singular classifiers are incompatible with generic readings. Therefore, (15) cannot be a generic type of sentence in the way that (14) can be.

5. BACK TO *ONE* AND ITS CLASSIFIER

In Cardinaletti and Starke's (1999) terms, we might try to relate the fact that *one* is associated with extra syntactic material (the singular classifier) to the fact that *one* is morphophonologically "bigger" than *a/an*. We could do this as follows. *One* is to be understood as bimorphemic and in particular as "wv + n," where *wv-* is the classifier and *-n* an indefinite article.[9] The necessary pronunciation of the *n* of *one* even before a consonant, as opposed to the necessary dropping of the *n* of *an* before a consonant, might just be phonology. Or

---

8. Cf. Simpson et al. (2011, 188) on Vietnamese; also Simpson and Biswas (2015, 7) on Bangla.

9. Consideration of?*a whole nother N* might support taking *-n* itself to be an indefinite article, as suggested to me a while back by Thomas Leu (p.c.), with subsequent questions about the status of *a*.

An alternative that I will not pursue here would be to take *one* to be monomorphemic and to co-occur with a silent classifier.

it might also be related to syntax, especially if the order "classifier—indefinite article" ('*wv* + *n*)[10] is produced by leftward movement from a structure in which the indefinite article precedes the classifier.[11]

From this perspective, the additional contrasts (beyond the generic one) mentioned earlier between *one* and *a/an* look as follows. The contrast in:

(25)   a.   We have a few days left.

         b.   *We have one few days left.

could be attributed to a clash between the classifier *wv-* that is part of *one* and the silent noun NUMBER (capitalization will indicate silence) that accompanies *few*.[12] That NUMBER is important here is supported by the existence of similar effects with overt *number*, as seen in:

(26)   a.   We have (only) a small number of days left.

         b.   *We have (only) one small number of days left.

as well as in:

(27)   a.   Mary has written (quite) a number of papers this year.[13]

         b.   *Mary has written (quite) one number of papers this year.

In all of (25)–(27), *number*/NUMBER is not allowed to co-occur with the classifier associated with *one*. In the variants of (25)–(27) with *a*, there is no comparable classifer, just the indefinite article, and so no clash.[14]

As for:

(28)   too long (of) a book

(29)   *too long (of) one book

---

10. Cf. Ghosh (2001, chap. 3) on some Tibeto-Burman having "CLF Numeral Noun" order.

11. Cf. Leu (2015, 116) on German *ein* being moved across.

12. Cf. Kayne (2002b; 2005b); sometimes *few* can be accompanied by overt *number*, as in:

    i)   Of all the students, it's John who's written the fewest number of papers this year.

13. In a rather different interpretation, one can to some extent have:

    i)   ?Mary has written one number of papers, John another.

14. The clash in question may in turn be related to the classifier-like status of *number*/NUMBER itself in these sentences; cf. Liao (2015).

it may be that the classifier in question blocks the preposing of the degree phrase.

Finally, the reverse type of restriction seen in:

(30)   They're selling one-drawer desks in the back of the store.

(31)   *They're selling a-drawer desks in the back of the store.

may be linked to:

(32)   They're real Brooklyn-lovers.

(33)   They're real (*the) Bronx-lovers.

via a prohibition against bare articles appearing within compound-like structures, with *one*'s classifier protecting it, in a way that remains to be spelled out, from this prohibition.[15]

In conclusion, then, *one*, always the same element, is associated with a (singular) classifier in all of its occurrences.

6. NUMERAL *ONE*

By (11), what we think of as numeral *one* must, since it is spelled the same and has the same (abstract) phonology, be the same element as the non-numeral prenominal *one* of (2)–(5) and the same element as the non-prenominal *one* of (12)–(13). Examples of numeral *one* are:

(34)   John has written three papers. Two are on phonology and one is on syntax.

(35)   There are three books on the table. Only one is worth reading.

In allowing its associated noun to remain silent, as in (34) and (35), numeral *one* behaves like other numerals. This may at first seem unsurprising, but Barbiers (2007) has emphasized that *one* is quite different from other numerals in some ways, in particular in not lending itself (in a great many languages) to regular ordinal formation:

15. Why *one* acts differently here from demonstratives remains to be understood. Relevant to the formulation of the prohibition in question is:

   i)   two (beautiful) (*the) seventh inning home runs

vs.

   ii)   ?two (beautiful) top of the seventh inning home runs.

(36)   The first/*oneth chapter is the most interesting.

Similarly, in many Romance languages, *one* is the only numeral that shows agreement in gender. In addition, in French complex numerals that are multiples of 100 (or 1000), *one* is the only numeral that cannot appear, as seen, for example, in:

(37)   deux cents ("two hundred"), trois cents ("three hundred") . . .

(38)   cent

(39)   *un cent ("one hundred")[16]

French also displays a striking asymmetry between *one* and other numerals in that in the additive compound numerals 21, 31, 41, 51, 61, 71, an overt coordinating element *et* ("and") is necessary, for example:

(40)   vingt-et-un livres ("twenty-and-one books")

whereas with 22, 23, . . . 32, 33 . . . no coordinating element appears, for example:[17]

(41)   vingt-deux livres ("twenty-two books")

7. THE ANALYSIS OF NUMERAL *ONE*

It may appear paradoxical that numeral *one* should be the same element as the non-numeral *one* of (2)–(5), repeated here as (42)–(45), insofar as numeral *one* and non-numeral *one* are felt to be distinct:

(42)   Mary has just written one hell of a paper.

(43)   There's one John Smithfield here to see you.

(44)   One day, he'll realize that we were right.

(45)   At one time, they were friends.

16. With 1,000, French has:

   i)   (*un) mille linguistes ("a thousand linguists")

Possible, with a complex numeral containing *one* as a subpart, is:

   ii)   trente-et-un mille linguistes ("thirty and one thousand linguists")

17. Though there may be a silent *et* present, to judge by the obligatory pronunciation of the final consonant of *vingt* in 22, 23 . . .

A proposal that comes to mind that dissolves this paradox is that sentences with numeral *one* such as:

(46)   John has two brothers and one sister.

have the analysis:

(47)   . . . and one SINGLE sister.

with a silent adjective corresponding to *single*.[18] Whereas examples (42)–(45) do not contain SINGLE.

The term "numeral *one*" picks out those instances of *one* that occur in a syntactic context whose overall interpretation lends itself to contrast with other numerals. If (47) is correct, then that context will necessarily include an adjective like *single*/SINGLE. In some cases, *only* is very natural:

(48)   John has two brothers but only one sister.

Silent ONLY might be present in other cases. Whatever the correct details, it seems extremely likely that the language faculty consistently treats numeral 1 as not being a primitive, and that something like (47) will hold for numeral 1 in all languages.

One is in fact in all its guises a complex determiner. It is always associated with a singular classifier. As a numeral, it is in addition accompanied by SINGLE or *single* (and/or by ONLY or *only*).

8. A NOTE ON ORDINALS

The idea that numeral *one* is to be understood as in (47) is in partial agreement with Barbiers's (2005; 2007) claim that *one* is very different from *two* and numerals higher than *two*. He took numeral *one* to be a stressed, focused version of the indefinite article.[19] The present proposal doesn't rely directly on the notion of "focus," using instead the presence of SINGLE.[20]

18. There is a point of similarity here with Borer's (2005, 196) proposal that Hebrew *'exád* ("one") is an adjective interpreted as "single."

In some cases, *one* is natural with a following overt *single*:

   i)   You haven't written one single paper this year.

19. As mentioned in an earlier footnote, this view of *one* faces a challenge dealing with stressed *a*, as in:

   i)   We don't need some chocolates, we need a chocolate.

with *a* pronounced to rhyme with *say*.

20. Presumably, the numerals from *two* on up (perhaps apart from complex numerals having 1 as a subpart) do not (necessarily) involve SINGLE.

As mentioned earlier, Barbiers emphasized the relative systematicity of the cross-linguistic absence of a regularly formed ordinal based on *one*:

(49)   Mary was the first/*oneth linguist to have proposed that.

From the present perspective, the impossibility of *oneth* must reflect the inability of ordinal *-th* to combine with "*one* SINGLE" (and similarly for other languages), as suggested by:

(50)   *the (one) single-th linguist

Why ordinal *-th* differs in this way from the suffixal *-ce* of *once*,[21] which can combine with numeral *one*, as in:

(51)   We've been there only once.

remains to be elucidated.

9. *TWO*: INTRODUCTION AND PROPOSAL

If what we think of as numeral *one* is complex in the way outlined earlier and is not a syntactic (or a semantic) primitive, what about *two* (and *three* and *four* and *five*)?

   In some varieties of English, *two* is paralleled by *both*, in cases like:

(52)   the two of us

(53)   the both of us

Although not as ordinary as (52), (53) seems to be fairly common. Quite a bit less common than (53), though attested, is:

(54)   the both boys

in what appears to be the sense of:

(55)   the two boys

   The point of bringing in *both* here is that *both* also occurs in English with coordination:

(56)   both this book and that book

---

21. On *once*, see Kayne (2014).

A comparable use of *two* is not possible:

(57)   *two this book and that book

   Consider, however, the following proposal. Although impossible in (57), *two* can occur in coordinate structures in a way that partially tracks *both*, but only with coordinated bare indefinites, as in:

(58)   *two book and book

which is itself ill formed, but becomes, in this proposal, well formed if part of the coordinate structure is silent:[22]

(59)   two book AND BOOK

   Now (59) gives the impression that English should allow *two book* rather than *two books*. In fact, English allows both types, depending on the syntactic environment:

(60)   This file cabinet has two drawers.

(61)   This is a two-drawer file cabinet.

In addition some speakers (myself not included) allow:

(62)   You owe us two pound.

   The proposal indicated in (59) should be interpreted as saying that (59) represents the only way in which *two* can combine with a noun. What we think of as simple phrases like *two book(s)* are actually instances of (minimal) coordination.

10. *THREE* AND *FOUR*

There is no word in English that is to *three* as *both* is to *two*:

(63)   both books; both Mary and John

---

22. Or perhaps "two BOOK AND book"; in addition, classifiers will need to be integrated, as will the appearance of the preposition *de* in French in dislocation examples like (cf. Kayne (1975, sect. 2.7):

   i)   Elle en a trois, de frères. ("she thereof has three, of brothers")

   Something like this *de* appears in Moroccan Arabic even without dislocation; cf. Harrell (1962, 206); see also the discussion of Romanian in Kayne (2006b).

(64)   *t(h)roth books; *t(h)roth Mary and John and Susan

Therefore, the preceding discussion of *two* cannot be transposed mechanically to *three*. Let me instead try to get at *three* using *both* itself, in combination with *either*, which in some cases is, like *both*, clearly linked to *two*:[23]

(65)   either of those two/*three books

   Let me begin by constructing a three-argument coordinate counterpart to (56), using *both* and *either*:

(66)   We should hire either Mary or both John and Bill.

This example is reasonably acceptable, and suggests the following picture for *three (books)*, modeled on (59) (and abstracting away from constituent structure):[24]

(67)   three book AND BOOK AND BOOK

Let me assume now that the well-formedness of (67) tracks the acceptability of (66) (even though (67) does not contain an overt *both* or an overt *either*), at least to the extent that the well-formedness of (67), and hence of *three book(s)*, depends on (66) not being strongly unacceptable.
   In the spirit of (67), *four book(s)* can be thought of as:

(68)   four book AND BOOK AND BOOK AND BOOK

whose well-formedness will depend on the (partial) acceptability of:[25]

(69)   ??We should hire both Jim and either Mary or both John and Bill.

Similarly, *five book(s)* would potentially be:

(70)   five book AND BOOK AND BOOK AND BOOK AND BOOK

   23. As are suffixes indicating dual number, which at least in some languages seem clearly to be related to numeral "two" itself; cf. Harlow (2006, 111) on Maori and Pearce (2015, 24) on Unua.
   24. Following Kayne (1981d; 1994), I take coordination to be built solely on binary branching structures.
   25. Gertjan Postma (p.c.) notes that the following is more acceptable than the text example:

   i)   We should hire either both John and Bill or both Mary and Sue.

with the well-formedness of (70) depending, however, on whether or not the following is acceptable at all:

(71)　　*We should hire either Ann or both Jim and either Mary or both John and Bill.

It seems to me that there is a sharp dropoff in acceptability from (69) to (71).[26] I conclude, needless to say, not that *five book(s)* is impossible, but rather that *five book(s)* does not and cannot have a coordinate-like derivation of the sort that is arguably available to *two book(s), three book(s)* and (to some extent) *four book(s)*.

If so, then the smooth generation of the set of natural numbers via Merge that was suggested by Chomsky (2008) (and Watanabe (2017)) is not appropriate for the language faculty, at least not for the case in which numerals are associated with nouns or noun phrases. (Conceivably, the language faculty might have a distinct counting mechanism, though that would depend on the non-obvious assumption that in counting there is no silent noun or noun phrase present.)

11. *FIVE* AND UP

One might wonder if smooth generation via Merge could hold for *five* and above even if not appropriate for the entire set of numerals. Let me address this question by jumping to *ten* and to the notion of numerical base.

Surely one of the most striking things about numerals in languages like English is how few there are that are monomorphemic. If the first part of this chapter is on the right track, then *one* may well not be monomorphemic. *Two* may not be, either, if *tw-* is one morpheme (as seems virtually certain, given *twelve, twenty, twin*) and if *-o* is another. That leaves the numerals from *four to ten* as very likely to be monomorphemic,[27] plus *hundred* and *thousand*. (*Twelve* is almost certainly not, given *tw-; eleven* is less clear, but the *-el(e)v-* that it shares with *twelve* suggests that it, too, may not be monomorphemic.)

---

26. The deviance of the latter might perhaps, depending on its exact constituent structure, be linked to Chomsky and Miller's (1963) discussion of center embedding. For relevant discussion of the constituent structure of coordination, see den Dikken (2006b). For a possible alternative to Chomsky and Miller (1963), see Kayne (2000a, part III).

Sentences like *We should invite either J or M or S or A or P or . . .* may involve sentential, rather than DP, coordination.

Luigi Rizzi (p.c.) raises the additional possibility that the cutoff between 3 and 5 might be linkable to subitization vs. counting, as discussed in Dehaene (2011).

27. Guglielmo Cinque points out (p.c.) that the bimorphemic character of *three* may be supported by *thrice, thirteen, thirty*, all of which lack the *-ee* of *three*.

(*Million, billion, trillion* and the imprecise *zillion* suggest factoring out *-illion*, in which case none of them are monomorphemic, either.)

There are, then, approximately ten monomorphemic numerals. Why are there so few? A partial answer is that English has, starting at least with 13, composite numerals such as 423, based on addition and multiplication and powers of 10, instead of having a larger number of monomorphemic numerals. But why does English (and similarly for many other languages) have recourse to such composite numerals so soon? Why does it not wait until 100, say? Part of the answer to this question must be related to the discussion earlier, to the effect that the coordinate strategy is available only as far as (*three* or) *four*.

Another part has to do, I think, with the question of the linguistic instantiation of the notion "numerical base." In earlier work,[28] I suggested that in a language in which the base is 10 (and similarly for languages with a different base), any multiple or power of 10 must have 10 (or that power of 10) accompanied by a silent counterpart of the noun *set* (silence will again be indicated by capitalization). Thus 306 is:

(72)   three hundred SET and six

to be understood as "three hundred-sets and six" or as:

(73)   three sets of a hundred, plus six

In, say, 76, we have:

(74)   seven ty SET AND six

in which *ty* is a form of 10 and *and* is silent, in addition to *set* being silent. (74), that is, 76, is then to be understood as:

(75)   seven sets of ten, plus six

When there is no "and"-component to the numeral, we have, say for 70:

(76)   seven ty SET

understood as:

(77)   seven sets of ten

and we call these "round numbers."[29]

---

28. Cf. Kayne (2006b).
29. In English, this term extends to additive numerals whose last part is "round," for example, 350.

12 SEMI-ROUND NUMBERS

Let me now jump to the hypothesis that there is a linguistically significant notion of semi-round number, based on half the numerical base. The semi-round numbers in English and in other languages with base 10 are, then:

(78)   5, 15, 25 . . .

That semi-round numbers have a special status is supported by facts from French, which has a robust use of approximative expressions that correspond to some extent to English *hundreds of books*, which French readily allows in the singular:[30]

(79)   une centaine de livres ("a 100-aine of books" = "a hundred or so books")

(80)   une soixantaine de livres ("a 60-aine of books" = "sixty or so books")

   The French numerals from 11 through 16 are arguably additive:

(81)   onze, douze, treize, quatorze, quinze, seize

with 10 expressed by the suffix *-ze*. If we abstract away from the special case of 12 (*douze*, special in English, too, given *dozen*), we can note a clear difference between semi-round 15 and its neighbors:

(82)   une quinzaine ("a 15-aine")

(83)   *une treizaine, *une quatorzaine, *une seizaine

With 15, the *-aine* form is straightforwardly acceptable as an approximative, as opposed to 13, 14, and 16.
   Semi-round numbers thus have a special status. In languages with 10 as a numerical base, 5 and odd multiples of 5 (as in (78)) will have this special status. Let me now generalize the relevance of silent SET discussed earlier, as follows:[31]

(84)   All round and semi-round numbers (and only those) are associated with
       silent SET.

30. Though additive numerals in which the larger component comes first (for example, in English *thirty-one* vs. *thirteen*) are subject to a restriction in French (brought to my attention by Michal Starke (p.c.)) that prohibits adding *-aine* to them (with the exact range of cases varying depending on the speaker):

   i)   *une centdizaine de livres ("a 110-aine of books")
   ii) *une vingtcinquaine de livres ("a 25-aine of books")

31. Silent SET is to be kept distinct from the silent NUMBER discussed in section 5 earlier. For discussion relevant to whether NUMBER co-occurs with (some) numerals, see Zweig (2006).

This formulation is intended to cover 10 and 5 themselves, as well as higher multiples of 10 and 5.

If (84) is correct, then we find ourselves with an abrupt transition between 4 and 5. The numeral 4 has an analysis involving coordination, along the lines of (68). The numeral 5 does not have an analysis involving coordination. 5 is rather "5 SET." (And 4 is not "*4 SET," since 4 is not round or semi-round.)

13. SEMI-ROUND VS. UNROUND

In a language with numerical base 10, there will thus be a semi-round vs. unround distinction between 5 (semi-round) and 4 (unround). This brings to mind the well-known morphological case distinction found in Russian between 2,3,4 on the one hand, and 5,6,7 . . . on the other.[32] With 5 and above,[33] the associated noun shows genitive plural, whereas with 2, 3, and 4, there is different case morphology, often called genitive singular. From the present perspective, we can say as a first approximation that Russian has genitive plural if the numeral is associated with SET.

Many French speakers make a similar cut with *tous* ("all"), in cases like the following (as already noted by Grevisse and Goosse (2011, §660bis)):[34]

(85)   Tous deux/trois/quatre/*cinq ont réussi. ("all 2/3/4/*5 have succeeded")

For such speakers *tous* plus numeral is possible only in the absence of SET. (English readily allows *all five/seventeen of us*, in a way possibly related to *all five/seventeen books* vs. French **tous trois livres* ("all three books").)

English has something similar in:

(86)   twosome, threesome, foursome, *fivesome

with "numeral + *-some*" possible again only in the absence of SET. For many speakers, there is also the fact that the series:

(87)   bilingual, trilingual, quadrilingual

stops with 4. In addition, the denominator of fractions has an irregular form (without *-th*) only with 2, 3, 4:

(88)   one half, one third, one quarter

32. For recent relevant discussion, see Pesetsky (2013).
33. 6 will now be "5 SET AND ONE," with questions arising as to how the pieces are spelled out, and similarly for 7, 8, 9.
34. Cf. Postma (2015) on Dutch.

14. CUTOFFS NEAR 4 VS. 5

On the other hand, there are French speakers who make the cutoff in (85) between 3 and 4, that is, who accept *tous trois* but not *tous quatre*. This recalls English:

(89)   once, twice, thrice, *fice

A cutoff between 3 and 4 (in a language with base 10) cannot be due solely to the presence vs. absence of SET, but must presumably involve some further sensitivity to complexity-like distinctions of the sort illustrated by the full acceptability of (66) vs. the lesser acceptability of (69). The same holds for cutoffs between 2 and 3, as in colloquial English having only *once* and *twice*, but not *thrice*,[35] and similarly for:

(90)   half the books; *third the books

as well as for the earlier mentioned:

(91)   both books; *t(h)roth books

15. LANGUAGES WITH FEW NUMERALS

Distinctions of the sort seen in (85)–(91), as well as the Russian one alluded to briefly, recall the fact that some languages, such as Mundurucu,[36] have few numerals. From the present perspective, such languages (for reasons that remain to be elucidated) lack numerals based on silent SET, and lack a corresponding numerical base, though they appear to have numerals based on the coordination-related syntax seen earlier with 2, 3, 4.[37]

---

35. Though there is a clear difference between:

i)   ?a thrice-held conference

and:

ii)   *a conference that has been held thrice

36. Cf. Pica et al. (2004). On the question whether Mundurucu has number words that are exact, see Izard, Pica, Spelke, and Dehaene (2008) and Pica and Lecomte (2008).

37. Pica and Lecomte (2008) emphasize the relevance of coordination (and reduplication) for Mundurucu numeral expressions.

16. OTHER SPECIES

Hauser, Chomsky and Fitch (2002, 1577) mention the existence of a precise number sense in non-human animals that is limited to 1, 2, 3, 4. This limitation recalls the distinctions discussed earlier, both for languages like Mundurucu and within English-type languages, between low numerals and the higher ones starting with 5. This point of similarity between non-human animals and human language suggests in turn that some non-human animals may have coordination-like derivations of low numerals, of the sort alluded to in the discussion of (56)–(71). If so, then those non-human animals must have access to Merge.[38]

The fact that non-human animals seem to lack other aspects of human language might then be attributed to their lacking verbs and other categories that take arguments. They could still have (simple) nouns as objects of coordination, if Kayne (2008b) is correct to take nouns never to have arguments of any sort.[39]

17. CONCLUSION

Phrases of the form "numeral + noun" never involve direct merger of numeral and noun. In every case, derivations are more complex than that. With *one*, there is, in addition to a classifier, the necessary presence of *single/only*, whether pronounced or silent. With 2–4, coordinate structures are involved. With 5 on up, silent SET is necessarily present (in addition to whatever structure is required to express addition and multiplication and powers of the numerical base).

38. Cf. Rizzi (2016).
39. It would suffice for this point if some nouns lacked arguments. In addition, the status of *and* itself needs to be clarified.

English *One* and *Ones* as Complex Determiners

1. INTRODUCTION

Perlmutter (1970) took prenominal *one* to be the same element in both of the following:

(1)   John has written only one paper this year.

(2)   Mary has just written one hell of a paper.

despite the fact that the numeral interpretation perceived in (1) seems to be absent in (2). Other examples of a similarly non-numeral pre-N *one* are found in:

(3)   There's one John Smithfield here to see you.

(4)   One day, he'll realize that we were right.

In support of Perlmutter's unified approach to these two types of *one* is the fact that all are equally incompatible with plural nouns:

(5)   *He's written only one papers this year.

(6)   *She's just written one hell of papers.

(7)   *There's one John Smithfields here to see you.

(8)   *One days, he'll realize that we were right.

In this paper I will attempt to extend a unified approach to *one* to encompass, in addition, the *one* of:

(9)   I have a red car and you have a blue one.

despite the fact that this *one* is compatible with a plural:

(10)   I have red cars and you have blue ones.

That this attempt has initial plausibility comes from a point made by Llombart-Huesca (2002, 60), to the effect that the *one* of (9) and (10) shares with the *one* of (1)–(4) an incompatibility with mass nouns. Parallel to (1)–(4) we do not have:

(11)   *He lost only one blood in the accident.

(12)   *You've just had one hell of fun.

(13)   *There's one Domino Sugar all over the table.

(14)   *One money, (and) you'll succeed

Nor, parallel to (9) or (10) do we have:

(15)   *I like red wine and you like white one.

(16)   *She's had good luck but he's had bad one.

The fact that plural *ones* is possible in (10) will turn out, as I will try to show, not to be incompatible with taking the *one* of (9), as well as the *one* of (10), to be essentially the same as the *one* of (1)–(4).

2. *ONE* IS NOT A NOUN

The *one* of (1)–(4) looks like a determiner of some sort. But the *one* of (9) and (10), especially insofar as it is post-adjectival, looks at first glance like a noun, and in that sense looks quite unlike determiner *one*. If the *one* of (9) and (10) were really a noun, though, it would have to be recognized as an extremely odd one, since, unlike ordinary nouns, it cannot be a bare plural:[1]

1. Cf. Stirling and Huddleston (2002, 1515) and Payne et al. (2013, 798, 812).
Payne et al. (2013, 812) suggest that bare *ones is "preempted by . . . some." This does not seem descriptively correct (quite apart from the absence of a clear notion of preemption). Consider, for example:

    i)   Bicycles have wheels and unicycles have wheels/*ones, too.

(17) *I have cars and you have ones, too.

Similarly, there is to a large extent no completely bare *a one*:[2]

(18) *I have a car and you have a one, too.

which would be surprising if *one* were a noun. In addition, as noted by Llombart-Huesca (2002, 61), *one* cannot be immediately preceded by a numeral in sentences like:[3]

(19) *You have three cars but I only have two ones.

in which respect *one* is again behaving in an un-noun-like fashion. The conclusion must be, in agreement with Llombart-Huesca (2002, 62),[4] that the *one* of (9) and (10) is not a noun.

3. *ONE* IS A DETERMINER

If *one* is never a noun, then a unified approach to all instances of *one* will lead to the conclusion that *one* is in all cases a determiner, just as it is in (1)–(4). In which case, the phrase *a blue one* in (9) must contain two determiners. Furthermore in:

(20) We have only one blue one.

one blue one must contain two determiners that are identical in form.

Here, *ones* is bad, as usual, but *some* is inappropriate:

　　ii) ? . . . and unicycles have some, too

with (ii) rather having the status of:

　　iii) ? . . . and unicycles have some wheels, too.

2. In standard English as opposed to the dialects discussed in McDonald and Beal (1987, 48), Beal et al. (2012, 57). Stirling and Huddleston (2002, 1513n) give *You're a one!* as idiomatic. (It would be of interest if these exceptions had no counterpart with plural *ones*.) The general impossibility of bare **a one* was noted by Perlmutter (1970, 236).

3. As noted by Perlmutter (1970, 236) and Lakoff (1970, 630). Halliday and Hasan (1976, 97) say that one hears *two ones* especially in children's speech; this needs to be looked into. As does the fact that a Google search yields a number of examples with completely bare *ones*, which may point to the existence of an as yet unstudied variety of English.

4. Llombart-Huesca's arguments were not taken into account by Payne et al. (2013).

This conclusion, to the effect that English allows two (sometimes identical) indefinite determiners in what looks like one DP is less surprising than it might appear, given the existence in some English (for example, mine) of:[5]

(21)   It'll take us a half a day to finish that job.

in which *a half a day*, with two identical determiners, is perfectly natural. Similarly, Wood (2002) had noted, for some English (in this case, not mine):[6]

(22)   a such a wonderful book

4. *ONE* AND *A/AN*

Of course, there is a discrepancy between (21) and (22), which contain two instances of the indefinite article *a/an*, and (20), which contains two instances of *one*. But this discrepancy is arguably a relatively minor one, in particular if interpreted against the background of Perlmutter (1970) and Barbiers (2005; 2007), both of whom argue in favor of a close relation between prenominal *one* and the indefinite article. Perlmutter (p. 234) more specifically took English to have, as a source for the indefinite article, "a rule which obligatorily converts unstressed proclitic *one* to *an*."[7]

Perlmutter's formulation/rule was not immediately able, as he himself noted, to account for generic-like *a/an*, given the absence of a comparable (stressed) generic prenominal *one* that would be its source:[8]

5. Cf. also the multiple definite articles of Greek, as discussed by Alexiadou and Wilder (1998), among others.

6. Schibsbye (1970, 285) had noted *a half a dozen eggs*. Probably also belonging here are *a helluva good show* and *a gem of a film*. On other Germanic languages, see, for example, Barbiers (2005, 170) and Wood (2013) and references cited there.

7. Left open by this emphasis on phonology is the fact that English sometimes allows a stressed indefinite article, as in:

   i) I can't give you the book, but I can give you a book.

in which *a* rhymes with *say*. This stressed *a* does not license NP-ellipsis:

   ii) * . . . but I can give you a.

suggesting that Borer's (2005, 111n) primarily phonological account of the impossibility of (ii) with unstressed *a* is not general enough.

8. He suggests generic *a* might perhaps derive from *any one*, but note:

   i) Any/*A spider whatsoever would be able to eat that insect.
   ii) Hardly any/*a spider would eat that insect
   iii) Not just any/*a spider could have done that.

(23)   A spider has eight legs and many eyes.

(24)   One spider has eight legs and many eyes.

The generic-like reading of (23) does not seem to carry over to (24).
   The rule that Perlmutter suggested was meant to treat pairs like:

(25)   That was a hell of a paper.

(26)   That was one hell of a paper.

as involving, respectively, an unstressed and a (somewhat) stressed variant of
the same element *a/one*, with the same interpretation. As just noted, the kind
of pairing that holds for (25) and (26) does not hold for (23) and (24). In part
similarly, the intended pairing breaks down for:

(27)   too long a book

which has no counterpart with *one*:

(28)   *too long one book

   A third such problem for Perlmutter's conversion rule lies in:

(29)   a few books

(30)   *one few books

where, again, the indefinite article has no *one* counterpart to serve as a plau-
sible source.
   A fourth problem for the pairing of *a* and *one* can be seen in:

(31)   They're selling one-drawer desks in the back of the store.

(32)   *They're selling a-drawer desks in the back of the store.

in which, this time, prenominal *one* is possible, but cannot be replaced by *a/an*.
   Despite these several discrepancies between *one* and *a/an*, I will, in partial
agreement with both Perlmutter and Barbiers, take there to be a significant
relation between *a/an* and *one*, to be spelled out in the next section.

5. *ONE* IS A COMPLEX DETERMINER CONTAINING A CLASSIFIER

Let me execute the idea that *a/an* is a reduced form of *one* in a different way
from Perlmutter (and Barbiers). Let me start from generic-like (23) and (24)

and in particular from (23) vs. (24) being reminiscent of a fact from Chinese. According to Cheng and Sybesma (1999, 533–534; 2012, 640), a singular classifier in Chinese cannot occur within a generic DP (whether or not *yi* ("a/an/one") is present).[9]

This leads me to think that *one* cannot occur in (24) with a generic-like reading for the same reason that singular classifiers are excluded from Chinese generic DPs, which in turn leads to the following proposal:

(33) An English DP with *one* contains a singular classifier.
      (Conversely, an English DP with *a/an* can (perhaps must) lack a classifier.)

That *one* is associated with a singular classifier, while *a/an* is not, is close to Perlmutter's idea that *a/an* is a "reduced form" of *one,* though by expressing the notion of "reduction" in terms of the more specific notion of the presence vs. absence of a classifier, we can formulate an account of (23) vs. (24) that Perlmutter's less specific proposal was unable to do. More precisely put, the phrase *one spider* in (24) must, by (33), contain a singular classifier. But, judging from Chinese, singular classifiers are plausibly incompatible with generic readings. Therefore, (24) cannot be a generic type of sentence in the way that (23) can be.

In Cardinaletti and Starke's (1999) terms, we might want to go further and relate the fact that *one* is associated with extra syntactic material (the singular classifier) to the fact that *one* is (arguably) morphophonologically "bigger" than *a/an*. We can do this as follows. *One* is to be understood as bimorphemic and in particular as "w- + an," where w- (as I will write it) is the classifier and *an* the indefinite article.[10] The difference in vowel quality between *one* and *an* might be due to independent properties of English phonology, perhaps involving (in part) stress. The necessary prononciation of the *n* of *one* even before a consonant, as opposed to the necessary dropping of the *n* of *an* before a consonant, might again just be phonology. Or it might also be related to syntax, especially if the order "classifier—indefinite article" ('w- + an; cf. Ghosh (2001, chap.3) on some Tibeto-Burman having "CLF Num N" order) is produced by leftward movement from a structure in which the indefinite article precedes the classifier.[11]

From this perspective, the additional contrasts (beyond the generic one) mentioned earlier between *one* and *a/an* look as follows. The contrast in:

(34) We have a/*one few days left.

9. Cf. Simpson et al. (2011, 188) on Vietnamese; also Simpson and Biswas (2015, 7) on Bangla.
10. An alternative that I will not pursue might be to take *one* to be monomorphemic and to co-occur with a silent classifier.
11. Cf. Leu (2015, 116) on German *ein* being moved across.

can be attributed to a clash between the classifier *w-* that is part of *one* and the silent noun NUMBER (capitalization will indicate silence) that accompanies *few*,[12] in a way that is parallel to:

(35)   We have (only) a/*one small number of days left.

as well as to:

(36)   Mary has written a/*one number of papers this year.

In all of (34)–(36), *number*/NUMBER is not allowed to co-occur with the classifier contained in *one*. In the variants of (34)–(36) with *a*, there is no comparable classifer, just the indefinite article, and so no clash. (The clash in question may in turn be related to the classifier-like status of *number*/NUMBER itself in these sentences; cf. Liao (2015).)

As for:

(37)   too long (of) a/*one book

it looks like the classifier that is part of *one* blocks the preposing of the degree phrase (I return to (37) later).

Finally, the restriction seen in:

(38)   They're selling one-drawer/*a-drawer desks in the back of the store.

may be linked to:

(39)   They're real Brooklyn-lovers.

(40)   They're real (*the) Bronx-lovers.

via a prohibition against bare articles appearing within compound-like structures, with the classifier contained in *one* protecting it, in a way that remains to be spelled out, from this prohibition.[13]

---

12. Cf. Kayne (2002b; 2005b).
13. Why *one* acts differently here from demonstratives remains to be understood. Relevant to the formulation of the prohibition in question is:

    i)   two (beautiful) (*the) seventh inning home runs

    vs.

    ii) ?two (beautiful) top of the seventh inning home runs.

6. ENGLISH *ONES*, SPANISH *UNOS* AND FRENCH *UNS*

If *one* is a complex determiner (containing two subparts, namely a classifier and an indefinite article),[14] then *ones* in examples like:

(41)   They have blue ones.

must be an even more complex determiner with (at least) three subparts, namely a classifer, an indefinite article and plural -*s*. An immediate objection might be that *ones* cannot be followed by an overt noun, as seen in:

(42)   *They have blue ones cars.

unlike more familiar determiners.

    This objection to the determiner status of *ones* is weaker than it looks, for two kinds of reasons. The first has to do with the fact that Spanish allows sentences like:

(43)   Yo tengo unos libros. ("I have some/a few books")

in which the noun *libros* is preceded by a determiner *unos* that resembles English *ones*.[15] Both *unos* and *ones* contain a plural -*s*. In addition, *uno* (or *un* or *una*) is the Spanish counterpart of English numeral *one* and often of the English indefinite article *a/an*, which we saw earlier to be closely related to *one*. Without saying that *unos* and *ones* are identical in composition (whether *unos* (sometimes) contains a classifier is unclear), the similarity between *unos* and *ones*, combined with the fact that *unos* is followed by an overt noun in (43), shows that the language faculty does not systematically frown on determiners of the *ones* type.

    Of course we would also like to understand why *unos* and *ones* differ in certain ways, for example, in (42) vs. (43) with respect to whether they can be followed by an overt N. A possibility that comes to mind is that (42) is excluded in English for the same reason (whatever it is) that an adjective cannot be followed by plural -*s* if it is also followed by an overt N:

(44)   They have other(*s) cars.

If so, then we have at the same time an account of the contrast between (41) vs. (42), which now reduces to the contrast between (44) and (45).

(45)   They have other*(s).

---

14. On the complexity of (most) determiners, see Leu (2015).
15. As noted by Jespersen (1961b, sect. 10.12).

If we set aside demonstratives,[16] plural -*s* in English has the property that it cannot be followed by an overt noun (within the relevant DP[17]), as seen in both (42) and (44). In some cases, as in both (41) and (45), deleting the overt N makes plural -*s* possible.

Spanish plural -*s* can, on the other hand, readily be followed by an overt noun, as in:

(46)   buenos libros ("good books")

(47)   muchos libros ("many books")

as opposed to English:

(48)   good(*s) books

(49)   many/*manies books

so the well-formedness of (43) is not surprising.

A second difference between *unos* and *ones* lies in the fact that *unos* cannot be immediately preceded by an adjective in the way that *ones* can be in (41):

(50)   *Yo tengo buenos unos (libros). ("I have good some/a few (books)")

This is not specific to plural *unos*; it also holds for singular *un(o), una*, even in those cases where English allows *a/an* to be preceded by an adjective (and a degree word):

(51)   You have too big a house.

(52)   *Tú tienes demasiado gran(de) una casa.

This property of the Spanish indefinite article appears to hold quite generally across Romance languages. Whatever turns out to underlie it, it seems likely that it will not affect the relevance of *unos* to *ones*, that is, the fact that the existence of *unos* lends plausibility to the determiner status of *ones*.

French *uns* differs from Spanish *unos* in that French *uns* cannot be immediately followed by an overt noun (and in that way resembles English *ones*). French has:

(53)   Les uns sont partis, les autres sont restés. ("the ones are left, the others are stayed")

16. If the final consonant of *these* and *those* is the plural -*s*, then demonstratives fall outside the text statement (cf. Kayne (2010a)). Alternatively, Bernstein (2015) has argued that the final consonant in *these* and *those* is a genitive -*s*.

17. In *students that age*, there is probably a silent preposition intervening between *students* and *that age*.

but not:

(54) *Les uns enfants sont partis, les autres (enfants) sont restés.

Adding (non-appositional) *enfants* ("children") to *les uns* in (53) is not possible. *Uns* is also possible in French in:

(55) Quelques-uns sont tombés. ("some ones are fallen")

Again, adding a noun like *livres* ("books") is not possible:

(56) *Quelques-uns livres sont tombés.

What French adds to the discussion can be seen in:

(57) Jean a mis quelques livres sur la table. ("J has put some books on the table")

(58) *Jean a mis quelques-uns sur la table.

Quelques-uns is possible as a preverbal subject in (55), but not as a postverbal object in (58), and in this respect differs sharply from "*quelques* + overt noun," as seen in (57), suggesting that *uns* is not a noun, just as *ones* is not (and *unos* is not), if the discussion so far is on the right track.

What *uns* is, is a (complex) determiner (*un* + *s*), with *un* an indefinite article/numeral and *-s* a plural morpheme. This is indirectly supported by the fact that (55) vs. (58) is a contrast found quite generally with indefinite determiners in French (and Italian), for example:

(59) Trois sont tombés. ("three are fallen")

(60) *Jean a mis trois sur la table. ("J has put three on the table")

with both (58) and (60) requiring the addition of clitic *en* ("of them/thereof"):[18]

(61) Jean en a mis quelques-uns sur la table.

(62) Jean en a mis trois sur la table.

The parallelism between *trois* and *quelques-uns* seen in (55)–(62) supports taking *quelques-uns* to be a (highly) complex determiner of which determiner *uns* is a subpart. In no way, apart from the very presence of *-s*, does *uns* in

18. On *en* corresponding most closely to English *thereof*, see Kayne (2004b). On the subject-object asymmetry at issue in the text, see Pollock (1998).

French act like a (plural) noun. Indirectly, then, French *uns* increases the likelihood that it is correct to take English *ones* not to be a noun, but rather a determiner.

7. DEFUSING THE OBJECTION. PART II

The possible objection to the determiner status of *ones* based on the impossibility of (42), repeated here:

(63)   *They have blue ones cars.

in addition to being weakened by the considerations of the previous section concerning Spanish *unos* and French *uns*, is further weakened by the observation that the contrast between (63) and (64):

(64)   They have blue ones.

is not specific to English *ones*. What I have in mind involves French interrogative *quel* (plural *quels,* for masculine gender), a close counterpart of English *which,* as in:

(65)   Which linguists have you invited?

(66)   Quels linguistes as-tu invités?

If the lexical noun modified by *which* or *quels* is silent, we have:

(67)   Which have you invited?

(68)   Lesquels as-tu invités?

English seems straightforward, but in French, in (68), instead of *quels,* we get *lesquels,* which is the definite article *les* followed by *quels. The link to *ones* rests on the contrast between (68) and:

(69)   *Lesquels linguistes as-tu invités?

French interrogative *lesquels* is like *ones* in disallowing an immediately following overt N (within the same DP), that is, (69) is parallel to (63) (and (68) to (64)). To the extent that *(les)quels* is, as seems clear, a complex determiner and not a noun (any more than English *which* is), we have indirect evidence that *ones*, too, is a complex determiner and not a noun.

8. DERIVATIONS

The question arises as to how to best understand this common behavior of *ones* and *lesquels*. Let me begin with (69) vs. (68), which seem to differ only in that (69) has a lexical noun *(linguistes)* while (68) has a silent noun. That difference does not by itself account for the difference in acceptability between (69) and (68). Consider, then, the proposal in Kayne (2006a) to the effect that a silent noun does not end up in the same position as its pronounced counterpart. In that spirit, let us take *lesquels* in (68) to be, not "les quels NOUN," but rather:[19]

(70) [les NOUN] quels

Assume further that (70) must be derived from:

(71) quels [les NOUN]

by leftward movement of "*les* NOUN," so that a fuller variant of (70) (and (68)) is:

(72) [les NOUN] quels < [les NOUN] >

In other words, the definite article *les* can come to precede interrogative *quels* in (68) only via movement (internal merge). Assume more specifically that this movement operation reflects the noun in question needing to reach a position in which it will not be pronounced.[20] If so, then, if the noun is not silent, the movement operation in question will not take place. In which case, *les* will not come to precede interrogative *quels*.[21] That will exclude (69), as desired.[22]

Along the lines just sketched, consider the following approach to (63) vs. (64), repeated here:

(73) *They have blue ones cars.

(74) They have blue ones.

Ones is a complex determiner. The adjective *blue* here modifies *cars* or, in (74), its silent counterpart CARS. In (73), *blue* is not adjacent to *cars*, contrary to

---

19. This differs in part from Kayne (2008a, sect. 7).
20. There might also be a link here to Kayne's (2002a) idea that antecedents need to be reached via movement.
21. Why *lesquels* acts differently in non-restrictive relatives remains to be understood. Cf. Grevisse and Goosse (2011, §619).
22. A remaining question is why French does not then allow:

    i)   *Quels les linguistes as-tu invités?

expectations. Put another way, (73) shows an "Adj Det N" order, rather than the expected (for English) "Det Adj N" order. This is, I think, part of the reason for (73)'s unacceptability.

The challenge is then to simultaneously understand the contrasting acceptability of (74). In the spirit of Hendrick's (1990) analysis of *too big a car*, and in line with (72), let me take (74) to have a derivation reflected in:

(75)   [blue CARS] ones < [blue CARS] >

in which "[blue CARS]" moves past "ones," starting from the expected "Det Adj N" configuration.[23] As in the case of (72), the movement in question will be linked to the (ultimate) silence of the noun, so that it could not apply to "ones [blue cars]" to yield:

(76)   *They have blue cars ones.

any more than it could apply to yield (73). As for the impossibility of:

(77)   *ones blue cars

it may be that in English (vs. Spanish *unos*) there is a problem with the two instances of plural *-s*. As for:

(78)   *one (blue) cars

it may "simply" be a question of agreement.[24] In any event, there is now a key similarity between (74) and the equally acceptable:

(79)   They have too blue a car.

insofar as both have an adjective preceding a determiner.

---

23. Cf. Greenberg (1966) and Cinque (2005), though neither attempted to integrate articles. A separate question is whether their "Dem Num Adj N" reflects external merge alone, or whether internal merge is also involved. See also Shlonsky (2004).
Barbiers (2005, 172) has the idea that DP moves, triggered by focus, to spec of *one* in Northern Brabantish, in a partially similar way.
24. With a possible link to:

   i)   A group of three/?two students is waiting in your office.
   ii)   *A group of one student is waiting in your office.

and/or to:

   iii)   all three of Mary's three children
   iv)   *every single one of Mary's (one) child

Concerning the contrast between (73) and (79), a solution is suggested by Turkish *bir* ("a"/"one"). According to Kornfilt (1997, 106), *bir* can either precede or follow an adjective, that is, one can have in Turkish either "*bir* Adj N" or "Adj *bir* N"; however, when *bir* precedes the adjective, it corresponds to English numeral *one;* when *bir* follows the adjective, it corresponds to the English indefinite article.

This leads to the following possibility. English *one* (classifier + indefinite article) must end up in a higher position within DP than the position of the indefinite article alone. The indefinite article can be preceded by an adjective, as in (79), or be followed by one, as in the usual case:

(80)   They have a blue car.

The position of *one*, though, is sufficiently high that it may not be preceded by an adjective, as seen in (73). There is one exception, of course, namely (74). Thinking of Cinque (2005), the generalization is:

(81)   An adjective can come to precede *one* only if moved along with a noun.

In English, this noun must be silent, so (74) contrasts with (76).

For Hendrick (1990), *blue* in (79) comes to precede *a* as the result of a wh-like movement operation in which *blue* is pied-piped by *too* (or another degree word). In the absence of an appropriate degree word, the adjective is not allowed to precede *a*:

(82)   *They have blue a car.

Thinking of (21) and (22) earlier, though, it might be that an adjective can precede an indefinite article in English even in the absence of a degree word, as long as the indefinite article is silent, in which case (80) would be:[25]

(83)   . . . a blue A car

with A the silent article. If so, then (79) might be:

(84)   . . . A too blue a car

and similarly for the colloquial:

(85)   They have too big of a car.

---

25. Cf. Tat (2011) for a similar proposal on Turkic languages.

which might be:

(86)   . . . A too big of a car

as suggested by the large number of Google hits for phrases like *a too big of a car* (not possible for me).

9. A FURTHER RESTRICTION ON *ONES*

The derivation of (74) briefly sketched in the preceding section takes the adjective in *blue ones* to originate, as a modifier of *cars*/CARS, below the determiner *ones*. Not all adjectives are compatible with *ones* the way that *blue* is in (74), however. For example, *few* is an adjective, to judge by the series *few, fewer, fewest*. Yet we have (for my English):

(87)   Few linguists went to that talk and few (*ones) to this talk.

Similarly:

(88)   Mary has written few papers this year, but John has written even fewer (*ones).

(89)   This year, of all the graduate students, it's John who's written the fewest papers/*ones.

Since *few, fewer* and *fewest* happily occur with all sorts of (plural) nouns, this is another indication that *ones* is not a noun, but rather a (complex) determiner.

In all likelihood, thinking of Kayne's (2002b; 2005b) proposal to the effect that *few* is necessarily a modifier of *number*/NUMBER, the facts of (87)–(89) reduce to those of:[26]

(90)   Only a small number of linguists went to that talk and only a small number (*of ones) to this talk.

(91)   Mary has written only a small number of papers this year, but John has written an even smaller number (*of ones).

(92)   This year, of all the graduate students, it's John who's written the smallest number of papers/*ones.

26. *Many* acts like *few* here, as opposed to *numerous*:

   i)   We've bought ?numerous/*many ones.

The reason is that *numerous* is not a modifier of NUMBER in the way that *few* and *many* are. For more details, see Kayne (2002b).

In (90)–(92), *number of* cannot be followed by unmodified *ones*. In (87)–(89), the same holds for NUMBER OF, as in:

(93)   *. . . and few NUMBER OF ones to this talk

with silent NUMBER and probably silent OF.

The restrictions seen in (87)–(92) fall sharply away if an adjective or adjectival phrase is added, for example:

(94)   John has written many papers, but few good ones.

(95)   Only a small number of good ones were written this year.

This fact about *few* (and *fewer* and *fewest* and also *a few*) is almost certainly the same fact that we see with numerals:[27]

(96)   John has written three *(good) ones this year.

10. THE LICENSING ROLE OF ADJECTIVES

The way in which the adjective in (94)–(96) "saves" those sentences is arguably not specific to English *ones*. French has:

(97)   Vous avez acheté de *(bons) vins. ("you have bought of (good) wines")

French allows a plural DP to have the form "*de* Adj N,"[28] but does not (apart from polarity contexts) allow DPs of the form "*de* N." If we think of this fact as indicating that in (97) the adjective is licensing the preposition *de*,[29] there is a clear point of similarity to the licensing of *ones* in (94)–(96).

Of importance is the fact that in French a postnominal adjective or relative does not suffice for such licensing:

(98)   *Vous avez acheté de vins excellents. ("you have bought of wines excellent")

(99)   *Vous avez acheté de vins qui sont bons. (". . . of wines which are good")

The link with *ones* is strengthened by the fact that (94)–(96) become to my ear unacceptable if the pre-*ones* adjective is replaced by a (reduced) relative:

---

27. Payne et al. (2013, 814) give, without appreciating the non-unicity of English, two examples of definite *the five ones* . . . which are for me only marginally acceptable, probably in a way related to the discussion in section 18 later.
   28. Cf. Pollock (1998, note 24).
   29. In French, this *de* can also be licensed by a following determiner, as in:

   i)   Vous avez acheté des (bons) vins. ("you have bought of-the (good) wines")

in which case an adjective is no longer necessary.

(100)   *John has written many papers, but few ones that are any good.

(101)   *John has written many papers, but few ones worth reading.

(102)   *?Only a small number of ones that are good have been written this year.

(103)   *?Only a small number of ones as good as ours have been written this year.

(104)   *John has written three ones that you'll like this year.

(105)   *John has written only three ones worth reading this year.

A licensing property comparable to that seen in (97), again involving prenominal (but not postnominal) adjectives or reduced relatives, has been discussed by Leu (2015, 16) for colloquial Slovenian, based on work by Marušič and Žaucer (2006). Colloquial Slovenian has an unstressed non-demonstrative definite article that requires such adjectival licensing, as seen in:

(106)   ta *(nov) pes ("the new dog")

Leu (2015, 13) also discusses similar facts found in some Scandinavian languages (and in Swiss German).

Although these Slovenian and Scandinavian facts are not identical to the French ones, they share a common property. In each case, what is licensed by the adjective is arguably some kind of determiner. In Slovenian and in the relevant Scandinavian languages, it is a definite article; in French, it is a preposition that may be part of an indefinite determiner.[30] In none of these cases is it a noun that is being licensed. Consequently, the resemblance to the licensing of English *ones* by a pre-*ones* adjective seen in (87)–(105) indirectly reinforces the determiner status of *ones*.[31]

It is not easy to see what exactly distinguishes those determiners that require licensing by a adjective and those that do not.[32] In English, numerals and *few* need no adjective, even when the associated noun is silent:

30. For recent discussion of this kind of French *de*, see Ihsane (2008).
31. An example of licensing by a pre-*ones* reduced relative in English is:

   i)   There are a few old letters on the chair and a few recently arrived ones on the table.

On adjectives and reduced relatives more generally, see Cinque (2010b).
The text cases are to be distinguished from cases in which the licensing modifier needn't be prenominal; see Longobardi (1994, note 12) on determinerless nouns in pre-verbal subject position.
32. The indefinite article requires licensing by an adjective in:

   i)   You must have spent a *(good, beautiful) three weeks in Italy.
   ii)   You should invite a*(n other) four people.

(107)   Mary has written four papers this year, but John has written only three.

(108)   Many papers are started, few are finished.

Similarly for *some*, with a deleted/silent plural noun:

(109)   Some will be finished.

and for plural demonstratives:

(110)   These will be finished.

Singular demonstratives are partly different:

(111)   This will be finished.

While (111) is acceptable, the silent noun it contains would seem to be THING, and cannot be dependent on an antecedent in the way that the silent noun of (110) can be.

  Of interest here is one other determiner in English that looks as if it requires, in a certain kind of context, adjectival licensing of the sort under discussion. Consider:

(112)   People are often in need of help.

(113)   Very poor people always need help.

The noun *people* in (113) can be deleted/silent, but in that case a definite article is required:

(114)   The very poor always need help.

(115)   *Very poor always need help.

Having silent PEOPLE together with a definite article is not possible in (112), however:

(116)   *The are often in need of help.

In effect, the *the* of (114) needs licensing by an adjective (phrase). As in (98)–(105), a relative clause is not sufficient:

(117)   *The who have little money are often in need of help.

Nor is a reduced relative of the sort that is otherwise postnominal:

(118)   *The lacking money are often in need of help.

The adjectival licensing requirement of this *the*, then, is similar to that of *ones*. In both cases, a certain determiner requires an adjective in the context of a silent noun. This parallelism further reinforces the determiner status of *ones*.

Of all the adjective-requiring determiners discussed, though, *ones* is the only case in which the licensing adjective precedes the determiner in question. Thinking of the discussion around (75) earlier, in which it was proposed that the adjective preceding *ones* originates below *ones*, it may be that the licensing of *ones* by the adjective takes place prior to that movement,[33] in which case all the determiners in question will turn out to be licensed by a following adjective.

This statement will also cover (for my English):[34]

(119)   We bought a blue one yesterday.

(120)   *We bought a one yesterday, too.

Since the indefinite article does not normally require an adjective, it seems likely that the contrast between (119) and (120) rests on singular *one* also needing an adjectival licenser here. As in the other determiner cases discussed, a relative clause is not sufficient, in my English:

(121)   *We bought a one yesterday that was really beautiful.

Nor is a reduced relative of the postnominal sort:[35]

(122)   *We bought a one worth reading.

In some English (not exactly mine), though, it is possible to have:

(123)   We bought not a one.

In this English, either *not* itself must be the licenser, or else there must be a silent SINGLE making (123) quasi-equivalent to:[36]

33. And similarly for:

    i)   too long (of) a book

In the cases he discusses, Leu (2015, 92) has the determiner and adjective forming a constituent. Extended to *ones*, this would mean that (at the point of licensing) *ones* + adjective is a constituent.
34. Cf. note 2.
35. As opposed to:

    i)   We bought a recently published one.

with a reduced relative that is prenominal.
36. For another case of a silent adjective with no antecedent, see Kayne (2005b, sect. 7) on GOOD.

(124)   We bought not a single one.

which is fully acceptable to me. (Again, the fact that *one* in (119)–(122) requires an adjective reinforces the determiner status of *one*.)

11. NON-RESTRICTIVE ADJECTIVES

Some notion of contrast or focus seems to be relevant to the licensing role that adjectives play with *one* (cf. Halliday and Hasan (1976, 95, 97) and Llombart-Huesca (2002, 73)):

(125)   People who read interesting books generally profit considerably from the reading of those interesting books/*ones.

(126)   People who read an interesting book generally profit considerably from the reading of that interesting book/*one.

It may be that a non-restrictive adjective cannot be itself license *one(s)*, much as Llombart-Huesca suggests that noun ellipsis is not possible with a non-restrictive adjective in Spanish. If so, a possible account might rest on the discussion around (75) earlier, in which it was proposed that the adjective preceding *ones* originates below *ones*, in which case it might be that non-restrictive adjectives cannot originate below *one(s)*, from which it would follow that they cannot license *one(s)*.

12. NUMERAL *ONE*

Numeral *one* needs no adjective, even in the presence of a silent noun:

(127)   John has written three papers. Two are on phonology and one is on syntax.

(128)   There are three books on the table. Only one is worth reading.

   Possibly the English that accepts *not a one* has it as:

   i)   . . . not SINGLE a one

with SINGLE preceding, rather than following, the indefinite article, with this position for SINGLE licensed by the presence of *not* (via movement of the phrase "not SINGLE" from postnominal position directly to pre-*a* position); cf. Troseth (2009) on *not very good of a book*.

In this respect, numeral *one* behaves like other numerals, as illustrated in (107) earlier. This may at first seem unsurprising, but Barbiers (2007) has shown that *one* is quite different from other numerals in some ways, in particular in not lending itself (in a great many languages) to regular ordinal formation:

(129)   The first/*oneth chapter is the most interesting.

Barbiers's point about the special behavior of *one* can be further strengthened by noting that in many Romance languages, *one* is the only numeral that shows agreement in gender. In addition, we can note that in French complex numerals that are multiples of 100 (or 1000), *one* is the only numeral that cannot appear, as seen, for example, in:

(130)   deux cents ("two hundred"), trois cents ("three hundred") . . .

(131)   cent

(132)   *un cent ("one hundred")[37]

French also displays an asymmetry between *one* and other numerals in that in the additive compound numerals 21, 31, 41, 51, 61, 71, an overt coordinating element *et* ("and") is necessary, for example:
    (133) vingt-et-un livres ("twenty-and-one books")
whereas with 22, 23, . . . 32, 33 . . . no coordinating element appears, for example:[38]

(134)   vingt-deux livres ("twenty-two books")

If numeral *one* is unlike other numerals in various ways, then the fact that in (127)–(128) numeral *one* acts, with respect to the need or non-need for adjectival licensing, like other numerals and not like the *one* of (120), or like *ones*, needs to be accounted for. The proposal that comes to mind is that the exceptionality of numeral *one* relative to adjectival licensing is only apparent and that numeral *one* is in fact necessarily accompanied by an adjective. More

---

37. With 1,000, French has:

    i) (*un) mille linguistes ("a thousand linguists")

Possible, with a complex numeral containing *one* as a subpart, is:

    ii) trente-et-un mille linguistes ("thirty and one thousand linguists")

38. Though there may be a silent one present, to judge by the obligatory pronunciation of the final consonant of *vingt* in 22, 23 . . .

specifically, thinking of the discussion of (123), let me take sentences with numeral *one* such as:

(135)   John has two brothers and one sister.

to have the analysis:

(136)   . . . and one SINGLE sister.

with a silent adjective corresponding to *single*.[39] In some cases, *one* is natural with a following overt *single*:

(137)   You haven't written one single paper this year.

It should be noted that the title of this section is somewhat misleading. If this paper is on the right track, *one* is consistently to be understood as "classifier + indefinite article." There is no single morpheme that would correspond exactly to "numeral 1." More than that, *one* itself is the same ("classifier + indefinite article" combination) in all its instances. Some instances of *one* are numeral-like in that they contrast readily with other numerals, as in (135). Other instances of *one* are not, for example, in *two blue ones*.

Thus the term "numeral *one*" must be taken to pick out those instances of *one* that occur in a syntactic context whose overall interpretation lends itself to contrast with other numerals. If (136) is correct, then that context will include an adjective like *single*/SINGLE. In some cases, overt *only* is very natural:

(138)   John has two brothers but only one sister.

Silent ONLY might be present in other cases. If *only* is adjectival, it itself might be able to serve as licenser for *one*, perhaps in some cases instead of SINGLE. Whatever the correct details, it seems extremely likely that the language faculty treats "numeral 1" as complex, not simplex (that is, not as a primitive).

13. ORDINALS

The idea that numeral *one* is to be understood as in (136) is in partial agreement with Barbiers's (2005; 2007) claim that *one* is very different from *two* and numerals higher than *two*. He took numeral *one* to be a stressed, focused

---

39. There is a point of similarity here with Borer's (2005, 196) proposal that Hebrew *'exád* ("one") is an adjective interpreted as "single."

version of the indefinite article.[40] The present proposal doesn't rely directly on the notion of "focus," using instead the presence of SINGLE.

As mentioned in the previous section, Barbiers emphasized the relative systematicity of the cross-linguistic absence of a regularly formed ordinal based on *one*:

(139)   Mary was the first/*oneth linguist to have proposed that.

From the present perspective, this must reflect the inability of ordinal *-th* to combine either with the complex determiner *one* or with SINGLE or *single*:

(140)   *the (a/one) single-th linguist

Presumably, the numerals from *two* on up (apart from complex numerals having 1 as a subpart) do not (necessarily) involve SINGLE. (Why ordinal *-th* differs from the *-ce* of *once*, which can combine with *one*,[41] needs to be elucidated.)

14. *ONE(S)* AND DEMONSTRATIVES

There is a clear contrast (in my English; cf. note 2) between (120), repeated here:

(141)   *We bought a one yesterday, too.

and:

(142)   We bought that one yesterday, too.

This may indicate that demonstrative *that* (or *this*) is capable by itself of licensing *one* independently of the presence of a canonical adjective, perhaps because demonstratives have something significant in common with adjectives.[42] Things are more complex, however, since in some English (for example, mine) there is a contrast between the singular case of (142) and its plural counterpart:

(143)   *We bought those ones yesterday, too.

---

40. As mentioned in an earlier footnote, this view of *one* faces a challenge dealing with stressed *a*, as in:

    i) We don't need some chocolates, we need a chocolate.

with *a* pronounced to rhyme with *say*.
41. On *once*, see Kayne (2014).
42. Cf. Leu (2007; 2015, chap. 2).

For those speakers who accept (143), there seems to be no extra complexity. But for speakers like me, who reject (143), the question is why the plural case should be different from the singular. (Again, we can note that taking *ones* to be a noun would incorrectly lead to the expectation that (143) should be acceptable to all.) Not surprisingly, by now, adding an adjective to (143) makes it acceptable to all (as far as I know):

(144)   We bought those blue ones yesterday.

    Llombart-Huesca (2002, 77), by taking the appearance of *one(s)* to be a last resort strategy (her *one*-support) that comes into play only when NP-ellipsis is not available, could perhaps relate my rejection of (143) to my accepting:

(145)   We bought those yesterday, too.

The problem, however, is that even if the language faculty sometimes has recourse to last-resort strategies (which isn't clear), that sort of approach to (143) would have difficulty accounting for the fact that many speakers accept both (143) and (145). (I don't know with certainty if there are speakers who accept (143) and reject (145).)

    Complementarity between *one(s)* and NP-ellipsis fails to hold in various other cases, too.[43] In the context of a shirt store, I accept both of the following:

(146)   The blues/blue ones are selling well this week.

In the context of a day-care center for children, I accept both of these:

(147)   The three-year olds/three-year old ones are easier to manage than the others.

And without any special context, both of the following:

(148)   The others/other ones are even less expensive.

and similarly for:

(149)   There are others/other ones on the table.

as well as (with no *-s* in the NP-ellipsis variant):

(150)   John gave several talks. Only the first (one) was understandable.

(151)   Each (one) was good in a different way.

    43. As noted by Halliday and Hasan (1976, 97).

(152)   The tallest (one) of the three is really very tall.

(153)   The taller (one) of the two is really very tall.

Failure of complementarity also holds with *that* (and *this*), though with a difference in interpretation:

(154)   Give me that.

(155)   Give me that one.

These two singular demonstrative examples are both possible, but not quite on a par. This can be seen clearly in examples in which the antecedent is human:

(156)   That linguist prefers phonology, while this *(one) prefers syntax.

With *that one* or *this one*, the antecedent can readily be a human noun like *linguist*, or not. With *that* or *this* alone, the understood antecedent cannot be human. In fact, it arguably cannot be any ordinary noun, a relevant example being:

(157)   That decision was made by committee, while this *(one) was made by John alone.

With *this one*, (157) is extremely close in interpretation to:

(158)   That decision was made by committee, while this decision was made by John alone.

With *this* alone, (157) is possible, but not with the same interpretation.[44] A way to understand this difference is to take (154) to be as in:

(159)   . . . that THING

and (155) to be as in:

(160)   . . . that one NOUN

in which the silent NOUN necessarily has an antecedent (and similarly for (156)).

44. As noted by Halliday and Hasan (1976, 96).

THING in (154)/(159), on the other hand, does not need or take an antecedent in anything like the same sense. Rather, the interpretation is close to the also possible:

(161)   Give me that thing.

The ability of THING to appear in this way in (154)/(159) is probably related to its special behavior in:[45]

(162)   something else
(163)   *some book else

If so, the absence of a true plural for (154), which is very clear is some cases:

(164)   I've been wondering that/*those myself.
(165)   How can you possibly think that/*those?

will link to:

(166)   *somethings else

supporting the presence of THING in (154).

As Edwin Williams (p.c.) has pointed out to me, *thing* is also special in that it cannot readily be the antecedent of *one(s)* (more precisely, from the perspective of (160), of the silent NOUN that accompanies *one(s)*). Examples of this are:[46]

(167)   They've been wondering if it's time to leave and we've been wondering the same thing. In fact, you've been wondering the same thing/*one, too, haven't you?

(168)   How come you did such a smart thing last night, but such a stupid thing/??one this morning?

(169)   John said something and Bill said something/*someone else.

45. Cf. Leu (2005).
46. The first example has a DP apparently Case-licensed by *wonder*, in contrast to Pesetsky (1991, 6). Note the contrast with adjectives, for example:

i)   *We're sure it's time to leave and they're sure the same thing.

It may be that the property of *thing* at issue is (to some extent) limited to abstract, as opposed to object, *thing*, a distinction that some languages make explicit; cf. Zepeda (1983, 53, 55) on double counterparts of *nothing* and *what*.

In the variants of (167)–(169) with *one*, there must be "... one NOUN," much as in (160). The question is why this silent NOUN cannot readily take *thing* in (167)–(169) as antecedent. The answer might perhaps be that *thing* is in these examples classifier-like[47] and that having a classifier-like NOUN associated with *one* would clash with the fact that *one* itself contains a classifier, as suggested earlier.

15. SINGULAR VS. PLURAL

Let us return now to (143), that is, to the fact that English speakers differ from one another on *(*)those ones*. We have seen earlier that *ones* is readily licensed by an immediately preceding adjective, as in:[48]

(170)   They bought three *(blue) ones yesterday.

Whereas if *ones* is immediately preceded by a determiner (broadly construed), we generally have unacceptability, as in:[49]

(171)   *They bought few/a small number of/three/several/some ones yesterday.

For speakers like me who reject *those ones, demonstrative *those* (as well as *these*) is acting like the other determiners of (171). Speakers who accept *those ones* and *these ones* may be taking *those/these* to be adjectival; alternatively, they are taking the silent THERE/HERE that accompanies *those/these* to be adjectival.[50]

The contrast, for one set of speakers, between singular *this one, that one* and plural **these ones, *those ones* leads to the question whether the adjectival licensing relevant to plural *ones* is at all relevant to (certain instances of) singular *one*. In fact, (171) has a parallel with some singular determiners:

(172)   John was attending some class (or other) yesterday and Mary was attending some class/*some one (or other) yesterday, too.

(173)   Mary made one mistake and John made one mistake/*one one, too.

---

47. Though "thing" seems to be compatible with various classifiers in Cantonese; see Matthews and Yip (1994, 106).

48. On "immediately", note:

   i)   They spent a beautiful three weeks/*ones in France last year.

49. Conceivably there's a point of contact here with:

   i)   Someone(*s) else called.

50. Cf. especially Leu (2015, 32) on Norwegian.

As with plural *ones*, adding an adjective changes the acceptability status:

(174)   Mary made one bad mistake and John made one bad one, too.

With singular *some* there is clearly improvement, even if the result is not entirely natural:

(175)   (?)John was attending some weird class yesterday and Mary was attending some weird one (yesterday), too.

In addition, I find that *every* is to some degree like singular *some*, in some cases:

(176)   As for spiders, every ?(single) one has eight legs.

whereas with *each* we have:

(177)   Each spider/one will be found to have eight legs.

Why singular *one* is compatible with a preceding determiner to a greater extent than plural *ones* is left an open question.

16. POSSESSORS

That "adjectival," as far as the licensing of *ones* is concerned, might go beyond ordinary adjectives to include THERE/HERE, as suggested in the discussion of (171), is indirectly supported by some curious facts concerning possessors, which in my English are not by themselves licensers of *ones*:

(178)   *Mary's papers are usually stronger than John's ones.

Yet I find the following more acceptable:

(179)   ?Men's shoes are usually less expensive than women's ones.

as if *women's* here could count as adjectival in a way that *John's* could not.[51]

---

51. Another kind of example with something adjectival, but not strictly speaking an adjective is:

 i)   John makes lots of remarks, including lots of over-the-top ones.

Note also:

 ii)   *I've read neither John's papers nor Mary's ones

The non-licensing property of possessors seen in (178) carries over for me to singular *one*:

(180)   *Mary's paper is stronger than John's one.

As expected by now, adding an adjective makes them acceptable:

(181)   We appreciate John's recent one(s).

both with *ones* and with *one*, reflecting the fact that the licensing conditions for *ones* and *one* are to a degree similar.

17. HUMAN *ONE*

There is a clear contrast in my English between (172) and:

(182)   Let's invite someone.

Here *one* can be immediately preceded by *some* (and similarly for *every, any* and *no*), in direct contrast with (172). One might "just" say that this *one* is different, which it of course is. But a primary claim of this chapter is that all instances of *one* are in fact the same in their internal makeup (the more specific claim is that all are classifier + indefinite article), and that it is the syntactic contexts in which *one* occurs that differ.

Since *someone, everyone, no one* and *anyone* are basically restricted to humans, it is natural to link the *one* in them to the *one* of:

(183)   When one is hungry, food becomes essential.

which is also restricted to humans. This link is strengthened by the fact that neither (182) nor (183) allows *ones* to replace *one*:[52]

(184)   *Let's invite someones.

(185)   *When ones are hungry, food becomes essential.

vs.

   iii)   ?I've read neither yesterday's newspapers nor today's ones

52. There may or may not be a link to:
   i)   The plates were piled one on top of the other.
   ii)   *The plates were piled ones on top of the other(s).

A sentence like (183) is in turn close to:

(186)   When a person is hungry, food becomes essential.

Thinking of the proposal in Kayne (2005b, appendix) to the effect that *John* is "John PERSON," as well as of the discussion of (114) earlier, it becomes natural to think of (182) and (183) as containing:[53]

(187)   some one PERSON; one PERSON

with *one* a determiner, as it now always is.

   A discrepancy between (182) and (183) concerns *else*:

(188)   Let's invite someone else.

(189)   *When one else is hungry, . . .

This contrast between (188) and (189) suggests that *else* in (188) depends on the presence of the determiner *some*.[54] Thinking of the similarity between *someone else* and *some other person*:

(190)   Let's invite some other person.

and more generally between *else* and *other*, it may be that *one* in (188) is licensed by quasi-adjectival *else*, rather than by *some*. (As for (182), or even (183), it might be that PERSON itself plays a licensing role for *one*, rather than *some* doing so (in (182)); alternatively, a silent adjective might be present.)

   The impossibility of (184) of course recalls:

(191)   Let's invite somebody/*somebodies.

which may reflect a common prohibition against plural. If so, and if the *one* of *someone* has, as I have been suggesting in this section, the same complex determiner status as other instances of *one*, we seem to be faced with a curious choice. Either *body* here must be analyzed parallel to *one*, that is, as a complex

---

53. The extent to which this kind of analysis should be extended to French *on*, or to Italian *si*, or to German *man* is left open here; for relevant discussion, see Cinque (1988) and Malamud (2013).

54. An arguably similar sensitivity to the presence of a determiner is seen in (non-standard):

   i)   Let's go somewheres (else).
   ii)   *Wheres (else) should we go?

For relevant discussion, see Kayne (2007b, sect. 3).

determiner, or else *somebody* and *someone* are not as perfectly parallel to each other as they at first look.

The latter possibility appears to be supported by the following difference, brought to my attention by Edwin Williams (p.c.):

(192)   He's a real somebody/??someone.

(193)   He's a real nobody/??no one.

With plurals, the distinction is for me even sharper:

(194)   They're real somebodies/*someones.

(195)   They're real nobodies/*noones.

With *somebody, nobody* there's a natural interpretation as "a really important/unimportant person" that is less readily available with *someone, no one* and similarly (but more strongly) in the plural. What this suggests is that rather than matching the *one* of *someone*, the *body* of *somebody* better matches PERSON itself, that is, it may be that while *someone* is:[55]

(196)   some one PERSON

somebody is:

(197)   some (ONE) body

with *body* receiving a (partially) idiomatic interpretation akin to that of *person*.

The unacceptability of *someones, *no ones* in (194), (195) recalls that of:

(198)   *John ate some apples and Bill ate some ones, too.

(199)   *John has no friends and Bill has no ones, either.

thereby indirectly supporting the common determiner status of the *one* of *someone, noone* and the *one* of *some red one, no good one*.[56]

---

55. Cf. the non-equivalence of *somewhere* and *someplace* discussed in Kayne (2007b). Also:

  i)   He's living in the middle of nowhere/*noplace.

56. This way of looking at things makes sense of *nobodies* vs. *no ones*, while leaving open the contrast between *They're nobodies* and:

  i)   *They have nobodies else.

The generalization that other determiners are not licensers for plural *ones* has one sharp exception that holds for all speakers (as far as I know):[57]

(200)   Bring us the ones that you consider worth reading.

This kind of sentence is perfectly acceptable without any overt prenominal adjective, contrary to various cases discussed earlier, for example:

(201)   *Bring us three ones that you consider worth reading.

On the other hand, with neither an adjective nor a relative clause, (200) becomes unacceptable:[58]

(202)   *Bring us the ones.

Why a relative clause seems to be able to act as a licenser for *ones* in (200) but not in (201) is not clear. Relevant is the status of:

(203)   ?Bring us ones that you consider worth reading.

with no determiner preceding *ones*. In my English, (203) is deviant to some degree, as seen also (for me) in:

(204)   Don't bring us heavy ones.

(205)   ?Don't bring us ones that are heavy.

Yet (203) and (205) are acceptable to many, with such speakers presumably allowing the relative to act as licenser, given:

(206)   *Bring us ones.

    For my English, the contrast between (200) and (203) suggests that *the* is playing a key role, too.[59] That the definite article can contribute to the

---

57. Note that the "head" of the relative here contains not just *ones* but also at least one silent NOUN.
58. As opposed to some special cases like:

    i) John and Mary have both signed up, but so far they're the only ones.

These may involve a deleted relative; cf. Stirling and Huddleston (2002, 1513n) and, for a sustained proposal, Collins (2014).
59. Possibly via a silent prenominal THERE that might be relevant to the contrast between English and Dutch concerning "the . . . one . . ." noted by Barbiers (2005, 163).

well-formedness of DPs with *ones* is indirectly supported by the comparable role played by demonstrate *those/these* in:

(207)   We'd like to buy *(??those) three ones, please.

While **three ones* by itself is bad, adding a demonstrative improves things to some extent,[60] perhaps especially for those who accept *those ones/these ones*.

19. JUST SINGULAR *ONE*

A remaining question is why the following is possible without any adjective or modifier of any sort:

(208)   We bought one, too.

In agreement with Payne et al. (2013, 798), I take this instance of *one* to be closer to the *one* of:

(209)   We bought one book.

than to the *one* of:

(210)   We bought an expensive one.

In essence, the question is when exactly singular *one* needs an adjective. As an initial approximation, we may have:

(211)   Only when preceded (within the relevant DP) by another determiner does singular *one* need to be preceded by an adjective.

20. THE *-S* OF *ONES*

Saying that *ones* is plural normally goes with the (usually implicit) assumption that *one* and plural *-s* form a constituent. But that assumption is not straight-forward.[61] Nor is it in the case of *others*, as in:

Jespersen (1961, sect. 10.12) notes that some Jutland dialects allow a counterpart of definite *that abominable one*, as opposed to standard Danish.

60. As opposed to adding *some* in:

    i)   Mary has published some twenty papers/*ones in the last five years.

61. Cf. Koopman and Szabolcsi (2000) and Julien (2002).

(212) Give me the others.

which I take to have an analysis as in:

(213) . . . the other NOUN s

where *-s* is associated with the silent noun rather than directly with *other*.[62] An imaginable alternative would have *other* itself sometimes being a noun in addition to usually being an adjective. There are, however, reasons for thinking that at least this kind of category multiplication/neutrality is not made available by the language faculty.

If, in addition to being an adjective, *other* could also sometimes be a noun, one would wrongly expect the following to be straightforwardly possible:

(214) ?Give me that other.

(215) *You've eaten every (single) other.

Furthermore, there is a striking fact having to do with the interaction between *other* and other adjectives. One has:

(216) The other American invasions took place years ago.

(217) The other American ones took place years ago.

If *other* could also be a noun, one would wrongly also expect to have:[63]

---

62. Cf. Kayne (2003b).
63. The impossibility of this kind of example was noted by Stirling and Huddleston (2002, 1524), who did not, however, draw the conclusion that *other* is always an adjective. Their reason was that *the others* is possible, combined with the belief that adjectives never take plural *-s* in English.

British and American English seem to differ in that only British English has, with a simple numeral:

   i) Mary has three millions in the bank.

in which the *-s* is likely associated with silent POUND. In (my) American English, this *-s* does not appear:

   ii) Mary has three million in the bank.

though DOLLAR(S) is presumably present.
Her and Tsai (2015, 592) note the existence of doublets like:

   iii) There are three grand pianos/grands in the storeroom.

which they interpret as showing that *grand* in (iii) is a noun. Alternatively, it is an adjective occurring with either *piano* or PIANO. The monetary *grands* (possible for some speakers) that they discuss in their section 4.2 is compatible with monetary *grand* being

(218) *The American others took place years ago.

Whereas if *other* is consistently an adjective, (218) reduces to:

(219) *The American other invasions took place years ago.

The appearance of plural *-s* following a silent noun is allowed in a variety of adjectival cases, not just with *others*:

(220) They have two four-year olds.

(221) If I had a choice among those crayons, I'd take all the reds.

(222) In that linguistics department, the first-years are under a lot of pressure.

In other cases, this is not possible, for reasons yet to be determined:

(223) *Speaking of invasions, the Americans took place years ago.

(224) Those three books are more interesting than these four(*s).

It seems almost certain that the *-s* of *ones* has the same property as the *-s* of *others* (and the *-s* of *four-year olds, reds* and *first-years*), namely this *-s* is associated with a silent noun, rather than simply with *one* itself. For example the following:[64]

(225) I prefer red cars, but you prefer blue ones.

is to be analyzed, parallel to (213), as containing as a subpart:[65]

(226) . . . blue one CAR -s

---

an adjective, in the same way. The question whether the specific analysis of monetary *grand* proposed in Kayne (2012) is on the right track is beyond the scope of this paper.

64. With the indefinite article in place of *one*, we get the impossible:

   i) *. . . but you prefer blue a's

Presumably, this is the same fact as:

   ii) *John has a car and you have a, too.

in turn akin to:

   iii) John likes the *(car), too.

65. *One* here is associated with plural "CAR s", contrary to:

   i) We have one car(*s).

21. RESTRICTIONS ON WHAT FOLLOWS *ONE(S)*

Baker (1978, 415) considered sentences like the following:[66]

(227) *In this university, the students of physics are generally stronger than the ones of chemistry.

For Baker, this kind of example merits a full *. To my ear, this sentence is deviant, but not dramatically so. Baker took this kind of restriction to constitute an argument in favor of an innate component to the language faculty. Payne et al. (2013) try to show that Baker's argument does not go through, by observing, via a corpus study, various (relatively) acceptable examples of the same general sort as (227). I myself would tend to accept:

(228) ?The assassination of the prime minister had taken place two years before the one of the president.

Baker had taken (227) to indicate that *one(s)* could not be followed by what would correspond to a complement of the antecedent, that is, that *one(s)* could not replace N, as opposed to N-bar. For those speakers who fully accept examples like (228), this cannot be right as a general characterization of *one(s)*.

From the perspective of the present paper, *one(s)* does not "replace" a lexical noun at all; rather, in, say, (228), *one* is followed by a silent counterpart of *assassination*. Moreover, since I have argued elsewhere that nouns do not take complements,[67] restrictions like the one seen in (227), for those who reject it,[68] must be formulated otherwise.

Baker's argument for an innate component to the language faculty is strengthened by the finding of more sharply unacceptable examples than (227) itself, such as in the following:

Thinking of Heim (1987), van Riemsdijk (2005) and Leu (2008), this might suggest:

  ii) . . . blue one KIND CAR -s

in which *one* goes with silent KIND (or some other additional NOUN) and *-s* with silent CAR. Pursuing this possibility would be beyond the scope of this paper.

66. Cf. Stirling and Huddleston (2002, 1515) for judgments like Baker's.
67. Cf. Kayne (2008b).
68. Payne et al. (2014) gave me the impression, perhaps wrongly, that they believe that there is one "English". For an sharply opposing view, see Kayne (1996; 2013). On the richness of syntactic variation within what we call English, see Algeo (2006), Kortmann et al. (2005), Zanuttini and Horn (2014), and many other such works.

(229)   A large number of syntacticians were talking with a large number/
*one of phonologists.

(230)   Mary has a whole lot of money; John has a whole lot/*one of money,
too.

(231)   The kinds of horses we need are easier to find than the kinds/*ones of
cows we need.

(232)   Mary likes those kind of horses and John likes those kind/*one of
horses, too.

(233)   What do you think of those absurd goings-on and of these even more
absurd goings-on/*ones-on?

(234)   A quiet taking out of the trash will be less onerous than a loud taking/
*one out of the garbage.

In these cases of sharp unacceptability (as in many others discussed in this
chapter), a lot must depend on built-in principles, as Baker (1978) had it,
apart from the details of his proposal.

From the present perspective, what is more specifically at issue in (229)–
(234) must have to do with the silent NOUN following *one(s)*. If Kayne (2006a)
is on the right track, that translates into the question of what the silent noun
can leave behind when it moves. Which in turn probably becomes the question
of what can (non-contrastively) scramble out before such (remnant) move-
ment takes place. For example, in the unacceptable variant of (234), with
. . . a loud one out of the garbage, we might have:

(235)   . . . one TAKING out . . .

and it may well be that a particle like *out* is not amenable to such scram-
bling.[69] Similarly, in the unacceptable variant of (229), with *. . . a large one of
phonologists*, we would have:

(236)   . . . one NUMBER of phonologists

and it may be that *of phonologists* is not amenable to the required non-
contrastive scrambling.

69. With a point of similarity to:

i)   *their explanation away of the problem

which must also involve non-contrastive scrambling, if Kayne (2008b) is on the
right track.

22. OTHER DETERMINERS THAT LOOK LIKE PRONOUNS

In taking the position that *one* and *ones* are in all instances complex determiners, I have been taking a position akin to the one taken by Postal (1966) for personal pronouns like *he* and *she*, which he analyzes as being types of definite articles. (Postal took *ones* itself to be a [+*Pro*] noun.) Assuming Postal's determiner analysis to be correct for at least third-person pronouns, the position I have arrived at here claims that both third-person pronouns (*he, she, it, they*) and *one(s)* are determiners, the difference being that third-person pronouns are (as in Postal (1966)) definite determiners (associated with a silent or deleted noun), whereas *one* and *ones* are for me indefinite determiners (associated with a silent or deleted noun).

The (complex) determiner status that third-person pronouns and *one(s)* have in common may be reflected in what looks like a shared restriction concerning compound-like phrases. Having a third-person pronoun within a compound is not possible:[70]

(237)   *Nixon's supporters didn't realize how many him-haters there were.

The restriction illustrated in (237) is probably best understood as a restriction involving the silent noun associated with the third-person pronoun. Compounds do not admit silent nouns within them (which may in turn be interpreted as a prohibition against movement of the noun (or NP) from within a compound up to the position of its antecedent, thinking of the discussion of (229)–(236)).

Consider now *one*. Numeral *one* is allowed to appear in a compound:

(238)   One-drawer file cabinets are not very useful.

There may well be a silent SINGLE associated with *one* in such examples, as in (136) earlier, but that SINGLE has no antecedent (and the noun *drawer* is overt), so movement need not be involved. On the other hand, the *one* of *a red one* does involve an antecedent, and so arguably the silent noun following *one* in *a red one* has moved. This is what I think underlies the restriction on this subtype of *one* that resembles (237):

(239)   One-drawer file cabinets are less useful than two-drawer/*two-one file cabinets.

(240)   First-time house buyers are less experienced than second-time house/ *second-time one buyers.

(241)   John is a black-bear-lover and Mary is a brown-bear/*brown-one lover.

70. Cf. Postal (1969) and Harris (2006).

In the versions with *one* of each of these examples, *one* is associated with a silent noun that has arguably had to move to reach its antecedent, if Kayne (2002a) is on the right track. Such movement out of a compound is prohibited.

It is of interest that compounds do not prohibit subparts of them from being involved in a certain kind of antecedent relation if there is no silent element at issue:

(242)   John is a black-bear lover and Mary is an animal lover, too.

(243)   John is a black-bear lover, whereas Mary is an animal hater.

Here, destressed *animal* takes *black bear* as a kind of antecedent, or subject of predication.[71]

Postal (1966) also mentions dialects that allow:

(244)   you'uns; we'uns

Standard English has neither this nor:

(245)   *you ones; *we ones

As Postal notes, standard English does allow:

(246)   you honest ones; we smart ones

in a way that is by now familiar, instantiating the adjectival licensing that we have seen in a variety of cases, as well as the non-licensing by a certain kind of determiner, in (245). (Possibly, the availability in some dialects of (244) is related to the non-pronunciation of the initial /w/ of *ones*, which might reflect the absence of a classifier.)

---

71. In the following:

   i)   John is a self-promoting scoundrel.

the antecedent of *self* must not be *John*, but rather the silent subject of *promote*. The relation between that subject and *scoundrel* needs looking into.
In:

   ii)   We're having a three-wine dinner tonight.

there may well be a silent KIND, as in Kayne (2003b, note 26), but that KIND has no compound-external antecedent, just as SINGLE does not in the text discussion.

23. CONCLUSION

One and *ones* are complex determiners whose relation to their antecedent, when they have one, is mediated by a silent noun. They are never themselves nouns taking an antecedent directly.

The question arises as to why the language faculty would turn its back on an analysis of *one* and *ones* as anaphoric nouns in certain cases. A possible answer might be in part the one given in Kayne (2002a) for personal pronouns, namely that the antecedent-pronoun relation is necessarily mediated by movement of a "double" of the pronoun. This might hold, now, not only for *he, she . . .* , but also for *one(s)*, even though the character of the double would be different in the two cases. With personal pronouns, the double is a DP, with *one(s)* a NP.

A broader question now arises. Why would the language faculty use movement (internal merge) to express antecedent-"pronoun" relations in general? The most interesting answer I can think of is given in:[72]

(247)   All non-local syntactic relations necessarily involve internal merge (movement).

That is, there is no possibility, in a derivational syntax, of "coindexing" or directly relating two phrases in any way distinct from internal merge (or external merge, in a highly local fashion).

ACKNOWLEDGEMENTS

72. Cf. Kayne (2010c). As formulated, the text statement, which has implications for the derivation of relative clauses and *tough*-movement, also prohibits instances of Agree that do not also involve internal merge; cf. Koopman (2003; 2005), Kayne and Pollock (2012; 2014).

On NPI-licensing as involving movement, see Chomsky (1973, 242) (for the particular case of *not . . . many*) and especially Collins and Postal (2014). On topicalization and (a certain kind of) left-dislocation, note the reconstruction effects that hold (for me) in:

i)   His youngest daughter every man is especially fond of.
ii)   As for his youngest daughter, every man is bound to think she's a genius.

Similarly:

iii)   His youngest daughter is easy for a man to admire.

CHAPTER 11
Once and *Twice*

1. INTRODUCTION

Although the correspondence is obviously close between (1) and (2):

(1)   We've been there only one time.

(2)   We've been there only once.

questions arise as to the way in which the grammar of speakers of English expresses this correspondence. It seems clear that *once* contains *one* as a proper subpart; if so, what is the status of the suffixal *-ce*? It seems equally clear that *once* should be associated with "time," as in the corresponding *one time*; if so, and if this association is expressed through the presence, with *once*, of a silent counterpart of *time*, namely TIME (I will use capitals for silent elements), what are the properties of TIME?

In this chapter, I will pursue the idea that this *-ce* is akin to a postposition, and I will consider evidence that suggests that TIME here must be singular. The latter suggestion is of course straightforward for *once*, less so, and therefore more interesting, for *twice*, to which I will return later on.

2. *-CE* AS A POSTPOSITION

The parallelism between (1) and (2) that immediately supports the idea that *once* contains *one*, that is, that *once* = "one + -ce," involves sentences in which *one* and *once* have a numeral-like interpretation. But the parallelism holds, too, for cases in which *one* and *once* are not felt to be numeral-like, such as:

(3)   We were young once.

with destressed *once*, and:

(4)   We were young at one time

with destressed *at one time*.

The pair of examples (3) and (4) show in addition that *once* can, at least in some cases, correspond to a PP (with P = *at*, in this case). Correspondence with a PP (with P = *on*) also holds between example (2) and the following:

(5)   We've been there on only one occasion.

This correspondence with PPs is part of the reason that I will take suffixal *-ce* to be a P (other reasons will follow further on). I will call this *-ce* a postposition simply because *-ce* ends up being preceded by *one*, in the case of *once*. (By antisymmetry, if *-ce* is a projecting head, *one* cannot be in the complement position of *-ce*.) As for the interpretive contribution of *-ce*, it may be neutral between that of temporal *at*, as in (4), and temporal *on*, as in (5); alternatively, or in addition, thinking of its apparent origin as an adverbial genitive,[1] *-ce* may be related to the for me archaic *of* found in *of an evening*.

If we now combine the idea that *-ce* is a postposition with the idea that silent TIME is present, we have as a fuller representation for *once*:[2]

(6)   one TIME -ce

In (6), "one TIME" is an indefinite phrase. The postposition *-ce* can also be preceded by a definite phrase:

---

1. For discussion, see Jespersen (1961, sect. 18.1).
2. In some cases, the postpositional phrase with *-ce* can combine with a preposition:

　　i)   We'll do it at once.
　　ii) For once, they're telling the truth.

Note that the *at* of (i) is not exactly the same as the *at* of:

　　iii) At one time, they were in agreement with us.

which seems closer to *-ce* itself:

　　iv) Once, they were in agreement with us.

The *at* of (i) seems more like the *in* of:

　　v)   We'll do it in a/one second/minute.

though the following contrast will need to be accounted for:

　　vi) We'll do it in two seconds/*at twice.

(7)   You might help us just this once.

With a definite article, the result is more "special," but possible in at least some English:

(8)   They helped us just the once.

The representations for (7) and (8) are as in:

(9)   this/the one TIME -ce

   That *-ce* is postpositional, in addition to being suggested by the parallelism with temporal *at, on* and *of*, is further suggested by certain discrepancies in behavior between *once* and *one time*. One discrepancy is found in relative clause contexts:

(10)   They told us about the one time they thought they were really in danger.

(11)   *They told us about the once they thought they were really in danger.

Despite the possibility of (8), example (11) is appreciably worse, if not completely impossible. The reason, I think, is that the "head" of a relative clause cannot be a PP, whether the P is a postposition or a preposition. This is illustrated by the contrast between (10) and the following:[3]

(12)   *They told us about the at one time they thought they were really in danger.

Similarly, one has:

(13)   Now I've met the two people you were telling me about.

(14)   *Now I've met the about two people you were telling me.

---

3. Cf. also:

   i)   The *(place) under the bed where they're hiding is well concealed.

Related to the text discussion is:

   ii)   For every two times you make a contribution, . . .
   iii)   *For every twice you make a contribution, . . .

with the P of *twice* incompatible with what is probably a relative clause context. Similarly:

   iv)   We liked that film the first two times/*the first twice (we saw it).

Furthermore, if Amritavalli and Jayaseelan (2003) are correct to take adjectives to be K(ase)Ps (and if KPs are akin to PPs), then (10) vs. (12), and (13) vs. (14), are paralleled by:

(15) You're not the genius your sister is.

(16) *You're not the intelligent your sister is.[4]

The restriction seen in (12) and (14) and (16) could be stated as a requirement that *the* (and other determiners) not take a PP/KP as their complement (or as the Spec of their complement, from the perspective of a raising analysis of relatives), though one would hope to be able to go deeper than that. In any event, it seems likely that the restriction in question, however ultimately understood, will carry over to (11), if *once* is a PP (or perhaps a KP), that is, if *-ce* is a P (or perhaps a K).

   It should be noted that if we "undo" the relative clause in (10), we reach:

(17) They thought they were really in danger (at) that time.

in which an *at* can be pronounced, in a way that recalls:

(18) They thought they were really in danger on that occasion.

   4. Although comparatives share important properties with relatives (v. Chomsky (1977)), there are significant differences, for example,:

      i)   You're not as intelligent as/*that your sister is.

   In:

      ii) the most intelligent that you've ever been
      iii) the fastest that you've ever run

   the adjective or adverb, which is not the target of relativization, has been pied-piped by the (non-PP) superlative morpheme, which is. To some extent, superlative *-est* can pied-pipe a PP, though:

      iv) ?the most on the ball that he's ever been

   in a way that indirectly recalls Spanish *lo* in:

      v)   Lo a la ligera que hablaría, . . .

   with the PP *a la ligera* ("at the light = lightly, cavalierly") pied-piped by *lo* (example from Alvarez (1999, 3752).
   Although *woody* and *wood-like* seem close, they differ in a way that needs to be accounted for:

      iv) woodier, woodiest
      v)   *wood-liker, *wood-likest

In other words, (10) probably contains a silent P associated with *one time*. If so, then either the restriction seen in (12) and (14) and (16) must not come into play with silent Ps, or, more likely, the silent P in (10) has been stranded within the relative clause.[5]

The PP character of *once*, with P = *-ce*, is also relevant to the following contrast, I think:

(19)   He's going to be just a one-time champion.

(20)   *He's going to be just a once champion.

The idea is that compound-like phrases such as *one-time champion* disallow Ps, as seen in:

(21)   He's a former champion.

(22)   *He's an at one time champion.

where (22) also contrasts with the non-compound-like:

(23)   He was a champion at one time.

In other words, (20) is excluded parallel to (22), supporting the proposal that *once* contains a P.

3. *TWICE*

The facts of the preceding paragraph are mimicked, to my ear, by corresponding facts with *two time(s)* vs. *twice*:[6]

(24)   He's going to be just a two-time champion.

(25)   *He's going to be just a twice champion.

5. The stranding of a silent P may also be at issue in:

  i)   a five-thousand dollar car

 if:

  ii) This car is just $5000.

contains a silent AT.
6. And similarly for archaic *thrice*:

  i)   He's going to be just a three-time champion.
  ii) *He's going to be just a thrice champion.

suggesting, not surprisingly, that the *-ce* of *twice* has the same postpositional status as the *-ce* of *once*. Put another way, (25), like (20) and (22), runs afoul of the restriction barring PPs from appearing within compounds.[7]

It is worth noting that the fact that *time* in (24) must be singular:[8]

(26) *He's going to be just a two-times champion.

reflects a widespread restriction (in my English) concerning "compounds," for example:

(27) You're an avid newspaper(*s)-reader, I see.

Moreover, the very fact that *two-time* is possible in (24) leads to the possibility that the silent TIME associated with *twice* (exactly as TIME is associated with *once*) is actually singular rather than plural; in other words, *twice* might have the representation:[9]

(28) twi- TIME -ce

whose *-ce* is certainly the same morpheme as the *-ce* of *once* and *twice*.
Despite being archaic relative to my English, *thrice* displays differential behavior in:

    iii) ?They were thrice criticized.
    iv) *They were criticized thrice.

7. Note the contrast with the non-compound example:

    i) Twice winner of the Open, Mary . . .

8. I have the impression that at least some British English allows *-s* in some such cases more readily than my English does. The details of this cross-English difference need looking into.
9. Not important for the present discussion (though interesting in its own right) is the question whether the "twi-" here is one morpheme or two. The same question arises with *twin, twenty, twelve, two, between*. What is clear is that the "tw-" of *twice* is identical to the "tw-" of these other forms. (The non-pronunciation of the "w" of *two* is in all likelihood predictable from general properties of English phonology.)

Worth noting is that the very close link between *twice* and *two times* is not limited to cases in which *time* is akin to *occasion*, given:

    i) This car is worth at least two times/twice what that car is worth.
    ii) This car is two times/twice as valuable as that one.

Gathercole (1981) has noted:

    iii) John is two times/*twice older than his son.

Her proposal in terms of contraction (and rightward movement) has a problem with:

    iv) He's older than his son.

I will return to this question shortly.

Before doing so, let me note that *twice* also mimics *once* with respect to the relative clause facts of (10) and (11):

(29) They told us about the two times they thought they were really in danger.

(30) *They told us about the twice they thought they were really in danger.

As in that earlier discussion, the proposal is that (30) is excluded because the "head" of a relative clause cannot be a PP, which *twice* is, as in (28), with P = "-ce." (Again as in the earlier discussion, if (29) contains a silent P, then either the restriction in question fails to apply to silent Ps, or else, more likely, that silent P in (29) has been stranded.)

4. THE SINGULARITY OF TIME

Coming back now to the question of singular TIME in (28), we can note that its being a component of *twice* (as opposed to plural TIMES being a component of *twice*) receives support from:

(31) Two times are enough.

(32) Two times is enough.

vs.

(33) *Twice are enough.

(34) Twice is enough.

Two times allows plural agreement in such sentences (in addition to allowing singular agreement). *Twice*, on the other hand, allows only singular agreement.

Alternatively, there's a link to:

    v) John is older than his son by??two times/*twice.

which may be due to the necessary presence of a postposition here with *twice*, but not with *two times*.
On the other hand, we have:

    vi) Nobody should two-time their spouse.
    vii) *Nobody should twice their spouse.

arguably because *two-time* as a (rather complex) verb has an analysis involving "two N at a time," in which *two* is not a modifier of *time*, but rather of a silent N that may be classifier-like (PERSON) in a way comparable to TIME, as discussed later.

This must reflect the fact that *twice* contains singular TIME, as in (28), and that *twice* cannot contain plural TIMES.[10]

A further consideration pointing in the direction of singular TIME for *twice*, rather than plural TIMES, comes from facts related to those discussed earlier at (7) and (8) concerning *(just) this/the once*. An initial complication, however, arises from the fact that my English strongly resists combining *twice* with a definite determiner. I do not accept the following, though I have seen written examples of this sort:

(35)   *You should have done it just the twice.

More important, though, for the present discussion are comparable examples with demonstratives. I find the following contrast:

(36)   *?You could have done it just that twice.

(37)   *You could have done it just those twice.

with the singular demonstrative not quite as bad as the plural demonstrative, in a way that gives comfort to the view that *twice* contains singular TIME.

A second, rather interesting, complication arises when we consider other instances in (some) English in which a numeral takes a singular noun. Here I have in mind (monetary) phrases like *five pound*, which are not possible for me, but are possible for Neil Myler (p.c.), who has the following set of judgments:

(38)   Five pounds are/is enough.

With plural *pounds*, either plural or singular agreement is possible for him (as for me) in this kind of sentence. Whereas with singular *pound*, he has:

(39)   Five pound is enough.

(40)   *?Five pound are enough.

The fact that *five pound* for him favors singular agreement here is of some interest. Of even more interest to the present discussion is the fact that he finds (40) slightly less bad than (33), which tried to have plural agreement with

---

10. Note the contrast with:

   i)   Fifty head of cattle are enough.

in which the plural verb is presumably keyed to the plural lexical noun *cattle*, no counterpart of which is present with *twice*.

subject *twice*. This difference for him between **Twice are . . .* and **?Five pound are . . .* may be related to his accepting:

(41)   He'd better give us back those five pound by next week.

in which, in the presence of a numeral, singular *pound* is compatible with plural *those*. Yet for him a plural demonstrative with *twice* is marginal (for me, *those twice* is sharply out, as in (37)):

(42)   ?(?)We could have agreed (just) those twice.

Moreover, adding *those* to a sentence like (40) appreciably improves, for him, the status of plural verb agreement:
    (43)?Those five pound are enough (to buy lunch with).
    This improvement, that is, the contrast for him between (43) and (40), recalls phenomena discussed in Collins and Postal (2012), den Dikken (2001), Kayne (1972), and Pesetsky (2013). Adapted to (43), the proposals in those works suggest the following (for the relevant speakers). In (39), the phrase *five pound* contains no plural morpheme at all.[11] A plural morpheme can, however, be introduced above *five pound*, if a demonstrative is merged, too. That allows (41) and also (43) (though why (43) is not perfectly acceptable remains to be accounted for). Only very marginally can a plural morpheme be introduced above *five pound* even in the absence of a demonstrative, to yield (40).
    We can now return to the comparison between *five pound* and *twice* (with the analysis "twi TIME -ce"), both of which contain a singular noun in the context of a numeral. The question is why (33), repeated here:

(44)   *Twice are enough.

is worse than (40). A possible answer is that the contrast can be traced back to the difference between the silence of TIME and the non-silence of *pound*. Thinking of Kayne's (2006a) proposal that silent elements are never in exactly the same position that their overt counterparts end up in, it may be that TIME, in the case of *twice*, actually occurs preceding *twi-*, that is, that (28) should be replaced by:[12]

(45)   TIME twi- -ce

11. Presumably, this is equally true of compound-like examples such as:
    i)   a five-pound book
12. Possibly, TIME has reached the position preceding *twi-* via movement.

If so, then the following comes to mind. The (very marginal) merger of the (silent) plural morpheme above *five pound* in (40) that yields (very marginal) plural agreement is available only if the numeral precedes (is higher than) the noun. Since *twi-* does not precede TIME in (45), that merger is blocked, yielding the sharper unacceptability of (44).

This must hold in sentences like (44) in which *twice* is not associated with a demonstrative. With a demonstrative present, Neil Myler (p.c.) to some extent accepts:

(46)   ?Those twice were enough.

indicating much as before that the demonstrative by itself is, with some degree of marginality, sufficient to license a higher plural morpheme even with *twice*.

5. THE IMPORTANCE OF BEING ANTECEDENTLESS

TIME is necessarily singular in (45). In (46), a plural morpheme has been merged high in a way dependent on the demonstrative. But TIME itself remains singular even in (46), in a way exactly parallel to the way in which *pound* remains singular in *those five pound* in (41) and (43).

That TIME is necessarily singular in (45), that is, when it is a subcomponent of *twice*, cannot, however, be a general property of silent TIME. This is strongly suggested by the by and large well-formed character of:

(47)   Mary's seen it four times and John five.

(48)   We've already been there three times, but we're planning to go another four.

(49)   You scolded him three times; (the first) two were enough.

which contrast sharply, in effect, with (44). That is, there is every reason to think that the silent noun in (47)–(49) is plural, just as silent nouns can in general be plural in such contexts:

(50)   Mary has written four papers this year, but John has written only three.

(51)   Four people I know are interested in your paper, but two are not.

(Note in particular the plural agreement licensed by the silent noun in the second part of (51) and (49), again contrasting with (44).)

Sentences like (47)–(51), by showing that the language faculty allows for silent plurals (including plural TIMES), make even more pointed the question why *twice* must contain singular TIME. The key difference would seem to be that the silent plural TIMES of (47)–(49) has an antecedent, namely (overt) *times*. Whereas the silent singular TIME of *twice* does not have any antecedent.

6. CLASSIFIERS

Continuing to think in terms of "silent elements" rather than in terms of "deletion," to keep open the possibility that Kayne (2006a) was correct to deny the existence of deletion operations, we might be tempted to formulate a proposal to the effect that a silent plural is licensable only via an antecedent. This does not seem right, however, given often-noted sentences like:

(52) The very poor are in need of help.

in which the plural verb form indicates the presence of a silent (antecedentless) plural noun.[13] The absence of an antecedent for the silent TIME of *twice* is therefore not sufficient to account for its obligatory singularity.[14]

Thinking of our earlier discussion centering on (39)–(43) of the (partial) parallelism between *twice* and *five pound*, with singular *pound*, it seems likely that a(nother) relevant factor distinguishing *twice* from *the very poor* is the presence within *twice* (and within *once*) of a numeral. The relevance of the numeral subpart of *(once* and) *twice* is brought out by the following consideration. Although the possibility of having a singular noun with a numeral in sentences like (39)–(43) is limited to some varieties of English (not including mine), much more widespread (and perhaps pan-English) is the possibility of numeral + singular noun in compound-like structures such as in:

(53) They're caught up in a three-year old quarrel.

(54) That three-year old quarrel of theirs has got to stop.

At least in my English, a singular here is the only option:

(55) *They're caught up in a three-years old quarrel.

(56) *That three years-old quarrel of theirs has got to stop.

Yet I accept:

(57) They're caught up in a years old quarrel.

(58) That years old quarrel of theirs has got to stop.

---

13. Note the difference between *the very poor* and:

   i) They have two four-year olds.

in which the plural -*s* is not silent, even in the presence of a silent N.

14. This point is reinforced by:

   i) Three times are enough, whereas twice is/*are not.

with the interpretation that the quarrel in question is quite a number of years old. That interpretation disappears if plural *years* here is replaced by singular *year*:

(59)   They're caught up in a year-old quarrel.

(60)   That year-old quarrel of theirs has got to stop.

In these, with *year-old quarrel*, the quarrel must be only one year old.

I conclude, then, that singular *year* in (53) and (54) is licensed in my English in part by the compound-like structure (to distinguish (53) and (54) from (39)–(43)), but also in part by the preceding numeral, to allow (53) and (54) while prohibiting (59) and (60) from having the interpretation of (57) and (58). This conclusion, combined with the parallelism between *twice* and *five pound* (and now with *three year*), leads in turn to the following proposal:

(61)   A necessary condition for silent TIME in *twice* and *once* is the presence of the numeral itself (*two, one*).

If we now ask why (61) should hold, we are led, I think, to (numeral) classifiers.

The reason is that some languages clearly show that (a noun corresponding to) *time* has classifier-like behavior even when from an English perspective one would have thought it an ordinary (non-classifier-like) noun. This classifier-like behavior of *time* is discussed in recent work by Cinque (2013a) and Simpson (2005), most strikingly for Thai and Khmer, which normally have "N Num Clf" order, yet with numeral + "time" have the order "Num time," as if "time" itself is a classifier, rather than the order "time Num."[15]

These considerations lead, then, to:[16]

(62)   Antecedentless silent TIME is necessarily classifier-like.

which converges with the proposal in Kayne (2003b) that the silent YEAR found in English in:

(63)   At the age of seven, Mary could already speak three languages.

is a classifier. If TIME and YEAR in *twice* and in (63) are classifiers, and if classifiers are universally not pluralizable,[17] then it will follow that TIME

---

15. In English, overt *time* would appear to fairly straightforwardly act in a classifier-like fashion for those speakers (myself not included) who accept *sometime else*.

16. Consideration of the question whether all antecedentless silent nouns must be classifier-like is beyond the scope of this chapter.

17. At least classifiers of this sort. For some apparent exceptions to the general statement, see Aikhenvald (2000, 249n). Relevant here is the contrast within English between:

and YEAR in these cases must be singular, as argued earlier for TIME (and as suggested in Kayne (2003b) for YEAR).

7. LICENSING CONDITIONS

Antecedentless silent TIME is not always licensed in the presence of a numeral:

(64)   Mary is a two*(-time) Olympic champion.

Not surprisingly now, a parallel restriction holds for antecedentless silent YEAR:

(65)   John's seven*(-year) stretch in prison is coming to an end.

Comparing (65) with (63), one might think that a left-branch-type restriction is at issue, with YEAR impossible in (65) by virtue of being contained within a left branch (and similarly for TIME in (64)). However, further evidence casts doubt on the viability of a left-branch restriction.
    Consider this baseball-related example:

(66)   The Yankees won the game with two home runs in the seventh (inning).

This contrasts with:

(67)   The Yankees won the game with two seventh *(inning) home runs.

in which *inning* is not allowed to remain silent. The restriction seen in (67) might again appear to be a kind of "left-branch" constraint, but that cannot be exactly right, given the quite acceptable:[18]

(68)   The Yankees won the game with two top of the seventh home runs.

in which silent INNING is much more readily available than in (67). It seems, instead, that silent INNING is favored by the greater amount of syntactic

    i) two hundred head of cattle
  and
    ii) two hundred piece*(s) of furniture
  18. The word *top* in this example modifies a silent counterpart of *half*:
    i) two top HALF of the seventh INNING home runs

structure associated with "top of the seventh INNING" in (68) as compared with just "seventh INNING" in (67).

This in turn is reminiscent of the well-known pair:

(69)   John criticized him.

(70)   John criticized himself.

Kayne (2002a) proposed, as part of an attempt to account for the existence of reflexives in the language faculty, that the extra DP structure associated with *self* provides an additional (A-bar-like) position in (70) that *John* can avail itself of in the course of moving from within the complex doubling DP containing *him* (but not *self*) up to the subject theta position associated with *criticize*. In partially similar fashion, we can now take *top of the seventh* in (68) to make available to INNING a specifier position not available to it in (67), with that specifier position a necessary component of the derivational silence of INNING, along the lines of Kayne (2006a).

In the same way, TIME in (64) and YEAR in (65), by virtue of not having access to the required specifier position, will fail to be licensed.

Returning to *twice*, it must now be the case that the silent TIME that is part of *twice* does have access to an appropriate specifier position, presumably one whose presence is made available by the presence of the postposition *-ce*.[19]

I note in passing that a rather different kind of licensing question arises if we ask why *once* and *twice* by and large lack (in contemporary English) a counterpart based on *three*, that is, if we ask why *thrice* has become archaic, and if we further ask why no English (that I know of) has ever had a counterpart of *once* or *twice* based on a numeral higher than *three*. There must in all likelihood be a link to the fact that *one, two* and *three* are also special in English in having the corresponding ordinals *first, second* and *third*, rather than the usual ordinal formation with suffixal *-th*, as in *fourth* and higher.[20] (The fact that *thrice* has become archaic may be related to the fact that *first* and *second* are suppletive,[21] whereas *third* is only partially irregular.) In a more general way, all of this must

---

19. Cf. the effect of P on French relative pronouns as discussed in Kayne (1994, sect. 8.2); also the effect of P on Italian reflexives discussed in Kayne (2003c, sect. 13).

20. Apart from higher additive ordinals such as *twenty-first, twenty-second*. Left open is the contrast between these and (ii):

   i)   We've been there twenty-one/two times.
   ii)   *We've been there twenty-once/twenty-twice.

unless it's that singular TIME is incompatible with 21 or 22, etc.

21. For relevant discussion, see Barbiers (2007), whose interesting proposals concerning *oneth* lead to the question what exactly distinguishes it from *once*.

be connected to the widely attested special behavior of low numerals,[22] but I will not pursue this question any further.

8. MORE ON ADPOSITIONS AND TIME

The idea suggested two paragraphs back to the effect that TIME with *twice* is in part (indirectly) licensed by postpositional *-ce* receives support from other cases of TIME involving adpositions. One striking case has to do with *soon*. Consider:

(71)   We'll be there soon.

which has an interpretation involving time such that *soon* appears to pick out a certain point or interval of time. Yet adding overt *time* to *soon* here yields a sharply unacceptable example in:[23]

(72)   *We'll be there at a soon time.

which, however, contrasts with:

(73)   ?We'll be there at the soonest time possible.

(74)   ?You showed up at too soon a time.

The relative acceptability of (73) and (74) supports taking (71) to contain an instance of silent TIME, as well as a silent AT that will play a role in its licensing.[24]

---

22. Cf. Pesetsky (2013) and references cited there for recent discussion of Russian Case.
   Note in addition that *couple* and *pair*, despite their interpretation, cannot mimic *two* here, insofar as:

   i)   They arrived late a couple/?pair of times.

   have no corresponding:

   ii)   *They arrived late (a) couple-ce/pair-ce.

   The lack of a counterpart to *twice* with *four* and higher is probably crucially mediated by *-ce*, in particular since YEAR in *At the age of seven, . . .* is perfectly compatible with higher numerals.
   Possibly, the absence of *once* or *twice* in French and various other languages reduces to the absence of a postposition with the properties of English *-ce*; a plausible conjecture would be that a counterpart to *-ce* will be lacking in any language that otherwise entirely lacks postpositions.
23. My English does not allow *soontime(s)*, but there are attestations that may ultimately strengthen the text argument.
24. Silent adpositions might at first glance look very different from Larson (1985), but that would change if KP and PP are indeed close.

The difference between (73) and (74), on the one hand, and (72) on the other recalls the discussion in Kayne (2007c) of facts concerning *few* and *number*:

(75)   John has written (a) few papers this year.

(76)   *John has written (a) few number of papers this year.

(77)   ?John's the student who's written the fewest number of papers this year.

(78)   ??John's written too few a number of papers to qualify for a grant.

in which it was proposed that (75) contains silent NUMBER.

    Soon and *few* are modifiers of *time*/TIME and *number*/NUMBER, respectively. For some reason (yet to be discovered),[25] *soon* and *few* can modify overt *time* and *number* only if *soon* and *few* are raised sufficiently high in the DP, as can happen with *too soon* and *too few* (as shown by the following indefinite article),[26] and also with superlatives, as suggested for English by:

(79)   They're the best of friends.

(80)   *They're good of friends.

and cross-linguistically by the fact that Persian generally has prenominal adjectives only in the case of superlatives.[27] If *soon* and *few* cannot raise sufficiently high, overt *time* and *number* must give way to silent TIME and NUMBER, as in (71) and (75).

9. MORE ON POSTPOSITIONS IN ENGLISH

English is normally thought of as a prepositional language. Yet if I am correct in taking the *-ce* of *once* and *twice* to be a postposition, then English has at least one postposition. Thinking of Dutch and German,[28] there is nothing surprising here. Let me, however, briefly touch on further examples of postpositions in English.

    Soon itself, whose interpretation is close to that of *short* in time contexts, may well also be accompanied by silent FROM NOW/THEN, thinking of sentences like:

     i)   We'll be there a short time from now.

    25. Part of the reason might be that *time* and *number*, being classifier-like, are high in the DP to begin with.
    26. Cf. Hendrick (1990).
    27. Cf. Moshiri (1988, 24) and Ghomeshi (1996, 145).
    28. Cf. for example Noonan (2010).

One well-known case is that of:

(81)   We have a plan whereby we will read everything a day early.

Whereby here is related to *thereby, hereby, therefore, forthwith, whereupon* and probably *whence, thence* and *hence*, with *whereby* perhaps being the closest to colloquial English. Somewhat similar is:

(82)   His whereabouts are unknown.

with *about* arguably an adposition.[29]
  More surprising, perhaps, is:

(83)   We don't have the wherewithal to do it.

in which *with* is postpositional relative to *where*. Although *wherewithal* lends itself to being called "idiomatic," pieces of an analysis readily come to mind. The *-al* is *all*. The definite article in (83) recalls that found overtly with *whole*, as well as recalling the fact that *all* is non-initial in:

(84)   He gave it his all.

in which there is arguably a silent definite article. In the manner of Dutch and German, *wherewith* corresponds to *with what*,[30] with the result that (83) can be thought of as very close to:

(85)   *We don't have the all with which to do it.

even though this sentence is not acceptable. The fact that *wherewith* precedes *al(l)* in (83), whereas *with which* follows *all* in (85), suggests that in (83) *wherewith* has raised past *al(l)* in a way related to the way in which *destruct-* (remnant-)raises past *-ion* in the relative clause approach to derived nominals suggested in Collins (2006) and Kayne (2008b).
  Furthermore, some speakers of English, in particular Bob Frank (p.c.), accept some sentences like:

(86)   What about were you guys talking?

(87)   Who to are you hoping to talk about that?

(88)   Who from are you convinced that John stole the idea?

  29. The plural here suggests the possibility of a silent PLACE, thinking of:

    i)   ?The places where he is about are unknown.

  30. Cf. van Riemsdijk (1978) and work stemming from his.

in which *about, to* and *from* look postpositional.[31] Possibly, English adpositions are postpositional in the same way in sluicing examples like:

(89)   I knew they were talking, but I wasn't sure what about.

as is suggested by Bob Frank's sharply rejecting:

(90)   *What topic about were you guys talking?

with a wh-phrase containing a lexical noun, just as in sluicing:

(91)   *I knew they were talking, but I wasn't sure what topic about.

As a final example of an English postposition, we might think of *ago*, or, more likely, of the *a-* of *ago*, especially if the following two sentences are closely related:

(92)   They left three days ago.

(93)   It's going on three days since they left.

with *a-* in (92) corresponding to *on* in (93), with *go* in (92) corresponding to *going* in (93), and with *three days* in (92) preposed to adpositional *a-* in a way that has something in common with postpositions.[32]

10. A FURTHER INSTANCE OF TIME

Alongside (92) one also has:

(94)   They left a long time ago.

(95)   They left long ago.

It is hard to see how (95) could fail to contain TIME.[33] A related use of *long* (but one that shows polarity behavior in the absence of overt *time*) is found in:

31. For Bob Frank, the first of these three is the most fully acceptable.
32. For relevant discussion of postpositions, see Kayne (2003a).
33. Similarly, Tsoulas (2013) has argued that *before* can be followed by TIME; Zamparelli (2004) had suggested TIME for *every two days*; TIME is clearly called for in the shorter version of:

i)   We'll be there in two hours' (time).

as well as with *often*, given *oftentimes*. (Whether *often* has TIME or TIMES needs to be looked into further.) In addition, Purves (2002, 30) notes that Scots uses *this, that* and *yon* for *this/that/yon time/place/person*.

(96)   You haven't been here very long.

Again, there is presumably a silent TIME. In all likelihood there is also a silent adposition in (96), given the strong similarity to:

(97)   You haven't been here for a very long time.

An interesting challenge is to understand why TIME is not compatible with the indefinite article:[34]

(98)   *They left a long ago.
(99)   *You haven't been here a very long.

It may be that this is just the same fact, thinking of Kester (1996), as:

(100)   Mary has written a long paper and John has written a long *(paper), too.

Alternatively (or in addition), there is a link to the fact that French *longtemps* ("long time") is compatible with the absence of an indefinite article:

(101)   Marie est restée longtemps à Paris. ("M is remained longtime in P")

11. CONCLUSION

Both *once* and *twice* are complex phrases (containing two visible morphemes and one silent one), rather than simple lexical items. The presence of silent TIME with *once* and *twice* (and in other cases mentioned) indirectly reinforces the presence of other antecedentless silent elements in the human language faculty. Since silent elements of this sort are not visible (even via an antecedent) in the primary data available to the learner, study of their properties, for example of their singularity or plurality, and of their licensing conditions, provides us with a privileged window onto the invariant core of the language faculty itself.

34. Another involves:

   i) They left long/*short ago.

and, conversely:

   ii) They left shortly/*longly before noon.

A Note on *Grand* and Its Silent Entourage

1. INTRODUCTION

Colloquial American English allows *dollars* not to be pronounced in sentences like:

(1)   How can they be asking a hundred and fifty thousand for a house with no roof?

(2)   It'll cost you a hundred just to get into the game.

In an even more colloquial or slang register, (1) can be expressed as:

(3)   How can they be asking a hundred and fifty grand for a house with no roof?

with *grand* apparently replacing *thousand*.

    The interpretation of *a hundred and fifty grand* here is necessarily that of *a hundred and fifty thousand*. Example (3) could not be interpreted as *a hundred and fifty million/billion*, etc. Similarly, *hundred* cannot be replaced by *grand* in (2) without changing the interpretation. The following is possible, but only with the interpretation of *a thousand*:

(4)   It'll cost you a grand just to get into the game.

    One might be tempted to propose that a certain very colloquial American English contains an element *grand* with the same syntax and interpretation as *thousand*. Such a proposal would run into a series of difficulties. An initial relatively minor one is that *grand* can "replace" *thousand* only in monetary

contexts. Just as one can omit *dollars* in (1) and (2), one can omit *years (old)* in:[1]

(5)   They think they're gonna live to be a thousand.

But in age contexts, *grand* is not at all possible:

(6)   *They think they're gonna live to be a grand.

Similarly:

(7)   Even at the age of a thousand/*grand, you'd be sharp as a whistle.

again with silent *years*.

   A more major difficulty for such a proposal would come from the fact that pronouncing *dollars* in the context of *grand* is impossible:

(8)   *How can they be asking a hundred and fifty grand dollars for a house with no roof?

(9)   *It'll cost you a grand dollars just to get into the game.

These are of course both possible with *thousand* back in place of *grand*:

(10)   How can they be asking a hundred and fifty thousand dollars for a house with no roof?

(11)   It'll cost you a thousand dollars just to get into the game.

If *grand* were simply a very colloquial stand-in for *thousand*, why would (8) and (9) not be allowed?

   Additional difficulties for the idea that *grand* is merely a very colloquial version of *thousand* are as follows. First, *thousand* can appear in approximative expressions as in:[2]

(12)   They've spent (tens of) thousands on their new house just this year alone.

Grand is not possible here:[3]

(13)   *They've spent (tens of) grands on their new house just this year alone.

---

1. For relevant discussion, see Kayne (2003b).
2. For relevant discussion, see Kayne (2006b).
3. For me. There are examples on Google that are perhaps acceptable only to those who accept phrases like *three millions* (which I don't).

Second, there is a contrast between:

(14)   ?Just give me a thousand-ish and we'll call it even.

and its counterpart with *grand*:

(15)   *?Just give me a grand-ish and we'll call it even.

Third, we can have, in a context of stealing dollars one by one:

(16)   That may well be the thousandth that he's stolen from them.

but not:

(17)   *That may well be the grandth that he's stolen from them.

Fourth, in a way that to some extent resembles the point made in (6) and (7), *grand* cannot be used in pure counting. Thus in pronouncing *1,2, . . . 999,100 0,1001 . . .* as an exercise in arithmetic, one says *a thousand* and not **a grand*.

Finally, there is the basic fact that *thousand* looks like a singular noun by virtue of its being preceded by *a* in:[4]

(18)   There are *(a) thousand ways to solve those problems.

Grand is moderately widespread in English, but in no case other than the monetary one under discussion does it look like a noun:

(19)   Grand openings are always fun.

(20)   The grand finale will take place in a few minutes.

(21)   Our grandparents are getting old.

(22)   The grand total is 437.

Instead, *grand* otherwise looks like an adjective. To take *grand* to be a variant of noun-like *thousand*, then, in sentences like (3) and (4), does not seem correct.

One might of course entertain the thought that the *grand* of (3) and (4) has nothing at all to do with those of (19)–(22), but that would be to leave awkwardly open the question why it is *grand* that one finds in (3) and (4), and not *train*, say, or *round*, or any other randomly chosen English lexical item. In addition, the questions raised from (5)–(17) would still remain to be answered.

---

4. Cf. Kayne (2007c) and Zweig (2006).

2. THE UNICITY OF *GRAND*

The alternative that I would like to pursue will involve taking the *grand* of (3) and (4) to be very closely related to the *grand* of (22). More specifically, let me take (4), repeated here:

(23) It'll cost you a grand just to get into the game.

to be close to:

(24) It'll cost you a grand total of a thousand dollars just to get into the game.

and even closer to:

(25) It'll cost you a grand total of a thousand bucks just to get into the game.

with *bucks* a very colloquial counterpart of *dollars* and *grand* a modifier of *total* just as in (22).[5] One of the elements that remains unpronounced in (23), then, is BUCKS (capital letters will indicate non-pronunciation), in the sense of *dollars*.

    Comparing (23) and (25) further suggests the presence in (23) of another two silent elements, namely TOTAL and THOUSAND. In other words, setting aside questions concerning *of* and *a*, we reach, as an initial approximation for the structure and interpretation of (23):

(26) It'll cost you a grand TOTAL THOUSAND BUCKS . . .

The key idea here is that *grand* in these monetary examples is uniformly a modifier of either overt *total* or silent TOTAL.[6]

    The silence of THOUSAND is keyed in turn to the presence of *grand*.[7] Put another way, *grand* in the register of English in question licenses silent THOUSAND (but not, as noted earlier, HUNDRED or MILLION).

---

5. At least with expressions of quantity:

    i) Dollar bills are plentiful these days.
    ii) *Buck bills are plentiful these days.

6. The presence of silent TOTAL has a point in common with Payne and Huddleston's (2002, 354) saying that in:

    i) This twenty dollars isn't going to get us very far.

the phrase *twenty dollars* is conceptualized as denoting a single entity as in *sum of twenty dollars*, though they didn't give syntactic expression to their idea.

7. The text examples are to be kept separate from instances of anaphoric silent THOUSAND, that is, from examples in which THOUSAND has an antecedent *thousand*, as in:

On the other hand, the silence of BUCKS in (23)/(26) is a more general phenomenon, as indicated by the acceptability of (1) and (2), which contain silent DOLLARS/BUCKS even in the absence of *grand*. In what follows, I will not focus on the licensing of DOLLARS/BUCKS,[8] or on the choice between DOLLARS and BUCKS, which seems peripheral to the rest of the analysis.

Of note is that the silence of TOTAL in (26) must somehow depend on the rest of the structure in (26). *Grand* itself is not sufficient, as we can see from:

(27)   The grand *(total) is 437.

as well as:

(28)   It'll cost you a grand *(total) of a thousand bucks just to get into the game.

in neither of which can *total* be left unpronounced, despite the immediate presence of *grand*. The contrast, in particular, between (23)/(26) and (28) suggests that (26) needs to be modified, if we are to understand why silent TOTAL is not licensed in (28).

As a clue to how to proceed toward an understanding of the licensing of TOTAL, let us alter (23) by putting *ten* in place of *a*, yielding:

(29)   It'll cost you ten grand just to get into the game.

    i)   John paid three thousand for his car, but Mary must have paid at least ten for hers.

These anaphoric cases, contrary to the text cases, do not distinguish THOUSAND from MILLION, or from HUNDRED:

    ii) John paid three million for his house, while Mary must have paid at least ten for hers.
    iii) John is willing to spend three hundred on repairs, while his wife is willing to spend four.

8. Worth noting, however, is the fact that in (1) and (2) one can pronounce *dollars/ bucks*, so that one has pairs like:

    i)   That car'll cost you ten thousand (bucks).

This is in contrast to:

    ii) That car'll cost you ten grand (*thousand).

recalling:

    iii) You don't have (*much) enough money to qualify.

(vs. *(?)You have little enough money to qualify*)
From the anti-optionality/last resort perspective of Chomsky (1986; 1995), the lack of optionality seen in (ii) and (iii) is expected. Why (i) is different remains to be understood.

which must correspondingly be close to:

(30)   It'll cost you a grand total of ten thousand bucks just to get into the game.

An apparently straightforward modification of (26) would, if we drop the *a* and add *ten* to precede THOUSAND, yield:

(31)   It'll cost you grand TOTAL ten THOUSAND BUCKS . . .

Spelled out mechanically, (31) yields, however, the unwanted:

(32)   *It'll cost you grand ten.

instead of the desired:

(33)   It'll cost you ten grand.

What this suggests is that instead of (31), we should have (setting aside *a* again):

(34)   It'll cost you ten THOUSAND BUCKS grand TOTAL.

the pronunciation of which does yield the desired (33). The new relative order of "ten THOUSAND BUCKS" and "grand TOTAL," in addition to correctly leading to (33), recalls the possible:

(35)   It'll cost you ten thousand bucks total.

which heightens the plausibility of (34).[9]
Thinking of the resemblance between (35) and the following:

(36)   It'll cost you ten thousand bucks in total.

(37)   It'll cost you ten thousand bucks in all.

let us replace (34) by:[10]

9. Even though (i) is less good:

   i)   *?It'll cost you ten thousand bucks grand total.

for reasons that will need to be discovered.
10. There may be a link between the *in*/IN of (36)–(38) and the following pairs:

   i)   They were seventeen in number.
   ii) They numbered seventeen.
   iii) They were four feet in height.
   iv) They were four feet high.

(38) It'll cost you ten THOUSAND BUCKS IN grand TOTAL

which continues to yield (33) as desired. (The silent IN in (38) will not be important for subsequent discussion, however.)

3. *GRAND* VS. *THOUSAND*

In section 1, I mentioned considerations that argued against taking *grand* to be a variant of *thousand*. The proposal in (38) instead takes *grand* to be a modifier of *total*/TOTAL, with the interpretation as *thousand* coming from the presence of silent THOUSAND. Let me now return to those earlier considerations one by one.

The contrast in (16) vs. (17) concerning *thousandth* vs. **grandth* is now seen to reflect the fact that, unlike *thousand, grand* is not a numeral at all and hence cannot participate in the formation of ordinals. Similarly, it is the fact that *grand* is not a numeral that prohibits it from being used in arithmetic counting.

The contrast in (14) vs. (15) between *?a thousand-ish* and **?a grand-ish* may also be traceable back to the numeral status of *thousand* vs. the non-numeral status of *grand*, even though the adjectival, non-numeral status of *grand* is not sufficient, given *greenish, tallish*, etc. On the other hand, if we add *-ish* to (30), the result seems to me to be ill-formed, except perhaps as a joke:

(39) *It'll cost you a grand-ish total of ten thousand bucks just to get into the game.

Therefore the deviance of (15) is not surprising, from the perspective of (38).

As for the contrast in (12) vs. (13) concerning *thousands* vs. **grands*, the core of the answer is again that *grand* is not a numeral, and so presumably cannot co-occur with the (silent) suffix that turns *thousand* into an approximative.[11]

Whether "ten THOUSAND BUCKS IN grand TOTAL" in (38) reflects external merge alone or a combination of external and internal merge is left an open question here, and similarly for (i) and (iii).

11. On the silent suffix in *thousands*, see Kayne (2005a, sect. 3.1).

The impossibility (for me; v. note 3) of plural *-s* in:

   i) That'll cost you ten grand(*s).

may be related to:

   ii) The grand(*s) openings will take place tomorrow.

though there exist cases in which an adjective can be followed by *-s* if the noun is silent (cf. Kayne (2003b, sect. 4)):

4. ON THE NON-SILENCE OF NUMERALS

A rather different kind of question is posed by the contrasts given earlier in (8)–(11), and repeated here as:

(40)   You shouldn't be asking thirty grand for that car.
(41)   *You shouldn't be asking thirty grand bucks/dollars for that car.

Although having *grand dollars* in (41) might involve a register clash, the impossibility of *. . . grand bucks . . . does not, and calls for an account. There is some evidence that such an account need not be specific to *grand*. Consider the fact that in phrases in English consisting of numeral + noun, the noun can readily be left unpronounced,[12] but not the numeral by itself:

(42)   Mary has written four papers this year, whereas John has written only three.

In (42), the noun *papers* is left unpronounced in the second clause. Yet starting from:

(43)   Mary has written four papers, whereas John has only written four squibs.

one cannot have:

(44)   (*)Mary has written four papers, whereas John has only written squibs.

More exactly, (44) is fairly acceptable, but not at all with the interpretation of (43). That a numeral by itself cannot be left unpronounced in the context of an overt noun is shown even more sharply by the following:

(45)   Mary has four thousand dollars in her account, and John has four thousand (dollars) in his.

(46)   *Mary has four thousand dollars in her account, and John has thousand (dollars) in his.

     iii) They have two four-year-olds.

  Alternatively, or in addition, note:

     iv) They'll all give you a grand total/*grand totals of ten thousand bucks.

  12. On the possibility that the language faculty need not countenance deletion operations as such, see Kayne (2006a).

Returning to (40) and (41), we can now see how (41) is excluded parallel to (46) and to the impossible interpretation of (44). In (41), the numeral THOUSAND is unpronounced (given my analysis of *grand* as an adjective modifying TOTAL), as in all the relevant sentences with *grand*, yet the associated noun *bucks/dollars* is pronounced. In the impossible interpretation of (44), the numeral FOUR is unpronounced, while the noun *squibs* is pronounced. Example (46) again has the numeral FOUR unpronounced, while the noun(-like numeral) *thousand* is pronounced.

These three examples differ crucially from (40) insofar as in (40) both the numeral THOUSAND and the noun BUCKS are unpronounced. In other words, (41) follows from:

(47)   Numerals cannot be left silent unless their (following) associated noun is also left silent.

which may have general validity, beyond English.[13] This account of (41) (that links it to (46)) depends on (41) containing a silent numeral THOUSAND. Had *grand* itself been a numeral, such an account of (41) would not have been possible.

As for the question why (47) should hold, there might be a link to familiar left-branch effects, as in:

(48)   *Three John has sisters.

depending on how best to understand left-branch effects in general.[14] (An immediate question is whether languages in which numerals follow their associated noun work the same as languages in which the numeral precedes (and

---

13. If sentences like:

  i)   Seventeen linguists and physicists attended the talk.

allow an interpretation in which 34 people attended (which for me is marginal at best), then coordinate structures will fall outside (47).

Also relevant here is the question of gapping, in the interpretation (again marginal at best for me) where the numeral is gapped:

  ii)   Mary wrote seventeen novels and John squibs.

and somewhat similarly for pseudo-gapping:

  iii)   Mary has written seventeen novels and John has poems.
  iv)   People who will write seventeen novels are not to be compared to people who will poems.

14. And on whether Kayne (2006a) is right to take movement to necessarily be part of silence.

what the implications of the answer are). Languages in which some numerals precede and some follow will be particularly interesting to study.)

An alternative to a left-branch approach to (48), (46), (44), and (41) might, thinking of Perlmutter (1972), rest on the idea that movement (cf. note 14) invariably involves a shadow (resumptive) pronoun, combined with the fact that numerals have the property that there are no pronoun-like elements that can take them alone as antecedent:[15]

(49)   Mary has been there for three years and John has been there for three months.

(50)   *Mary has been there for three years and John has been there for them/it/that months.

5. THE LICENSING OF SILENT ELEMENTS

Grand licenses THOUSAND in the context of BUCKS, as in (38). The contrast between (5) and (6), repeated here:

(51)   They think they're gonna live to be a thousand.

(52)   *They think they're gonna live to be a grand.

shows that *grand* cannot license THOUSAND in the context of YEARS. If (38) is exactly right, it may be that the licenser of THOUSAND is really the phrase "*grand* TOTAL."

The licensing of TOTAL itself is not a simple matter, as indicated in particular by (28), repeated here:

(53)   It'll cost you a grand *(total) of a thousand bucks just to get into the game.

The fact that silent TOTAL is impossible here, in opposition to its availability in (38) and, for example, (40), may again be a (subtype of) left-branch effect.[16] More specifically, the impossibility of silent TOTAL in (53) recalls:

---

15. If so, it must be the case that an entire phrase like *that many* cannot count as a shadow (resumptive) pronoun.
16. How to integrate:

   i)   *?They have five hundred bucks (in) grand **(total).

remains to be seen. It may be that TOTAL in the relevant cases depends (fairly) directly on THOUSAND.

(54)   Mary is seven.

(55)   Mary is a seven-year-old child.

(56)   *Mary is a seven child.

Silent YEARS is possible (in combination with OLD or AGE[17]) in (54), but not in the left-branch context of (56). If left-branch violations necessarily involve movement, then (54) vs. (56) supports the idea that the silent YEARS in (54) must have moved up from its expected position following the numeral.[18]

Taking the left-branch violations in (53) and (56) to involve movement leads to the question of landing site for that movement. Examples from baseball shed light on this question. Consider:

(57)   The Yankees won the game with two home runs in the seventh (inning).

Inning can be silent in such examples, which contrast with:

(58)   The Yankees won the game with two seventh inning home runs.

(59)   *The Yankees won the game with two seventh home runs.

When *seventh inning* is on a left branch, *inning* must be pronounced. So far, this is just like (53)–(56). Adding something new are the following:

(60)   The Yankees won the game with two home runs in the top of the seventh (inning).

(61)   The Yankees won the game with two top-of-the-seventh-inning[19] home runs.

(62)   The Yankees won the game with two top-of-the-seventh home runs.

---

17. For the choice between the two, see Kayne (2003b, sect. 2).
Akin to (54) vs. (56) is:

    i)   They have a million-dollar house.

vs.

    ii)   *They have a million house.

 (vs. *Their house is worth a million*)
18. For the idea that all (comparable) instances of silence involve movement, see Kayne (2006a).
19. Although the use of hyphens feels natural here, the presence of *the* indicates a sharp difference as compared with familiar compounds:

    i)   They love Brooklyn/the Bronx.
    ii)   They're real Brooklyn lovers.
    iii)   They're real (*the) Bronx lovers.

In (60), containing *the top of the seventh (inning)*,[20] *inning* can be silent, just as in (57). Yet, suprisingly, (62) is appreciably better than (58). The reason may be that in (62) there is a landing site available for the moved silent INNING within the complex phrase beginning with *top*, whereas no such landing site is available in (59).[21]

6. AGAINST ABSOLUTE SYNONYMY

If *grand* in sentences like:

(63)   They've got twenty grand stashed away somewhere.

is a modifier of silent TOTAL,[22] rather than a variant of *thousand*, then the learner of English evidently must choose for this *grand* the "modifier of

20. If *the top of the seventh inning* is to be analyzed as in:

   i)   the top HALF INNING of the seventh inning

as is very likely, the question arises as to why there is no left-branch violation there. It may be that it is the anaphoric relation between (HALF) INNING and *inning* in (i) that is the key distinction between (i) and (53)/(56)/(59), which lack that anaphoric relation.
21. Cf. the account proposed in Kayne (2002a) for (i) vs. (ii):

   i)   *John$_i$ often criticizes him$_i$.
   ii)   John$_i$ often criticizes him$_i$self.

where the phrase containing *self* provides a landing site for the double *John* that is not available in (i).
Perhaps akin to (62) is:

   iii) Ten-grand bills are no longer in circulation.

with *ten-grand* on a complex left-branch, and similarly for:

   iv)   ten grand's worth of diamonds
   v)   a thirty-grand-a-year job

More clearly similar to (62) is:

   vi)   two *(West) 79th buses

with silent STREET.
22. Silent TOTAL may also be present in:

   i)   Three students went into the store and bought sixteen books.

in the interpretation in which the total number of books bought is sixteen. A silent distributor has been suggested for the distributive interpretation of sentences like (i) by Beghelli and Stowell (1997) in their discussion of "pseudo-distributivity"; cf. Heim et al. (1991). The representation of the "cumulative" reading of (i) as:

TOTAL" analysis and must not choose the "variant of *thousand*" analysis. Yet against the background of what we know about syntax, both of these analyses would seem at first glance to have immediate plausibility. How, then, does the learner make the choice?

The question may appear to be a difficult one, if only because the evidence that I've presented against the "variant of *thousand*" analysis consists entirely of unacceptable sentences (or interpretations), as illustrated by (13), (15), and (17), as well as by (8) and (9), and by the fact that *grand* cannot be used in arithmetic counting. Negative evidence of this sort is not directly available to the learner of English, who nevertheless invariably (if I'm right) chooses the "modifier of TOTAL" analysis. Why is that?

The simplest answer, as in all such cases, is that the losing analysis (here the "variant of *thousand*" analysis) is not UG-compatible in the first place, that is, that it is not one that the learner can even entertain, much less choose.

The next question is, what exactly is it that makes the "variant of *thousand*" analysis unavailable in principle? That analysis would make the *grand* of (63) (taken to be a numeral) a homonym of the adjectival instances of *grand* given in (19)–(22). Yet it's not the case that numerals can never be homonyms with other elements (cf. *one/won, two/to, four/for, eight/ate*). In other words, no general ban against numeral homonyms could exclude the "variant of *thousand*" analysis, without excluding too much else. A ban on homonyms involving numerals ten and above might be accurate, but would seem ad hoc.

A more plausible alternative, I think, would be to invoke the long-standing idea that there can be no absolute synonyms. There are many pairs of lexical items that seem synonymous, but they arguably always turn out to be subtly different in interpretation. Assume, now, that numerals invariably have a fixed interpretation that admits no flexibility. Then there can be no numeral near-synonyms. Since, by the long-standing idea alluded to, there can be no numeral absolute synonyms,[23] it follows that *grand* cannot be a variant of *thousand*.

ii)   . . . and bought A TOTAL OF sixteen books

would give syntactic expression to both interpretations of (i).

23. If there are varieties of French that have, for 70, both *soixante-dix* ("sixty-ten") and *septante* ("seventy"), then the text prohibition would have to be limited to non-complex numerals (and non-complex items more generally), in the sense in which *soixante-dix* is complex and *thousand* is not. Alternatively, there must exist a sense of "arithmetic equivalent" that is distinct from "synonym" and that would allow the putative French case without allowing *grand* as *thousand*.

Note that *dozen* and *twelve* are clearly not synonymous, though there's a question concerning a possible root *doz-* that will need to be looked into.

Consequently, the learner has no need to weigh the relative merits of a "variant of *thousand*" analysis against the merits of the "modifier of TOTAL" analysis whose essence is represented in (38). The learner of English immediately chooses the "modifier of TOTAL" analysis (or something close to it), utilizing the option made available by the language faculty of not pronouncing certain syntactically and semantically active elements, and thereby providing the *grand* of monetary expressions with its entourage of silent elements.

SECTION C
Ordering and Doubling

Why Are There No Directionality Parameters?

1. INTRODUCTION

A "why"-question such as the one in the title can be interpreted in at least two ways. On the one hand, it can be interpreted as asking for evidence that supports the assertion that there are no directionality parameters. Another interpretation, taking it for granted that it's true that there are no directionality parameters, asks why the language faculty should be put together in that fashion.

I will touch on some evidence of the standard sort in the first part of this chapter (introduction and sections 2 and 3). (Subsequently, in section 4, I will move on to the second interpretation of the "why"-question.) What, then, is the evidence for saying that there are no directionality parameters?

Basically, it is that under the view that was standard in the 1980s, to the effect that there are directionality parameters, one would expect to find oneself living in a symmetric syntactic universe, with specifiers to be found on either side of their head and complements on either side of theirs. Yet if one looks at the facts of human language syntax to the extent that we know them, in search of such symmetry, one does not find it, I think.

The expectation of symmetry breaks down in a number of ways. One very simple way rests on the following observation. Nobody has ever found two languages that are mirror images of one another, that is, nobody has ever found two languages such that for any sentence in one, the corresponding sentence in the other would be its mirror image (taken either word-by-word or morpheme-by-morpheme).

Put another way, take some human language, for example, English, and construct mirror-image English by taking the mirror image of each grammatical

English sentence and then "putting it into" mirror-image English. Though perfectly easy to imagine, such a mirror image of English has never come close to being found, and similarly for any other known language.

In a symmetric syntactic universe, there should exist such pairs as English and mirror-image-English (even if the question whether you would expect to chance upon them is a complicated one), but clearly nobody has ever found any. I suspect that if you ask syntacticians to make educated guesses, most would agree that we are never going to find such pairs and that it is not an accident that we have not found them yet. This, I think, is relatively uncontroversial.

The antisymmetry hypothesis that I put forth in 1994 in *The Antisymmetry of Syntax* (henceforth *AS*) leads to much stronger expectations, though, stronger than what was said in the preceding paragraphs. This is the case since, if antisymmetry holds, then for any subtree (with both hierarchical and precedence relations specified) that is well formed in some language, the mirror image of that subtree cannot be well formed in any language. That of course is controversial; in fact, the negation of it was standardly assumed to be correct in the 1980s.[1]

At first glance there do of course appear to be symmetrical pairs of substructures, such as English VO and Japanese OV, that do give the impression that they are in a mirror-image relation. If antisymmetry is correct, though, all such cases must be misleading and must in fact involve pairs that differ in hierarchical structure.

If we assume something like Baker's (1988) UTAH principle, along with a strong interpretation of Chomsky (2001) on uniformity, then in such cases as English VO and Japanese OV this hierarchical difference will necessarily be associated with some difference in movement (internal merge) in the corresponding derivations. Such movement differences will in turn be related, under a familiar view, to differences in the properties of functional heads.[2]

A strong position, but one that is not central to what follows and that I will not pursue here, would be:[3]

(1) Movement differences exhaust the universe both of word order differences and of morpheme order differences.

---

1. See, for example, Chomsky and Lasnik (1993, sect. 3.1).
2. See, for example, Borer (1984, 29).
3. Cf. Cinque (1999).

2. MOVEMENT LEADING TO OV ORDER

Let us take OV as a test case. Antisymmetry as in *AS* has the following immediate consequence:

(2)   OV can never be associated with a structure in which O is sitting in the complement position of V.[4]

It seems completely clear and undeniable that there exist languages or subparts of languages in which OV order is produced by movement. It is hard to see how anybody could disagree with that, if it is stated as an existential. One easy example in English would be:

(3)   They're having their car washed.

in which object *their car* comes to precede via movement (of the sort found in passives) the verb *wash* that it is the object of.

Even more telling are examples of OV order involving movement of O where OV order is "canonical" or "neutral,"[5] that is, does not involve what one might think of as "special" movements like the one found in (3). One such type of case is found in languages of a sort studied by Dryer (1992), with SONegV as a possible canonical order (as in Korean). As argued by Whitman (2005), on the assumption that Neg is merged outside VP, and therefore above O, the pre-Neg position of O in SONegV sentences must have been produced by movement.[6] In a SONegV sentence, O can clearly not be occupying the complement position of the pronounced V.

Whitman argues more specifically that SONegV is produced by remnant VP-movement. The verb moves out of the VP by head movement; subsequently

---

4. More specifically this follows from the claim in *AS* and in Kayne (2003a) that specifier, head and complement are always found in the order S-H-C. (In bare phrase structure, this translates into the order "second-merged-phrase H first-merged phrase".)

A number of authors have jumped from S-H-C to SVO. This follows only if what we call objects are invariably complements of their verbs, which is certainly not always the case; see Kayne (1981d) and Larson (1988).

5. Erdocia et al. (2009) argue that canonical SOV order in Basque is processed faster and more easily than non-canonical orders. They plausibly relate that to the canonical order involving less syntactic computation than non-canonical orders. At certain points, though, they seem to draw the further conclusion that canonical order involves no movement at all, which does not follow. In addition to the text discussion of canonical SOXV order in various languages, see the discussion of (6) later, as well as Pollock (1989) and Cinque (1999) on verb movement in (canonical order sentences in) French and Italian (and various other languages), and Bernstein (1991; 1997), Cinque (1994; 2005; 2010b), and Shlonsky (2004) on noun movement (in canonical order DPs).

6. Whitman makes the same point for the S-O-Tense/Aspect-Verb languages discussed by Dryer.

the entire (verbless) VP containing O moves past Neg, much as in Nkemnji's (1992; 1995) analysis of one word order pattern in Nweh.[7]

A similar argument in favor of remnant movement carrying an object to the left of V is made by Baker (2005) for Lokạạ. One such case in Lokạạ is that of SONegV, matching Whitman, but Baker's argument for Lokạạ is extended to various other such cases of canonical SOXV orders, in particular where X is a gerundive morpheme, a mood morpheme, or an auxiliary.[8]

An alternative to remnant VP-movement for SOXV is to have O move past X by itself. Kandybowicz and Baker (2003) argue specifically that both options are made available by the language faculty. While remnant VP-movement is appropriate for Nweh and for Lokạạ, movement of O by itself is called for in Nupe. (This difference correlates with the fact that Nweh and Lokạạ have S-PP-X-V, whereas Nupe does not.[9])

The SOAuxV order found in Lokạạ is, again, a clear instance in which O cannot possibly be in the complement position of the pronounced V. Such sentences are also found in (Dutch and) German in some cases, in particular in (embedded cases of) so-called IPP sentences,[10] in which the verbal complement of the auxiliary appears as an infinitive rather than as a past participle:[11]

7. Cf. in part Biberauer (2008). For a remnant movement analysis of West Germanic OV, see Haegeman (2000) and Koopman and Szabolcsi (2000). For a remnant movement analysis (in which O must move leftward first) of VO order in Malagasy and similar languages, see Pearson (2000).

8. Similarly, Japanese honorific *o-* looks (to me) like a functional head that precedes the (nominalized) VP, all of whose arguments move past *o-*; for recent discussion of this *o-*, see Ivana and Sakai (2007). For related proposals, see Whitman (2001).

9. Cf. also Aboh (2004).

10. For discussion of IPP, see, for example, Hinterhölzl (2000) and Zwart (2007).

11. OAuxV is also found in various languages in a way limited to certain subtypes of O. In Romance languages, object clitics almost always precede a finite auxiliary, for example:

   i)   Jean les a vus. (French "J them has seen")

(For a possible link to certain cases of Scandinavian object shift, see Nilsen (2005, note 7). For a possible link between object shift and passive, see Anagnostopoulou (2005) and Bobaljik (2005).) In French, the quantified objects *tout* ("all") and *rien* ("nothing") can precede an infinitival auxiliary (cf. Kayne (1975, chap. 1; 1981e)):

   ii)   Jean croit tout avoir compris. ("J believes all to-have understood")
   iii) Jean croit ne rien avoir compris. ("J believes neg nothing to-have understood")

In Icelandic, too, negative phrases can do so; cf. Jónsson (1996) and Svenonius (2000).

For instances of OAuxV in Finnish and further instances in Icelandic, see Holmberg (2000) and Hróarsdóttir (2000), respectively.

(4)   Ich glaube dass er das Buch hätte lesen wollen. ("I believe that he the book would-have to-read to-want" = "I believe that he would have wanted to read the book")

In this kind of embedded sentence (strictly speaking SOAuxVV, with two Vs) in standard German, the (definite)[12] object must precede the auxiliary:

(5)   *Ich glaube dass er hätte das Buch lesen wollen.

In other words, (4) is another example of a canonical/neutral word order (this time in German) in which O (*das Buch*) and V (*lesen*) do not even form a constituent.

It should be noted that in instances of SOXV in which the O is carried to the left of X by remnant movement, it might perhaps still be the case that the pronounced O is in the complement position of the trace/copy of V. This would nonetheless be compatible with (2) as long as O, if in complement position, does not precede the trace/copy of V. On the other hand, it is by no means clear that O is allowed to remain in its merge position, insofar as it might always have to move for Case and/or EPP reasons. (This point is strongest if, as in Kayne (1998b) and Chomsky (2001), movement cannot take place at LF.) In this vein, thinking at the same time of the VP-/predicate-internal subject hypothesis[13] that is now widely held, of Kayne (2004a) on prepositions as probes, and of Chomsky (2008) on the perhaps general raising of objects to Spec,V, one might well reach:

(6)   All arguments must move at least once.

Of importance both for (6) and for (2) are deverbal compounds of the English type, as in:

(7)   an avid magazine reader

(8)   that magazine-reading student over there

If we interpret (6) strongly by taking "argument" there to cover the object in such deverbal compounds, then *magazine* must have moved at least once in both (7) and (8), in a way that would fit in straightforwardly with Baker (1988) on noun-incorporation. This is important for the antisymmetric claim

12. In German, but not in Dutch, an indefinite object to some extent can act differently; see Wurmbrand (2005, Table 7).
13. See, for example, see Koopman and Sportiche (1991). For recent discussion of a canonical case of the raising of (genitive) subject and object arguments within DP, see Brattico and Leinonen (2009, 19).

of (2), since (2) says that *magazine* in these examples must not be sitting in the complement position of *read*. A noun-incorporation approach to (7) and (8) would, instead, have *magazine* left-adjoining to *read*, in a way compatible with (2) (and (6)).

Noun-incorporation is not the only approach to (7) and (8) that is compatible with (2). An alternative would be to take *magazine* to be moving to a (low) specifier postion. That might be supported by the possibility of an intervening particle such as *down*:

(9)   an avid music downloader

(10)   that music downloading student over there

with the pre-V position of *down* here related to the pre-V position of the particle in Swedish participial passives,[14] as well as by the possibility of having more than just a noun:

(11)   an avid (?very) old car buyer

(12)   an avid classical music downloader

3. CROSS-LINGUISTIC GAPS AND ASYMMETRIES

Observationally speaking, there are apparent cross-linguistic symmetries such as VO/OV of the English/Japanese type. As discussed in the previous two sections, antisymmetry implies that the apparent symmetries are not true symmetries, when one looks more closely into hierarchical structure. In this section, I would like to touch upon some examples of cross-linguistic asymmetries that strikingly reflect the general antisymmetry of syntax. In each case, a precise explanation will of course ultimately involve other principles (for example, locality) in addition to antisymmetry itself.

3.1. Dislocations and hanging topics

Cinque (1977) has shown that Italian has two distinct types of left-dislocation, one of which he calls "hanging topics."[15] Hanging topics occur at the left-hand

---

14. Cf. Holmberg (1986) and Taraldsen (2000, note 5).

15. Although they might appear not to involve movement, note the scope reconstruction effect for a certain kind of topicalization in Basque pointed out by Ortiz de Urbina (2002, 520). Similarly for the fairly acceptable bound-variable-type reconstruction effect in (my) English:

edge of the sentence. As far as I know, there has never been a claim to the effect that there exists something exactly comparable on the right-hand edge of the sentence, in any language. If so, that is a sharp gap/asymmetry; if antisymmetry were not correct, what could we possibly attribute that to? (The core reason for the absence of right-hand hanging topics is the antisymmetric prohibition against right-hand specifiers.)

Note in particular that the other type of left dislocation that Italian has, namely CLLD (clitic left-dislocation, as discussed in more detail in Cinque (1990)) does seem to have a right-hand counterpart, usually called (clitic) right-dislocation. Yet the pairing of CLLD and clitic right-dislocation (CLRD) is itself misleading. As argued by Cecchetto (1999) for Italian and by Villalba (1999) for Catalan, there are sharp asymmetries within each of those two languages between CLLD and CLRD,[16] which would be quite surprising if our linguistic universe were not antisymmetric.[17] (Again, the core reason for this asymmetry is the antisymmetric prohibition against right-hand specifiers, which forces a remnant movement analysis and/or a bi-clausal analysis of CLRD,[18] but not of CLLD.)

Related to this left-right asymmetry is the fact that there are SVO languages (such as Haitian creole and Gungbe)[19] that lack CLRD entirely, but apparently no SVO languages that lack left dislocation entirely.

     i)   His youngest daughter, no man could possibly not love her.

in which *his* is bound by *no man*.

16. Probably not related to antisymmetry, on the other hand, is the fact that, according to Villalba and Bartra-Kaufmann (2009, note 20), CLRD is "far less common" in Spanish than in Catalan. (Similarly, I have long had the impression that French uses CLRD more than Italian does.) What such differences might rest on (and how they can be made more precise) remains to be understood.

17. It is of course logically possible that we will at some point in the future find other languages where things are the reverse of Italian and Catalan. As in any empirical science, there is no way to prove that that is never going to happen, but the weight of the evidence as of now in this subarea of syntax clearly tilts strongly toward the antisymmetric.

18. Relevant to the bi-clausal possibility is:

    i)   He's real smart, John is.
    ii) He's real smart, is John.

On these, *cf. AS*, sect. 8.3. On a bi-clausal analysis of first-conjunct agreement, *cf.* Aoun et al. (2010). For additional potential cases, see Kayne and Pollock (2012, note 28).

Relevant to the remnant movement possibility is Ortiz de Urbina's (2002) account of sentence-final (corrective) focus in Basque. (His observation (p. 521) that post-verbal constituents are slightly marginal in some adjunct clauses in Basque recalls Vilkuna's (1998) partially similar observation on Estonian and Finnish; for a proposal, see Kayne (2003a, sect. 4.1).)

19. Cf. Baker (2003) on Kinande and Torrence (2005, 70, 73, 75) on Wolof. On a possible link to the position of D, cf. Kayne (2003d, sect. 2).

3.2. Clitics

Greenberg's (1966) Universal 25 states that if the pronominal object in a given language is post-V, so is the nominal object. Recast in movement terms and generalized beyond the position of V, this can plausibly be interpreted as:

(13)   No language will systematically move its lexical objects further to the left than its pronominal clitics.

   Put this way, there is an immediate link to the well-known English contrast between:

(14)   I said I liked them all.

and

(15)   *I said I liked those talks all.

Here, the pronoun arguably moves further left than the lexical DP. The proposal in (13) leads to the expectation that no variety of English could reverse these judgments and reject (14) while accepting (15). From this perspective, (14)/(15) is essentially similar to the French contrast given in:[20]

(16)   Jean les voit. ("John them sees")

(17)   *Jean les chiens voit. ("John the dogs sees")

with the (correct) expectation again being that no variety of French reverses these judgments.
   Both (13) and Greenberg's narrower formulation are compatible with the pattern found in Italian infinitivals:

(18)   Gianni desidera comprarli. ("G desires to-buy them")

(19)   Gianni desidera comprare i libri. ("G desires to-buy the books")

in which both the clitic *li* and the full object *i libri* follow the infinitive. Greenberg's formulation looks wrong, though, for Basque, whose canonical order is generally taken to have the object preceding the verb, which in turn is followed by the auxiliary, so that Basque is canonically SOVAux. The term "aux" here hides substantial complexity. As Laka (1993) shows, the Basque

---

20. Also to some familiar cases of object shift in Scandinavian, with an important question again being whether the pronominal object in Scandinavian object shift is moving by itself, or being carried along by remnant VP-movement, as in Holmberg (1999, last sect.), Taraldsen (2000), and Nilsen (2005).

auxiliary must be decomposed into (at least) three parts, each of which can be preceded by a pronominal person clitic. If so, these clitics are post-V, despite the canonical object being pre-V, in a way that goes against Greenberg's original formulation.[21]

As far as (13) is concerned, Basque highlights an ambiguity in the term "move," one that was touched on earlier in section 2 (and that is in fact relevant to the entirety of this section, too). When a lexical object moves, is it moving by itself or being carried along by the movement of a phrase containing it? One way to reconcile Basque with (13) is to say that (13) is interested only in movements affecting objects by themselves, and then to say that in Basque, O comes to precede Aux (and the pronominal clitics within Aux) as the result of being carried along by some larger phrasal movement.

A second way (not mutually exclusive with the first) to reconcile Basque with (13) is to say that (13) is to be interpreted as referring to A-movement and not A-bar movement, in some sense of those terms. Clearly, the French fact of (16) vs. (17) is not undermined by French allowing:

(20)   Les chiens, Jean les voit. ("the dogs, J them sees")

This example of left-dislocation should not count as an exception to (13). Distinguishing between A- and A-bar movements (and taking pre-V O in Basque to be moved there by A-bar movement)[22] is one way to achieve this. (Another would be to exclude from consideration all sentences with clitic-doubling.)

Assuming that Basque is ultimately compatible with some interpretation of (13),[23] we can ask why (13) would hold in the first place. Part of the answer might lie in Cardinaletti and Starke's (1999) association of degree of movement and amount of internal structure, with pronominal clitics (and weak pronouns) being "smaller" than strong pronouns and lexical DPs and therefore having to move further.

The other part of the answer is closer to the concerns of this chapter. More specifically, the question is why "moving further" should imply "moving

---

21. There would not be much plausibility to trying to make this problem disappear by calling all of the Basque person morphemes in question agreement morphemes and then saying that agreement morphemes don't fall under Greenberg's Universal 25 (or under (13)). Laka (1993) sees a strong parallelism between these Basque person morphemes and Romance pronominal person clitics. (Preminger (2009) argues that the absolutive person morphemes are instances of (non-clitic) agreement, while continuing to take the ergative and dative ones to be clitics; cf. Etxepare (2006; 2009).)

22. Much as in Jayaseelan (2001) for Malayalam.
Note that A-bar movements such as topicalization typically cannot even apply to pronominal clitics.

23. And similarly for Amharic and Persian.

further to the left." An answer is given in *AS*, in particular by the conclusion drawn there that all movement must be leftward.

3.3. Agreement

Just as the "leftness" aspect of (13) would be surprising if we lived in a symmetric linguistic universe (but is not surprising in an antisymmetric one), so would the correctness of Greenberg's (1966) Universal 33 be surprising if syntax were symmetric:

(21)   When verbal number agreement is suspended in an order-sensitive way, it's always when the verb precedes the NP.

Whereas the discussion of the preceding section concerned pronominal clitics (and weak pronouns) that in the general case convey person distinctions, Greenberg's Universal 33 as stated in (21) concerns number only and claims that number agreement in ."..NP . . . V . . . " contexts is more widespread than in ."..V . . . NP . . . " contexts. A controversial generalization of this would be:

(22)   Verbal number agreement always requires that the NP (or DP) in question precede the verb at some stage of the derivation.

This position has been taken (even more broadly) by Koopman (2003; 2005a),[24] who argues that Chomsky (2001) was wrong to allow for purely "downward" agreement.

A particular proposal for the apparent counterexample to (22) constituted by:

(23)   There are books on the table.

is given in Kayne (2008c) in terms of the idea that *there* in such sentences is a remnant that includes (a copy of and) the number features of *books*.[25] This proposal might carry over to Italian sentences like:

(24)   Ne sono arrivati tre. ("of-them are arrived three" = "three of them have arrived")

24. On complementizer agreement, see Koopman (2005b, note 25).
25. In a way akin to Moro (1997) and especially Sabel (2000), but differently from Chomsky (2001, 7), yet in agreement with him concerning the desirability of eliminating categorial features.
Kayne (2008b) contains a proposal (differently than Marantz (1997)) that makes unnecessary the use of such features to distinguish noun-like elements from verb-like elements, by taking antisymmetry to underlie the noun-verb distinction.

if such sentences in Italian contain a silent preverbal (clitic) counterpart of *there*. On the other hand, Italian transitive sentences in which a verb seems to agree with a post-V subject:[26]

(25)   Lo hanno mangiato i gatti. ("it have eaten the cats" = "the cats have eaten it")

will probably require having "lo hanno mangiato" move leftward past "i gatti." Whether one or another of these proposals might carry over to the partially comparable Icelandic examples often discussed in the literature remains an open question.

Both (21) and (22), which is compatible with Agree necessarily being accompanied by movement, fit well with the facts of Italian past participle agreement.[27] A basic contrast is:

(26)   Li ho visti. ("them I-have seen(m.pl.)")

(27)   *Ho visti loro. ("I-have seen(m.pl.) them")

The past participle *visti* can agree with preceding *li* but not with following *loro*. Similarly for passive vs. active in:

(28)   I libri saranno visti. ("the books will-be seen")

(29)   *Ho visti i libri.

In the active (29), the past participle cannot agree with the object. In the corresponding passive, the participle can (and must) agree with the preposed object (which has moved to subject position).

As with (25), large phrasal movement will in all likelihood underlie:[28]

(30)   Saranno visti i libri.

(Alternatively, (30) will contain a silent counterpart of *there*, as suggested for (24).) Either phrasal movement or head movement will underlie the partially similar:

(31)   Una volta vistili, Gianni . . . ("one time seen them, G . . . " = "once he saw them, G . . . ")

26. A challenge is to extend this in a principled way to Moro's (1997; 2000):

   i)   La causa sono io. ("the cause am I")

27. And with French past participle agreement, relative to a gender agreement counterpart of (22). (Number agreement on French past participles is not pronounced.)
28. Cf. Belletti (1981).

in which the past participle *visti* agrees with the pronominal clitic *li* that it ends up preceding.[29]

It should be noted that (22) is a necessary, but not sufficient, condition for past participle agreement to hold. This is shown by the fact that wh-movement does not license past participle agreement in Italian:[30]

(32)   *Quali libri hai letti? ("which books have-you read(m.pl.)")

As a final remark on agreement, note that in Italian sentences like (26), (28) and (30), the finite verb shows person (and number) agreement, while the past participle shows number (and gender) agreement, but never any person agreement. Insofar as the finite verb in these cases is higher than the participle, this discrepancy between person agreement and number agreement recalls Harbour's (2008) claim that in cases of discontinuous agreement, person generally precedes number. Thinking of Shlonsky (1989), the natural proposal is that (within a given local domain) PersonP is higher than NumP, from which the ordering of person before number observed by Harbour will follow,[31] given antisymmetry.

3.4 Relative clauses

In a symmetric syntactic universe, one would expect prenominal and postnominal relatives to be similar, merely differing in their order with respect to the "head." However, Downing (1978) and Keenan (1985) noted substantial differences. These can be stated as follows (setting aside correlatives, and keeping to relatives that are in their canonical position for the language in question):

(33)   Prenominal relatives (as opposed to postnominal relatives) generally lack complementizers akin to English *that*.

(34)   Prenominal relatives (as opposed to postnominal relatives) usually lack relative pronouns.

---

29. Better than (29) is:

   i)   ?G si è comprata una mela. ("G refl. is bought an apple" = "G has bought himself an apple")

It may be that with auxiliary "be," the object can in Italian move higher (and so precede the participle at a certain stage in the derivation) than with auxiliary "have."
For further discussion of French and Italian past participle agreement, see Kayne (1985; 1989a; 2009a).
30. Although it does in French. For an interesting proposal on what the underlying parametric difference might be, see Déprez (1998).
31. Non-discontinuous agreement of the sort found in Icelandic past tense forms may involve movement of Num past Pers.

(These two properties of canonically prenominal relatives are just one, if Kayne (2010a) is correct in taking English *that* and similar elements to be relative pronouns.)

(35) Prenominal relatives (as opposed to postnominal relatives) tend to be non-finite.

These differences fed into the proposal in *AS* that prenominal relatives originate postnominally.[32] A piece of evidence in favor of that view comes from Kornfilt (2000), who observes that the Turkic languages Sakha and Uigur have prenominal relatives whose subjects trigger agreement such that the agreement morpheme actually appears following the "head" noun. She makes the plausible proposal that this agreement is produced via leftward movement of an originally postnominal relative containing a high Agr element. Put another way, what preposes past the "head" NP in these languages is a not quite full relative clause; in particular the preposing to prenominal position strands the high Agr element, which remains postnominal.

In an asymmetric syntactic universe, the following should turn out to be correct (as seems to be the case):

(36) No postnominal relatives ever have their subject determining agreement that precedes the "head" noun.

In other words, there can be no mirror-image of the configuration that Kornfilt discusses for Sakha and Uigur, the reason being that the leftward (partial) relative clause movement that plays a role in Sakha and Uigur can have no rightward counterpart.

3.5. Serial verbs

According to Carstens (2002), serial verb constructions differ cross-linguistically with respect to the relative position of verb and argument, but are cross-linguistically constant with respect to the relative order of the verbs themselves with respect to one another. Put another way, the higher verb of a serial verb construction consistently precedes the lower one, contrary to what we are accustomed to seeing with other cases of higher and lower verbs. The usual case cross-linguistically seems to be that various orders are possible. For example, English and German differ (in embedded non-V-2 contexts) in that

32. For a different view, see Cinque (2003; 2010b).

English has auxiliary-participle order where German has participle-auxiliary order:[33]

(37)   We believe that John has telephoned.

(38)   Wir glauben dass Hans telefoniert hat.

with the participle in German moving leftward past the auxiliary.

That serial verb sentences are cross-linguistically uniform in verb order must mean that for some reason (to be elucidated) the lower verb in such sentences is not able to undergo movement of the sort available in German in (38), or any other comparable movement. The fact that it is the lower verb that invariably follows the higher one in serial verb sentences will then directly reflect the antisymmetric fact that the complement of the higher verb must follow that higher verb. In effect, serial verbs, because they disallow verb-movement of a certain sort, provide a transparent window on the relation between word order and hierarchical structure.[34]

3.6. Coordination

A similarly transparent window seems to be provided by a certain type of co-ordination, as Zwart (2009) shows. According to Zwart, if one looks cross-linguistically at NP/DP-coordination counterparts of English *and*, and if one limits oneself to coordinations in which *and* appears only once, one finds that *and* and its counterparts invariably occur between the two conjuncts:

(39)   a.   NP and NP
        b.   *and NP NP[35]
        c.   *NP NP and[36]

Zwart draws the reasonable conclusion that the limitation to one possible order in (39) must be reflecting absence of movement. In antisymmetric

---

33. As discussed by Zwart (1996; 2007) and others, when there are more than two verbs, there are more than two possible orders cross-linguistically, in a way that is not expected from the perspective of the (vast oversimplification hidden behind the) "head-final language" vs. "head-initial language" distinction (cf. Travis (1989), as well as Kroch's (2001, 706) observation that most languages are actually inconsistent in head-directionality, and Julien (2002; 2003)). A case in point is (4) earlier, in which the order of verbs in German is not simply the reverse of the English order.

34. For related discussion, see Kandybowicz and Baker (2003).

35. Zwart cites Haspelmath (2008) for this observation.

36. Here, as Zwart shows, one must be careful to distinguish *and* from *with*.

terms,[37] (39a) is telling us that *and* is a head, that the two conjuncts are specifier and complement of *and*, and that the order is as it is in (39a) because S-H-C order is the only order made available by the language faculty.

3.7. Forward vs. backward pronominalization

These old terms pick out configurations that are configurations of non-c-command:

40)   The fact that John is here means that he's well again.

41)   The fact that he's here means that John is well again.

Both (40) and (41) have the property that in them neither *John* nor *he* c-commands the other. Put another way, from a c-command perspective on pronoun and antecedent, (40) and (41) do not differ. They do, of course, differ in precedence.

English gives the impression that in such non-c-command configurations anything goes, since both (40) and (41) are possible in English. This impression fed into Lasnik's (1976) claim that pronouns could freely take antecedents subject only to conditions B and C of the binding theory.[38] Under that view of Lasnik's, the precedence distinction that holds in pairs like (40) and (41) should be irrelevant.

But English is not representative. Michel DeGraff (p.c.) tells me that in Haitian creole "backward pronominalization" of the sort seen in (41) is systematically impossible.[39] Huang (1982) said that Chinese has much less backward pronominalization than does English. Craig (1977, 150), in her grammar of Jacaltec, says that Jacaltec has no backward pronominalization at all. Allan et al.'s (1995, 473) grammar of Danish says that Danish has either none or at least much less backward pronominalization than English does (cf. Thráinsson

---

37. Cf. *AS*, chap. 7. Munn (1993) had *and* and the following NP as head and complement, but did not take the preceding NP to be the specifier.

38. Lasnik took these conditions to be primitives. Kayne (2002a) argues that they're not, and, in a way that subsumes O'Neil (1995; 1997) and Hornstein (1999), that pronouns in fact never take antecedents "freely" (cf. also Collins and Postal (2010)). (The proposal in Kayne (2002a) when applied to PRO would have PRO being the double of its antecedent, in a way that makes Landau's (2003) criticism of Hornstein not carry over.)

39. From the perspective of Kayne (2002a), the absence of backwards pronominalization in Haitian might perhaps be related to its lacking heavy-NP shift (cf. Dejean (1993)) and/or to its lacking CLRD (and/or to its lacking Q-float).

Lasnik's (1976) approach to pronominalization led to the expectation that there should not be languages like Haitian creole at all.

et al. (2004, 331) on Faroese). Jayaseelan (1991, 76) says that for some speakers of Malayalam there is no backward pronominalization.

In other words, various languages completely or partially prohibit backward (as opposed to forward) pronominalization, in contrast to English. I don't know of any languages, though, that completely or partially prohibit forward (as opposed to backward) pronominalization in a parallel fashion.

There thus seems to be an asymmetry concerning antecedent-pronoun relations in contexts of non-c-command, of a sort that would be unexpected in a symmetric syntactic universe.[40] This cross-linguistic asymmetry has to do with precedence. To the extent that the backward vs. forward pronominalization question is one of (narrow) syntax, precedence must be part of (narrow) syntax, in a sense to be made precise.

4. A MORE DERIVATIONAL ANTISYMMETRY

4.1. Desiderata

Taking all of the preceding discussion to have reinforced the correctness of antisymmetry, we can now ask specifically why it is that our faculty of language FL has the property of being antisymmetric and why it does not make any use at all of directionality parameters, which after all had seemed to be a perfectly reasonable subtype of parameter. *AS* in effect took the absence of directionality parameters to be axiomatic, via the LCA. There was no attempt made there to ask or answer the question, why should FL contain anything like the LCA?

Moreover, the LCA, while sufficient (in conjunction with a certain definition of c-command) to exclude the orders S-C-H, C-S-H, H-S-C and H-C-S, could not by itself tell us why FL has as its unique order S-H-C, rather than the mirror image order C-H-S. An attempt was made in *AS* in chapter 5 using time slots and an abstract node A, but was not entirely satisfactory, in particular because it did not tightly tie the S-H-C vs. C-H-S question to other aspects of syntax.

I would like now to try to provide a deeper account of antisymmetry in general and simultaneously of the S-H-C vs. C-H-S question than I was able to achieve in *AS*. This newer account will at the same time attempt to transpose the LCA-based ideas into the more derivational framework of Chomsky (1995)

---

40. In Kayne (2002a), I took the pronoun in (41) to be related to its antecedent under "reconstruction" (without *c*-command being necessary, only precedence), the idea being that an antecedent must always precede a corresponding pronoun at some point in the derivation (*cf.* in part Belletti and Rizzi (1988)). This reconstruction approach to (41) is independent, strictly speaking, of the use of sideward movement in Kayne (2002a); on sideward movement, see Bobaljik and Brown (1997) and Nunes (2001).

and later work. This will require transposing into a derivational framework the LCA idea that precedence is an integral part of syntax (as is suggested for independent reasons by the backward vs. forward pro-nominalization discussion of the previous section of this chapter).

The structure of the argument will be to first show that FL has H-C order and not C-H order. The second step will be to show that S (specifier) must be on the opposite side of H from C. From those two conclusions, S-H-C will follow.

4.2. Precedence is part of syntax

Let me adopt an alternative to standard Merge that is mentioned but not pursued in Chomsky (2008), namely that Merge should always be taken to form the ordered pair <X,Y>,[41] rather than the set {X,Y}. As Chomsky notes, part of the issue is whether linear order/precedence plays a role in the mapping to C-I; in this regard the earlier discussion of section 3.7 concerning backward vs. forward pronominalization increases the plausibility that precedence does play a role in that mapping.

Having Merge create <X,Y>, with X then taken to temporally precede Y, involves greater complexity for Merge itself, as Chomsky points out. On the other hand, Spellout will no longer have the burden of specifying precedence relations, which will already have been established by Merge.

If Merge creates ordered pairs, then in the case of the merger of a head and its complement (that is, of a head and the first phrase it is merged with), there is a priori the choice between <H,C> and <C,H>, with <H,C> corresponding to "head precedes complement" and <C,H> corresponding to "complement precedes head."

4.3. Probes precede goals

Let me focus initially on cases of internal merge, where H acts as a probe relative to some goal contained within C. The question is how the probe-goal

---

41. Cf. also Zwart (2003; 2011). The idea that Merge always produces an ordered pair is to be kept distinct from the proposal in Chomsky (2004) (which I am not adopting) that pair-Merge is appropriate for adjunction and set-Merge for specifiers and complements.

Chomsky's (1995, 204) discussion of the adjunct/complement distinction and reconstruction effects rests on the assumption that nouns like *claim* can take sentential complements, which is denied by Hale and Keyser (2002) and Kayne (2008b).

On sentential adjuncts, see Larson (1988; 1990), Cinque (1999; 2006), and Schweikert (2005).

relation interacts with precedence, if precedence is part of (narrow) syntax. Assuming precedence is part of syntax, a reasonable view is that a probe, in searching a domain for its goal, must search either from left-to-right (if the probe is initial, as in H-C) or from right-to-left (if the probe is final, as in C-H). Put another way, the search starts with the probe and then moves on in a direction determined by H-C vs. C-H until it reaches the goal.[42] If H-C, the search starts at the beginning, in precedence terms. If C-H, then the search starts at the end.

The picture of search presented so far has been left-right symmetric. To distinguish H-C from C-H we need to induce an asymmetry. Let me propose:[43]

(42)   Probe-goal search shares the directionality of parsing and of production.

Both parsing and production show a beginning vs. end asymmetry. The hearer hears the beginning of the sentence first and the end last. The speaker produces the beginning of the sentence first and the end last. Using the terms "left" and "right" in a familiar way, this amounts to observing that both parsing and production proceed from left to right.[44] Given (42), we therefore reach:[45]

(43)   Probe-goal search proceeds from left to right.

despite the fact that probe-goal search is not literally temporal in the way that parsing and production are. In effect, if (42) and (43) are correct, FL has incorporated an abstract counterpart of temporality.

This addresses a point raised by Chomsky (1995, 221), who says "If humans could communicate by telepathy, there would be no need for a phonological component, at least for the purposes of communication; and the same extends to the use of language generally. These requirements might turn out to be critical factors in determining the inner nature of C_{HL} in some deep sense, or they might turn out to be 'extraneous' to it, inducing departures from 'perfection' that are satisfied in an optimal way." If (42) and (43) are correct, then the

42. This left-right (or right-left) view of probing is compatible with the idea that the probe might skip stretches of material, for example, previously spelled out lower specifiers.

43. A different kind of link between antisymmetry and parsing (though not production) was proposed in Abels and Neeleman (2006).

44. There is no implication here that in parsing and production one cannot also "think ahead." The crucial point is that there is no reasonable sense in which parsing and production can be taken to go from right to left, that is, from end to beginning.

Ultimately, we will have to clearly delineate the limits of cotemporal phenomena such as intonation and (syntactically relevant) tone.

45. I have followed the standard assumption that there is an intrinsic asymmetry between probe and goal and that search begins with the probe.

phonological component has indeed determined "the inner nature of C_{HL} in some deep sense."

Given that the probe is the head and that the goal is contained within the complement, (43) is equivalent to:

(44)   Head and complement are invariably merged as <H,C>.

That is, the head invariably precedes the complement.

We have thus concluded the first stage of the argument leading to S-H-C, namely that FL countenances only H-C (and never C-H). The argument has rested on the incorporation of precedence (back) into derivational syntax,[46] and specifically on the proposal in (42) that syntactic computation mimics the left-right asymmetry of parsing/production.

This conclusion sheds light on the absence of directionality parameters, for the specific case of head and complement. For there to have existed a directionality parameter affecting the relative order of H and C, there would have had to be parameterization stated in terms of the direction of probe-goal search. Such parameterization, though, could have no natural place at all in an FL for which (42) holds.

4.4. External merge

The discussion of the preceding section focussed on H-C structures involved in internal merge, in which H probes into C in search of a goal. It was proposed that H-C order is the only order made available by FL and that the choice of H-C order was, via (42)/(43), intimately connected to the status of H as probe. What happens, though, in cases in which <H,C> is not involved in internal merge, that is, cases in which the subsequently added specifier arises through external merge rather than through internal merge? If in such cases of external merge H does not act as a probe, then (42)/(43) would not be relevant, and it would seem as if no particular relative order would be imposed on H and C, in a way that would be appear to be incompatible with antisymmetry.

Two partially overlapping proposals exist in the literature that might eliminate this potential problem. One goes back to Chomsky (1995, 337) and in a more general fashion Moro (2000), and says that lack of fixed order is allowed as long as one of the two elements in question is subsequently moved. From their perspective, H and C need to be ordered relative to one another only if neither moves. If one of them moves (or if both move, separately), then the

---

46. Precedence was taken to be part of syntax in the era of phrase-structure rules. The separation of precedence from syntax, which I am taking to have been a mistake, had its origins in Chomsky's (1970) X-bar theory.

question of order internal to the original constituent created by merging H and C doesn't arise, assuming order not to be part of narrow syntax. Their proposal cannot readily be melded with the preceding discussion, however, if precedence is part of narrow syntax and imposed by Merge.

The second proposal I have in mind is made by Holmberg (2000, 137), following Svenonius (1994). It has in common with the Chomsky/Moro proposal the (potential) use of head movement. More specifically, the Holmberg/Svenonius idea is that a selection relation between H and C must be mediated by movement, even in cases of external merge. The head will have an uninterpretable selection feature that, even in the absence of internal merge of a specifier, will act as a probe triggering either feature movement or head movement.[47]

If H is a probe in all cases in which it merges with C, then (42)/(43) is relevant to all pairings of H and C and will impose <H,C> order even in cases not involving internal merge to specifier position.

4.5. Specifiers precede probes/heads

Let us again focus on internal merge and, for the purposes of this section, on the subcase in which one phrase is internally merged to another (as opposed to head movement):

(45) $[_C \ldots S \ldots]$

Here, a phrase S (about to become a specifier of H) is contained in a larger phrase C. A lexical item H (which may be a functional head) is merged from the numeration:

(46) $H [_C \ldots S \ldots]$

S moves from within its complement C to become the specifier of H:

(47) $S H [_C \ldots S \ldots]$

This movement is keyed to some property or properties of H.

It might still at first glance and once clearly did seem reasonable to think of H as having an additional property of the sort:

---

47. Holmberg allows for a third option involving movement of complement to specifier position of the same head that I no longer think is viable (cf. *AS*, chap. 6 vs. Kayne (2003a) on adpositions).

I am leaving open questions concerning the mechanics of head movement.

(48) Spell out the specifier S of H to the left/right of the phrase headed by H that S is merging with.

The parametric option "left" in (48) would match (47); the option "right" would match:

(49) H [$_C$ ... S ...] S

(By the result of the preceding section, H must be to the left of C, as indicated.)

If antisymmetry is correct, FL does not provide such a choice. Only (47) is possible. The seemingly plausible option (49) is never possible.[48] Put another way, if antisymmetry is correct, then (48) is not part of the stock of FL parameters. Why, though, would FL have turned its back on the apparently straightforward (48)?

Parallel to the preceding two sections for the case of H-C, we need to keep in mind both specifiers arising from internal merge and specifiers arising from external merge. For internal merge, Abels and Neeleman (2006) have suggested taking what was a "theorem" in *AS* to the effect that movement is always leftward and elevating it to an "axiom." Indeed, if movement is always leftward, then any internally merged specifier will, given the extension condition, necessarily precede H-C, yielding S-H-C order. As part of their critique of Cinque (2005), Abels and Neeleman very specifically want to limit to internal merge the necessity for specifiers to be on the left, and propose allowing externally merged specifiers to be to the right (or to the left).

Since I feel that they have not made their case against Cinque, since I do not want to weaken antisymmetry to allow both left- and right-hand specifiers (even if limited to external merge) and since I would like not to take leftward movement as an axiom, but rather would like to derive the leftness of all specifiers from more general considerations, I will explore a different avenue, one that is more derivational than the one followed in *AS*, with the two having in common the use of an intermediate step in the derivation of S-H-C, to the effect that specifier and complement must be on opposite sides of the head.

Returning to (48) and to the question why FL has not made use of anything like it (assuming antisymmetry to be broadly correct), a conceivable answer might be that (48) would be too complex a parameter, by virtue of containing the term "phrase headed by H that S is merging with." This kind of answer would not be satisfactory, however, since we lack a clear metric for parametric

48. Any apparently right-hand specifier must be a left-hand specifier whose left-hand status has been obscured by the (leftward) movement past it of the other visible pieces of the projection of which it is the specifier. One example from the sentential domain is Ordóñez (1998) on Spanish VOS sentences; for the DP domain, see, for example, Cinque (2005).

complexity that would yield the desired result. Nonetheless I think that it is the term "phrase headed by H that S is merging with" that is the key, although not in a way related to parametric complexity.

What I have in mind is to instead establish a link between the exclusion of (48) from FL and the existence of a certain lack of homogeneity in our present conception of Merge. In bare phrase structure, one speaks of first merge and second merge in lieu of complement and specifier. Neither terminology does justice to the fact that, while first merge/complement involves merger of a phrase with a head, second merge/specifier involves merger of a phrase with another phrase. (Put another way, classical Merge is not uniform in that first merge with a head involves formation of a set one of whose members is the head in question, whereas second merge involving a given head is merger with a set whose label is that head.)

This asymmetry between first and second merge is reduced somewhat by taking second merge (as in the transition from (46) to (47)) to depend on some property or properties of the head H. Yet the asymmetry remains.

4.6. UNFAMILIAR DERIVATIONS

The idea that I would like to pursue is that it is at bottom the very fact that S in (47) is taken to merge with <H, C> (rather than with H) that gives the directionality parameter (48) its initial plausibility. Consequently, we can divest (48) of what plausibility it seemed to have, and thereby account for FL not countenancing it, if we are willing to take S in (47) to merge, not with <H, C>, but rather with H itself.

Taking S in (47) to merge with H itself would sharpen the sense in which heads are central to syntax, going back to Chomsky (1970). Every instance of Merge must directly involve a head, in the sense that (at least) one of the two syntactic objects merged must be a head. Merge never constructs a set consisting of two syntactic objects each of which is a phrase. From this perspective, (48) is not stable insofar as S(pecifier) is not actually merging with any phrase at all.

A way of executing this idea is as follows, with the key question remaining, why exactly is the directionality parameter (48) not countenanced by FL? Generalized pair-Merge is part of the answer, I think, but not the whole answer, since (48) could be recast in terms of ordered pairs. Thinking of the case in which the phrase S is, under standard conceptions, internally merged to the phrase {H,C} (where S originates within C), one could seemingly have a directionality parameter formulated as:

(50)   Merge produces either <S,{H,C}> or <{H,C},S>.

in conflict with antisymmetry.

What property of FL might make (50) (and (48)) unavailable? As I suggested in preliminary fashion earlier:

(51)   The merger of two phrases is unavailable.

In which case, with S a phrase, neither (50) nor (48) is formulable. What this amounts to, in the case, say, of (47), repeated here:

(52)   S H [$_C$ . . . S̶ . . .]

is the claim that when S is internally merged in (52), S is merged with the head H, rather than with the phrase <H,C>. The consequence is that, in such a derivation, H itself will have been merged both with C and (then) with S.

Taking Merge to always be pair-Merge interpreted as temporal precedence, and further taking Merge to necessarily involve (at least) one head,[49] as required by (51), leads to recasting (52) as (setting aside derivational steps leading to C):

(53)   <S,H>, <H,C>

corresponding to the precedence relations given in:

(54)   S H C

but without "S H C" forming a standard constituent (though I return to this later).

Before pursuing further the question of constituency, let me note that (53) is less symmetrical that it looks. That is so, since displayed as it is (53) fails to show the derivational steps leading to it. Derivationally speaking, S and C remain sharply distinct. C, as the phrase merged first with H, is probed by H. S is the second phrase merged with H and is not probed by H.

4.7. Immediate precedence

Precedence in (53)/(54) can and should be understood as immediate precedence (henceforth i-precede(nce)). Thus <S,H> means that S i-precedes H and <H,C> means that H i-precedes C, with the transition from (53) to (54) now clearer. Let me now use the term p-merge as shorthand for "pair-merge with i-precedence."

---

49. Departing from Zwart (2003; 2011), though remaining in agreement with him on generalized pair-Merge.

I-precedence is of importance in that it leads to:

(55)   H can be p-merged with at most two elements.

This holds since the (temporal) i-precedence we are interested in in syntax is a total ordering that has the property that if X i-precedes Z and Y i-precedes Z then X = Y. Similarly, if Z i-precedes X and Z i-precedes Y, then X = Y.

Given (55), i-precedence yields the property that if H is separately p-merged with each of two elements X and Y (as in (53)), then X cannot i-precede Y, nor can Y i-precede X. A syntactically more perspicuous rendering is:

(56)   If H p-merges with X and also p-merges with Y, then X and Y must be on opposite sides of H.

From (55) follows in a natural way the restriction barring multiple specifiers argued for in *AS*. In effect, (53)/(54) corresponds to an ordinary instance of specifier-head-complement. By (55), nothing further can be p-merged with H. And by (51), there is no option of phrase-phrase merger. Put another way, Chomsky's (2008) point that "Without further stipulation, the number of specifiers is unlimited" does not hold, given (51), if i-precedence is associated with pair-merge.

From (56) it follows, more centrally to antisymmetry, that specifier and complement must invariably be on opposite sides of the head. If we now combine this conclusion that specifier and complement must invariably be on opposite sides of the head with our earlier conclusion (at the end of section 4.4, based on (42)/(43)) that FL consistently imposes H-C order, we reach the desired result:[50]

(57)   FL consistently imposes S-H-C order.

Given that H-C order was argued to hold uniformly, that is, independently of any internal vs. external merge distinction, (57) must, given (56), also hold uniformly, whether S is internally merged or externally merged.

If we return once again to the question why (48)/(50) is not a possible (directionality) parameter, the answer is again, as at the end of section 4.3 for H-C alone, that for there to exist a directionality parameter affecting the relative order of S and H and C, there would, given (56), have to be parameterization stated in terms of the direction of probe-goal search. Such parameterization, though, can have no natural place at all in an FL for which (42) holds.[51]

---

50. Note that from the text perspective for an element to be in an i-precede relation does not imply that it must be pronounced.
51. Nor is there any room for a (non)-configurationality parameter; cf. Legate (2003a, b).

4.8. Constituency

Allowing (53), repeated here:

(58)   <S,H>, <H,C>

raisea (at least) three kinds of questions concerning constituent structure. One concerns the fact that "S H" and "H C" in (58) both end up looking like constituents. The second concerns the fact that "S H C" in (58) looks as if it is not a constituent. A third question concerns the relation between (58) and trees, insofar as (58) does not map to a standard tree (H would have two mothers).

Beginning with the first, we can note that the constituent status of "H C" in (58) is unremarkable, since "H C" there corresponds to a standard constituent (head + complement). On the other hand, the constituent status of "S H" might appear to create a problem having to do with the potential movement of "S H." Notice, though, that this has been a long-standing question for "H C," too, even though "H C" is a standard constituent. A familiar view is that "H C" cannot move because it is not a maximal projection. In a probe-goal framework, this amounts to saying that a probe can pick a head or the maximal projection of a head,[52] but not an intermediate-level projection. Restricting movement to heads and maximal projections would suffice to block movement of "S H," given a suitable definition of maximal projection (which would in turn allow movement of "S H C"), which could be, in the context of generalized p-merge:[53]

(59)   The maximal projection of a head H is the maximal set of ordered pairs each of which immediately contains H.

By earlier discussion, this maximal set will never have more than two members.

4.9. Speculations on trees

Trees are not primitives in a bare phrase structure derivational syntax. So one might think, since I have been attempting to achieve a deeper understanding of antisymmetry by integrating it more tightly into such a derivational syntax,

---

52. As part of "pied-piping"; cf. Ross (1967) and Chomsky (1995, 262); I abstract away here from the difference between feature and lexical item. For recent discussion of pied-piping, see Cable (2010).
53. This definition will also play a role in determing what is a possible antecedent.

that the tree question is of little interest. Yet the following may be a substantive restriction on derivational syntax:

(60)   Every syntactic object in every derivational stage[54] in a derivational syntax must be simply mappable to a tree.

The notion "simply" would have to be made precise, but (60) might exclude (58) with the interpretation given in the first paragraph of the previous section.

Yet (58), together with (55) and (56), played a key role in deriving the prohibition against multiple specifiers and in deriving the fact that FL has the S-H-C property rather than the mirror-image *C-H-S property. Assuming (60) or something like it to be desirable, we have reached a paradox. Of course, one could take (60) itself to be paradoxical, especially if one took it to follow (in a way that would need to be made precise) from:

(61)   The correct derivational theory of FL must be simply mappable to a representational theory.

If (61) were true in a non-trivial way (that would depend on how "simply" was defined), there would be a reason why it has been so difficult to find decisive evidence favoring a derivational over a representational theory or vice versa; (61) would be telling us that there is a level of abstraction (that we would need to find) at which the difference between derivational and representational collapses.

To make (58) compatible with (60)/(61), one could have it mapped to:

(62)   <S,H,C>

with an ordered triple replacing the two ordered pairs and then being mappable to a ternary-branching tree. This would lead to seeing my (1981a) arguments for binary branching to have two subcomponents, the first being the claim that syntax is n-ary branching with n having a single value, the second being that that value is 2. Mapping (58) to (62) would retain the first subcomponent and replace 2 by 3 in the second, arguably with no loss in restrictiveness.

This would imply that familiar relations like the binding of an anaphor by an antecedent could no longer be regulated by a tree-based notion of (asymmetric) c-command, but Chomsky (2008) had already suggested that c-command might well, in a derivational probe-goal framework, be dispensable with.

54. For precise definitions, see Collins and Stabler (2016).

4.10. Further remarks on p-merge

Allowing (58), repeated again here:

(63)   <S,H>, <H,C>

leads to questions concerning restrictiveness, especially if the speculations of the preceding section were to turn out not to be on the right track. If one can p-merge two separate phrases with a given head, as in (63), why not more than two? The answer to this question has already been given, in terms of the requirement that p-merge imply immediate precedence, combined with the fact that (in a total ordering of the temporal sort) a given head can enter into an immediate precedence relation with at most two elements. (This immediate precedence requirement will, in addition, block many other unwanted p-merges.)

Left open, however, is the question of:

(64)   <H_2, S>, <S, H_1>

Could a specifier merged with one head subsequently be merged with a higher head? Immediate precedence would be satisfied. On the other hand, (60) would not be. This seems clear if we expand (64) to:

(65)   <H_2, S>, <S, H_1>, <H_1, C>

for which ternary branching does not suffice for compatibility with (60). An alternative would be to mimic the mapping from (58) to (62) by mapping (65) to:

(66)   <H_2, S, H_1, C>

corresponding to a tree with four branches at the highest level (there is additional branching within S and within C). This would be at the cost of giving up the idea that branching is n-ary with n restricted to a single value. (Alternatively, one could consider giving up (60) (though not necessarily (61)), that is, abandoning the relevance of trees entirely, in which case (64)/(65) would become more plausible.)

A theoretical question is whether a theory that allows (63) would be expected to also allow (64)/(65).[55] The answer would be no if the double

---

55. I'm setting aside the question whether (65), if valid, is the only option, or is one of two options, the other being:

   i)   <H_2, {<S, H_1>, <H_1, C>}

Note that (i) illustrates the more general fact that p-merge merges a head and a (non-singleton) set. For a proposal about first steps of derivations, see Kayne (2008b).

appearance of H in (63) were necessarily the side effect of a single application of the probe-goal mechanism,[56] which (64) could not be.

A more empirical question is whether or not there are clues to the possible existence of (64) in one syntactic phenomenon or another. The answer is maybe. Insofar as (64) establishes a p-merge relation between a higher head and the specifier of the next lower head, (64) reminds us of various ECM-type phenomena, as well as of Stowell's (1981) discussion of contrasts such as:

(67) Any question about how he could have made such a mistake must be taken seriously.

(68) *?Any question about in what sense he could have made such a mistake must be taken seriously.

In addition, (64) is reminiscent of the phenomenon of "escape hatches," going back to Chomsky (1973; 1986) and found in Chomsky (2008), in part in terms of the PIC. Pursuing the question whether (64) is what in fact underlies the relative centrality of such head-lower Spec relations is beyond the scope of this chapter.

5. CONCLUSION

In answer to one aspect of the "why"-question in the title of this chapter, there are no directionality parameters simply because the evidence against them coming from cross-linguistic gaps of all sorts is substantial.

I have given a split answer to the other aspect of the title question, which asks why it is that FL is antisymmetric to begin with. There is no C-H order, only H-C order, primarily because of (42) and (43), repeated here:

(69) Probe-goal search shares the directionality of parsing and of production.

(70) Probe-goal search proceeds from left to right.

There is no H-C-S order, only S-H-C order, primarily because of (51), namely:

(71) The merger of two phrases is unavailable.

combined with the fact that Merge imposes an immediate precedence relation.

56. Cf. Chomsky (1995, 233). Taking the double appearance of H in (63) to necessarily reflect a single application of the probe-goal mechanism might provide a handle on the question why (51) should hold.

This chapter can also be read as a subcase of a type of question that we need to keep asking. Why are certain readily imaginable parameters not found in syntax?[57]

The more derivational approach to antisymmetry that I have argued for in this chapter has in common with *AS* that it prohibits certain apparently (but if I'm right, mistakenly) plausible kinds of syntactic analyses, such as those involving right-adjunction or right-hand specifiers or left-hand complements. In so doing, antisymmetry will necessarily have widespread effects even in areas of syntax that have not played a role in the original arguments for it. Any compositional semantics closely tracking syntax will correspondingly be affected by antisymmetry.

Many of the empirical arguments for antisymmetry involve parametric variation and thereby illustrate how parametric variation can indirectly serve as a window on the principles of FL.[58]

57. Rizzi (2010) has an interesting proposal characterizing existing parameters.
58. This point is orthogonal to the question whether some particular property of FL can or cannot ultimately be traced back to FL-external factors as in Chomsky (2004).

Toward a Syntactic Reinterpretation of Harris and Halle (2005)

1. INTRODUCTION

Harris and Halle (2005, henceforth H&H) present a carefully worked out analysis of certain non-standard Spanish phenomena involving pronominal clitics and the verbal plural morpheme -*n*. In this chapter, I will suggest, in agreement with Manzini and Savoia (2004), that their primarily morphological approach to these phenomena should be replaced by a more syntactic approach.

At issue for the most part are plural imperatives in combination with one or more object clitics. The Spanish plural imperatives in question, though second person in interpretation, are third-person plural in form and in particular have the third-person plural -*n* found in several verbal paradigms.[1] An example of such an imperative with a lexical DP object is:

(1) Véndan el libro. ("sell -*n* the book")

If the object is a pronominal clitic such as *lo*, the standard form is:

(2) Véndanlo. ("sell -*n* it")

The object clitic follows the verb and its associated agreement morphology, as is generally true in Romance in affirmative imperatives.

In addition to (2), there is a non-standard possibility of having:

---

1. This recalls in part German in general having third-person plural for second-person polite, as well as Italian in general having third-person (feminine) singular for second-person singular polite.

(3)   Véndanlon. ("sell -*n* it -*n*")

in which the third-person plural agreement morpheme -*n* appears twice. In both (2) and (3) this -*n* reflects agreement with the silent plural subject of the imperative. In the standard version (2), this -*n* immediately follows the verbal form *vénda*-, in a familiar way. In the non-standard version (3), -*n* appears in addition following the object clitic, somewhat unexpectedly. H&H use for (3) the term "reduplication."

H&H use the term "metathesis" to refer to another type of non-standard Spanish plural imperative, as in:

(4)   Véndalon. ("sell it -*n*")

in which the -*n* in question appears following the object clitic, as it does in (3), but does not also appear following the verbal form itself.[2]

H&H's choice of terminology reflects their proposed analysis, in which the syntax is taken to produce the order of morphemes seen in (2), with just one -*n*. A morphological operation of partial reduplication then produces (3), in which -*n* is "reduplicated." A related morphological operation of metathesis, also starting from (2), produces (4), having the effect of switching the relative order of -*n* and *lo*.

H&H's proposal, elaborated within the D(istributed) M(orphology) frame-work (v. Halle and Marantz (1993)), has the property of creating a redundancy between morphology and syntax, insofar as having a morphological operation of metathesis[3] able to change the relative order of -*n* and clitic (to produce (4)) amounts to having morpheme order regulated by both morphological and syntactic operations.

Similarly, having a morphological operation of reduplication that is not syntactic (and that is modeled on phonology) may turn out to be redundant with respect to syntactic copy constructions such as those involving two copies of the same object clitic, as found in various Romance dialects:

(5)   (*)Juan lo quiere hacerlo. ("J it wants to-do it")

In standard Spanish, this kind of example is not possible, but counterparts of it are possible in some Spanish, Catalan and Italian dialects.[4] (The appearance

2. Note that in both (3) and (4) each morpheme is pronounced in regular fashion, without any morphophonological quirks. This appears to be true of all the relevant examples.

3. Which seems akin to permutation, as in early generative syntax; for some recent discussion, see Lasnik et al. (2000).

On redundancy within DM, cf. also Manzini and Savoia (2004), with which the present proposal has much in common.

4. See Kayne (1989b, (text to) note 34); also now Cattaneo (2009).

of more than one *-n* in examples like (3) may also be close, or closer, to (13)/(60) later.)

In addition to redundancy, H&H's proposal faces a problem with respect to restrictiveness. If metathesis can apply to (2) to produce (4) by inverting the order of *-n* and object clitic, why could metathesis not apply to (2) and disrupt the syntax in a different way, by inverting other pairs, incorrectly producing, for example?:

(6) *Véndnalo.[5]

Although *vénda* is composed of root *vénd-* plus theme vowel *-a-*,[6] metathesizing this *-a-* with *-n* is not possible.

Nor is:

(7) *Avéndnlo.

which would have been the result of metathesizing *-a-* with *vénd* itself. H&H's formalism (which I am not reproducing here) would also, as far as I can see, allow there to exist a rule of metathesis switching the relative order of *-a-* with the pair in *-nlo*, incorrectly yielding:

(8) *Véndnloa.

as well as one switching the relative order of the object clitic and the pair in *-an-*, incorrectly yielding:

(9) *Véndloan.

---

5. This example has, relative to Spanish, an unusual sequence of consonants, but the same facts hold even when the imperative stem is vowel-final. Thus alongside the well-formed:

    i) Léanlo. ("read *-n* it")

there is no:

    ii) *Lenalo.

and similarly for:

    iii) *Alénlo.
    iv) *Lénloa.
    v) *Léloan.
    vi) *Léanalo.
    vii) *Léloanlo.
    viii) *Anléanlo.

6. On these theme vowels, see Massuet (2000).

A similar set of questions arises for their reduplication operation. If reduplication can, starting from (2), produce (3),[7] why could it not also, starting from (2), produce:

(10)   *Véndanalo.

via reduplication of -*a*-, or:

(11)   *Véndloanlo.

via reduplication of *lo*, or:

(12)   *Anvéndanlo.

via reduplication of -*an*-, etc.?

H&H go astray, I think, for several reasons. One is that they did not take into account the partial similarity between (3) and multiple agreement of the sort seen in Italian in:

(13)   Maria è stata lodata. ("M is been praised" = "M has been praised")

in which two past participles, *stata* and *lodata*, agree with the same subject (the suffixal -*a* here is feminine singular, with no reflex of person). Another is that they probably didn't think that the syntax could see inflectional morphemes like -*n* (here they are on common ground with some syntacticians). A third possible reason is that they (again like certain syntacticians) probably thought that there is a clear boundary between syntax and morphology such that the relations between (2) and (3) and (4) had to fall on the morphological side of things.

An alternative view is that the operations and principles involved in what is usually called word-formation are, especially when it comes to inflectional morphemes like verbal plural -*n*, essentially the same as those involved in syntax. Morphemes are combined (by Merge) and ordered[8] in essentially the same way that phrases are combined and ordered.[9] (Some DM work takes a position close to this one, but without completely disavowing morphology-specific operations such as "fission.")

---

7. It may be relevant that H&H's proposed reduplication operation here is non-local, in the sense that the two -*n* in examples like (3) are not adjacent to each other. The status of the kind of reduplication that is local in the sense of adjacency I leave an open question.

8. In a way that respects antisymmetry, if Kayne (1994) is correct.

9. See especially Koopman and Szabolcsi (2000) and Julien (2002), both of which question the relevance to syntax of the notion "word" (cf. also Baker (1988), Manzini and Savoia (2002; 2007), and Myers (1987)).

That sub-word-level phenomena and phrasal phenomena are cut from one and the same cloth had already been suggested by Greenberg's (1966) Universal 27:

(14)   Universal 27: Exclusively suffixing languages are postpositional. Exclusively prefixing languages are prepositional.

If Greenberg is correct here, the order of affix and stem/root must be regulated in a way close to (and strongly interacting with) the way in which the order of adposition and associated phrase is regulated.[10]

H&H p. 202 note that the metathesis and reduplication operations they propose must respect morpheme boundaries. Consider the non-standard:

(15)   Denlen eso. ("give -*n* him/her -*n* that")

which is essentially like the reduplication example (3), although here the clitic *le* that is non-standardly followed by -*n* is dative rather than accusative. Close to (15) but parallel rather to the metathesis example (4), is:

(16)   Delen eso. ("give him/her -*n* that")

H&H show that if bimorphemic *den* in (15) (*de+n*) is replaced by (singular) monomorphemic *ten*:

(17)   Tenle eso. ("hold him/her that" = "hold that for him/her")

then reduplication is impossible:

(18)   *Tenlen eso.

Similarly there is no counterpart to (16):

(19)   *Telen eso.

since in *ten*, the final -*n* is part of the root.

H&H's claim that morpheme boundaries must be respected here is certainly correct. Yet it seems to me that, since their formalism is based on a phonological one (intended to cover cases of reduplication that they consider not to respect morpheme boundaries), they have no real account of (18) or (19), that is, their formalism could have accomodated (18) or (19) had Spanish allowed them.

10. On adposition order, see Kayne (2003a, sect. 4).

Similarly, H&H p. 202 note a sharp contrast having to do with:[11]

(20)   Háganlo mejor. ("do -*n* it better")

(21)   Hagan lo mejor ("do -*n* the best [thing]")

When *lo* is an object clitic, as in the standard (20), some non-standard Spanish allows reduplication, with -*n* appearing twice, as in:

(22)   Háganlon mejor.

as well as metathesis (in their terms), with -*n* appearing only once, following the clitic:

(23)   Hágalon mejor.

On the other hand, when *lo* is a definite article, as in (21), non-standard Spanish allows neither reduplication:

(24)   *Hagan lon mejor.

nor metathesis:

(25)   *Haga lon mejor.

Again, though, as far as I can see, their formalism does not lead one to expect this difference between clitic and definite article to hold.

   A syntactic perspective on these facts will lead to a more straightforward account. Examples (18) and (19) are impossible because the plural -*n* at issue does not appear at all in a singular imperative like (17). Examples (24) and (25) are (as will become clearer later) impossible because definite articles (in particular those that are part of a larger overt DP) do not move to higher positions in the syntax with the freedom of object clitics, and cannot raise out of DP in a way that would have them precede the -*n* of plural subject agreement.[12]

2. THE IMPORTANCE OF OBJECT CLITIC ORDER

   H&H's morphological approach to non-standard Spanish (3), (4), (15), (16), (22), and (23) also misses (because it sees morphology as more separate from syntax than it in fact is) a generalization having to do with subdistinctions

---

11. For a somewhat similar contrast, see De Vogelaer et al.'s (2001, (12)) discussion.
12. This is so even if Uriagereka (1996a; 1996b) is more correct on Galician than is Otero (1996).

among object clitics. H&H p. 210 observe for (4) (and they suspect the same holds for (3)) that there are dialect differences with respect to the question of precisely which clitics are allowed to participate in ((3) or (4)).[13] They display their results as follows, for the object clitics *se, me, le, lo, la*:

(26) a.   se

     b.   se, me

     c.   se, me, le

     d.   se, me, le, lo, la

The top line refers to the most prevalent type of dialect, which allows only *se* to precede plural *-n*. The bottom line refers to the least prevalent type (which allows all the listed clitics to precede *-n*). Put another way, *se* is the clitic that across dialects most readily allows (3) or (4), that is, *se* is the object clitic that most readily appears preceding plural *-n*.

A non-standard example like (3), but with *se* is (from H&H p. 205):

(27) Sírvansen. ("serve *-n* refl. *-n*" = "serve yourselves")

alongside the standard:

(28) Sírvanse. ("serve *-n* refl.")

The object clitic that next most readily allows non-standard (3) or (4), cross-dialectally, is *me*, as in (again from H&H p. 205):

(29) Sírvanmen. ("serve *-n* me *-n*")

corresponding to the standard:

(30) Sírvanme. ("serve *-n* me")

Least readily able to precede *-n*, cross-dialectally, are the accusative clitics *lo* and *la*,[14] as in (3) itself, repeated here:

(31) Véndanlon. ("sell *-n* it *-n*")

13. Postma (1993, 5) points out that Judeo-Spanish has the *se* case.

14. Plural clitics are prohibited from preceding *-n* for reasons that may be phonological, as suggested in H&H's footnote 14. Alternatively, there might be a link to the prohibition against plural *-s* in English deverbal OV compounds:

    i)   an avid magazine(*s)-reader

and/or to the *se . . . los* and *no . . . los* phenomena discussed in H&H, section 3.

Put another way, although (31) is found in some varieties of non-standard Spanish, it is found in only a subset of those that allow (29), which in turn is found in only a subset of those that allow (27).

Why should object clitics show differential behavior in this fashion? H&H's framework provides no answer. The array in (26) is, however, familiar. It recalls the order of Spanish object clitics when they co-occur with each other, as discussed within a generative framework going back most prominently to Perlmutter's (1971) work.[15] The clitic *se* is the one that normally occurs first in a sequence of object clitics. The accusative clitics occur last in a clitic sequence.

Thus there is a correlation between the order of Spanish object clitics and their relative ability in non-standard dialects to precede plural *-n*. The earlier an object clitic occurs in a sequence of object clitics in Spanish, the more readily it can, across dialects, be followed by this *-n*.

The present, more syntactic perspective that I am pursuing can account for this correlation to a substantially greater extent than can H&H's morphological approach, as I will now attempt to show. In so doing, I will need to broach at least two further questions of syntax. One concerns the constituent structure of clitic sequences. (Does a sequence of pronominal clitics form a constituent, or not?) The second concerns the status of plural *-n*. Let me begin with the first.

3. SPLIT CLITICS

The array in (26) can be (partially) recast in the following terms:

(32) The object clitic *se* precedes *-n* more readily (cross-dialectally) than the other object clitics.

(33) The accusative object clitics *lo* and *la* precede *-n* less readily (cross-dialectally) than the other object clitics.

The claim that I will continue to develop is that these two generalizations in turn correlate directly with the fact that Spanish clitic order, as discussed by Perlmutter (1971), has *se* first and *lo/la* last.

The ability of third-person accusative clitics to precede plural *-n* in some varieties of Spanish contrasts with the generalization proposed by Manzini and Savoia (2004) on the basis of Italian and Albanian dialects. Possibly, the third-person character of *-n* itself is what allows a third-person accusative to raise past it.

15. The limited divergence from this dominant clitic order discussed by Ordóñez (2002) is not directly relevant here since it is found only pre-verbally, while the HH cases involve only postverbal clitics.

This correlation between clitic order and the ability of a clitic to precede -*n* will turn out to rest in part on the constituent structure status of clitic sequences. The key question is whether a sequence of object clitics does or does not form a constituent.

A basic consideration is that there are a number of clear cases in which object clitics can visibly be "split" (that is, in which they clearly do not form a constituent), despite originating in the same simple sentence. A French example given by Martinon (1927, 302) is:[16]

(34)   Voilà ce qui l'en a fait se souvenir. ("here-is that which him thereof has made refl. to-remember" = "Here"s what made him remember it")

In this example, both the reflexive clitic *se* and the pronominal clitic *en* ("thereof") originate within the infinitive clause. Only the latter raises up to precede the causative verb *fait*, however. The former remains low, directly preceding the infinitive. Clearly, in such examples, *en* and *se* do not form a constituent.

Chenal (1986, 398, 399) contains two examples of split clitics in a Franco-Provencal auxiliary–participle construction:

(35)   T'an-të prèdzà-nen? ("you$_{dat}$-have they spoken thereof" = "Have they spoken to you of it?")

(36)   T'an-të deut-lo? ("you$_{dat}$ have they said it" = "have they said it to you")

In both of these, the dative clitic *t'* is raised to the left of the auxiliary *an* ("have"), while the other object clitic (*nen* or *lo*) stays lower down, in a position past which the embedded past participle raises.[17] Again, it is clear that *t'* and *nen* or *lo* do not form a constituent in these examples.

Although contemporary French allows split clitics in causatives, as in (34), it does not otherwise allow them, for example:

(37)   Jean veut te les montrer. ("J wants you$_{dat}$ them to-show" = "J wants to show them to you")

16. In this example, *en* comes to precede *se*, which is never possible in a simple sentence:

   i)   Jean s'en souvient. ("J refl. thereof remembers" = "J remembers it")
   ii) *Jean en se souvient.

For relevant discussion, see Kayne (1975, chap. 6).

17. Similar examples have been attested for the nearby dialects studied by R. Harris (1969). See in addition Bürgi (1998) on what she calls "distribution répartitive"; the fact that her Vaudois French is more restrictive than the dialect described in Reymond & Bossard (1979) with respect to the question of which clitic can go higher remains to be understood.

In this infinitival example, the clitics are not visibly split, nor can they be:

(38)   *Jean te veut les montrer.

(39)   *Jean les veut te montrer.

However, examples of split clitics with non-causative infinitives from seventeenth-century French have been brought together by de Kok (1985, 594), and there are also modern dialect examples.[18] (Contemporary French itself does not allow these, if only because it does not allow clitic climbing with infinitives at all (outside of causatives).)

When two (or more) clitics are split as in (34)–(36) or in seventeenth-century French or in dialect counterparts of (38) or (39), those clitics obviously do not form a constituent.

On the other hand, when two object clitics are adjacent, as in (37), the correct constituent structure is less immediate. In the spirit of Kayne (1994, sect. 4.3), Zanuttini (1997, 21), Stjepanović (1998), Terzi (1999), Manzini and Savoia (2002), Ordóñez (2002) and Săvescu-Ciucivara (2007; 2009), however, let me adopt:

(40)   There are instances of adjacent clitics that are split (that is, that fail to form a constituent).

Everybody would agree that there are some such instances, for example, in the Italian example:

(41)   Farlo mi farebbe piacere. ("to-do it me would-do pleasure" = "it would give me pleasure to do it")

where the clitic *lo* is embedded within the subject infinitive and the clitic *mi* is part of the matrix. *Lo* and *mi* in this example are adjacent, but clearly do not form a constituent.

In (37), on the other hand, both clitics are within the embedded infinitival sentence, and similarly for:

(42)   Me les montrer serait une bonne idée. ("me them to-show would-be a good idea" = "to show me them would be a good idea")

---

18. Cf. the preceding footnote and the references cited in Kayne (1989b, note 34). It needs to be ascertained whether any of the Occitan languages fall into this class.

For some discussion of restrictions that limit the range of cases in which clitics can be visibly split (including in Spanish), see Kayne (1991, sect. 1.3).

On split clitics, v. also Franks and King (2000, 243, 247, 334).

All seven of the authors just cited take there to be at least some cases like (37) or (42) in which (two) adjacent clitics do not in fact form a constituent, and similarly for simple finite sentences with two (or more) clitics, such as:

(43)   Jean te les montrera demain. ("J you them will-show tomorrow")

In this kind of finite example, too, there are some cases in which there is reason to believe that the two clitics are split.

Of the authors just mentioned, Manzini and Savoia (2002) take the strongest position to the effect that all clitics are split, that is, that sequences of clitics never form a constituent. Possibly, that is too strong a position to take (but possibly not).[19] For the purposes of this chapter, the following intermediate position will be sufficient:

(44)   Any pair of clitics that can co-occur can potentially be split.

(with a key question of course then being what the conditions are under which this can happen).

Take, for example, the pair *te lo* or *me lo*, as in simple Spanish sentences like:

(45)   Juan te lo da. ("J you it gives")

(46)   Juan me lo da.

According to (44), *te* and *lo* (or *me* and *lo*) in such examples might or might not be split. The case in which they are not (if such cases exist), that is, in which they form a constituent (to the exclusion of the verb), would probably not be relevant to what follows.[20] Consider, then, the case in which they are split.

Let us set aside the (remote) possibility that *te* or *me* in such split clitic sentences forms a constituent with the subject *Juan* to the exclusion of everything else. If that is correct, then, by antisymmetry, *te* or *me*,[21] since it precedes *lo*, must asymmetrically c-command *lo* in (45). This fits sentences like (35) and (36) in Franco-Provençal, too, as well as sentences in those Italian dialects that allow pre-verbal *te/me* and *lo* to be separated by a negative morpheme, as in the Cairese (Ligurian/Piedmontese, NW Italy) example:[22]

(47)   U me n le da 'nenta. ("he me neg. it gives not")

19. Cf. Cardinaletti (2008a) and Cattaneo (2009, chap. 3) for recent arguments in favor of the existence of some instances of clitic clusters.
20. If *te lo/me lo* can be a constituent, questions will arise as to the internal structure of that constituent.
21. Or, conceivably, a remnant phrase containing *te* or *me* but no other pronounced material.
22. Example from Parry (1997) as discussed by Zanuttini (1997, 20), that I have slightly altered to bring out the individual morphemes more clearly.

A key step toward understanding the Spanish facts brought to light by H&H is, I think, to see the similarity between sentences such as (47) and examples of theirs (H&H p. 206) that contain two object clitics, for example:

(48)   Dénmenlo. ("give -*n* me -*n* it")

and in which the two object clitics are separated by an instance of plural -*n*. A related example also given by H&H p. 206 is:

(49)   Démenlo. ("give me -*n* it")

again with plural -*n* separating the two clitics. (The absence in (49) of the first of the two -*n* morphemes present in (48) is not relevant here.)

In both (48) and (49), the clitic *me* precedes a plural -*n* that the other clitic *lo* follows. This is very much like what we see in (47), modulo the difference between the plural morpheme -*n* in (48) and (49) and the negative morpheme *n* in (47). In all of (47)–(49), as in the discussion of (45) and) (46), I take *me* to asymmetrically c-command *lo* or *le*.

There is of course, in addition to the plural vs. negative morpheme one, a second difference between (47) and (48)/(49), namely that in the latter pair, the (imperative) verb precedes the two clitics (and the intervening -*n*), while in (47) the (non-imperative) verb follows the two clitics (and the intervening negative morpheme). In the spirit of the tradition illustrated by Emonds (1978), Pollock (1989) and others, I take this second difference to be due to a difference in verb movement that can be factored out, leaving us with an even more straightforward parallelism between (47) and (48)/(49).

The difference in verb movement here is itself a familiar one, insofar as there is a substantial tradition that takes Romance imperative verbs to move particularly high.[23] I draw from this the conclusion that (48) and (49) are to be understood as having a derivation that prior to imperative verb movement contains a stage like:

(50)   me -n lo de(n)

in which *me* asymmetrically c-commands *lo*, just as in (47) *me* asymmetrically c-commands *le*.

A further natural conclusion is that in (50) and (48)/(49) the -*n* separating the two clitics asymmetrically c-commands the second clitic *lo* and that that -*n* is in turn asymmetrically c-commanded by the first clitic *me* (which is most likely in a specifier position higher than the position of -*n*).[24]

23. Cf. Zanuttini (1997, 129) and references cited there.
24. Possibly, *me* is left-adjoined to -*n*, but that seems appreciably less likely; see (most of) the seven references cited earlier.

This further conclusion leads to consideration of a more specific parallelism between (47) and (48)–(50). In the Ligurian/Piedmontese dialects in question, accusative third-person clitics can never precede negation (Zanuttini (1997, 18)), in contrast to first- and second-person and reflexive clitics. This strongly recalls those varieties of Spanish characterized by line (b) of (26) earlier and in which *se* and *me* can precede plural *-n*, but in which accusative third-person clitics cannot precede plural *-n*.[25]

This Ligurian/Piedmontese fact and the parallel Spanish facts for the relevant dialects lend themselves to the following interpretation, much as in Zanuttini (1997, 21). In these languages/dialects, first- and second-person and reflexive clitics move higher than accusative third-person clitics.

This difference in landing site has two strongly linked effects. The first effect is seen in H&H's (26), which shows how first- and second-person and reflexive clitics come to precede (that is, raise to a position higher than) plural *-n* more readily than accusative third-person clitics, and is simultaneously seen in the Ligurian/Piedmontese facts that are parallel to (26), with negation "standing in for" plural *-n*, such that first- and second-person and reflexive clitics can raise to a higher position than negation in a way that accusative third-person clitics cannot.

The second effect is the very fact that in both the Ligurian/Piedmontese dialects at issue and in Spanish, even in the absence of negation or of this plural *-n*, first- and second-person and reflexive clitics invariably precede accusative third-person clitics when the two types co-occur.[26]

As far as I can see, the unification of effects given in the previous paragraphs in terms of landing site differences is not expressible at all from the perspective of H&H's analysis.

As usual, there remain further questions to be answered from the present perspective. How, for example, is one to understand the difference between those varieties of Spanish characterized by (26a,b), which do not allow accusative third-person clitics to precede *-n*, and those characterized by (26d), which do? Whether one should think in terms of a higher possible landing site for accusative third-person clitics in the (26d)-type dialects, or alternatively in terms of a lower position in those dialects for *-n* itself is unclear and I will leave the question open.

H&H's (26) shows an additional division within Spanish object clitics that I have not yet touched on. Third-person dative *le* can precede *-n* more readily than accusative third-person clitics can, but less readily than reflexive *se* can. Within Spanish, it is difficult to pursue the contrast between third-person

---

25. Second-person *te* does not appear at all in (26) due to an irrelevant Condition B/overlapping reference effect that bars a second singular object from occurring with a plural imperative; *cf.* H&H p. 211.

26. A point made by Zanuttini (1997, 21) for Italian.

dative and third-person accusative, since the two types of clitics never co-occur.[27] Let me very briefly pursue, rather, the difference between *le* and *se*. Here, too, there is a sharp correlation with ordinary clitic order in Spanish (that is, even in the absence of *-n*), in that when *se* and *le* co-occur, *se* always precedes *le*. As before, I conclude that the landing site of *se* is higher than the landing site of *le* (probably in all Spanish) and that in some dialects of Spanish this difference in landing site is visibly reflected in the fact that *se* can precede *-n*, but *le* cannot.[28]

4. IMPERATIVES

H&H 205 point out that the *-n* morpheme that appears following object clitics in various dialects in positive imperatives, as in the examples discussed, never appears in negative imperatives. A pair of standard Spanish positive and negative imperatives, with *-n* directly following V, is:

(51)   Háganlo. ("do *-n* it")

(52)   No lo hágan. ("neg. it do *-n*")

The positive one of these has a non-standard counterpart with post-clitic *-n*, as seen earlier in (22), essentially repeated here:

(53)   Háganlon. ("do *-n* it *-n*")

The negative one does not:

(54)   *No lon hagan. ("neg it *-n* do *-n*")

The key difference appears to reside in the post-verbal position of the clitic in positive imperatives, as opposed to its pre-verbal position in negative imperatives. Put another (and better) way, the post-clitic *-n* in question is itself allowed to appear post-verbally in some dialects, as in (53), but in no dialect is it allowed to appear preverbally, as shown by the general impossibility of (54).

This way of looking at things is supported by the fact that post-clitic *-n* never appears preverbally in non-imperatives, either:

(55)   Lo(*n) hacen. ("it (*-n*) they-do *-n*")

27. For recent relevant discussion, see Manzini and Savoia (2002).
28. Ordóñez (2002, 214) notes that even those varieties of Spanish in which *me se* is a possible order, *le se* remains impossible. (He also notes that any Romance language/dialect that has (the equivalent of) *le se* also has (the equivalent of) *me se* and *te se*.)

The question now is why this post-clitic -*n* is limited to occurring post-verbally, across dialects of Spanish.

To a certain extent, the answer appears to be straightforward. In standard Spanish, this plural agreement -*n* is always post-verbal:

(56)   Los chicos hablan inglés. ("the kids speak -*n* English")

(57)   *Los chicos nhabla inglés.

Another way of putting it is that this -*n* has the familiar property that we call being a verbal suffix. Somewhat more precisely put, -*n* requires that a (nearby, tensed) verb move up to its (immediate) left. This might be via head-adjunction, or it might, thinking especially of Koopman (2005a) on Korean *tul*, be via (remnant) phrasal movement, which I will take to be the case (though what follows might be recastable in head-movement terms).

To say that the -*n* in question is a verbal suffix, and not just a suffix expressing plurality, is to think in part of the fact that -*n* never appears as a plural morpheme with adjectives or nouns:

(58)   cinco chicos/*chicon inteligentes/*inteligenten ("five kids intelligent")

To say, more specifically, that -*n* induces verb (phrase) movement is in effect to say that the verb need not (contrary to the usual sense of the term "suffix") appear to the immediate left of -*n*, insofar as the verb (phrase) might in some cases be able to move even further to the left. That is in fact exactly what happens, I think, in examples like (53). We reach, at a certain stage of the derivation:

(59)   lo -n hagan

There are two instances of -*n*. The lower one has already induced movement of the verb *haga* to its (immediate) left. The higher -*n* is merged subsequently and the object clitic, in the relevant dialects and depending on the choice of clitic, moves past it, yielding (59).[29] As shown by the impossibility of (54) and (55) with post-clitic -*n*, a derivation that stopped at (59) would not yield an acceptable sentence. The reason is that in (59) the higher -*n* has not yet been properly licensed, that is, it has not yet induced verb (phrase) movement.

---

29. If moving past the higher -*n* is akin to non-causative, non-participle clitic climbing, then the expectation is that no French dialect will be able to match those Spanish dialects having an object clitic followed by -*n*. Ultimately, one will need to bring into the picture colloquial French sentences like:

   i) Donne-moi-z'en ("give me *z* thereof")

on which, see Rooryck (1992) and Laenzlinger (1998, sect. 3.1.1).

When verb (phrase) movement does apply to (59), the higher -*n* has met its requirements and the resulting sentence (53) is acceptable.[30]

It should be noted in passing that this analysis of Spanish plural -*n* successfully distinguishes it from Ligurian/Piedmontese negative *n*, which can, as in (47), follow a pre-verbal object clitic in a way that Spanish plural -*n* never can. The reason is that this negative *n* never induces or needs to induce verb (phrase) movement.[31]

The two instances of -*n* in (53)/(59) represent two instances of third-person plural agreement with the (silent) subject of the imperative. In displaying two instances of the same type of agreement with one subject, (53)/(59) recalls the Italian example (13) mentioned earlier and repeated here:[32]

(60)   Maria è stata lodata. ("M is been praised" = "M has been praised")

in which two past participles agree with one subject. In (60), it is natural to think that the subject *Maria* has moved up stepwise, licensing agreement at each step. The same might also hold of (53)/(59), in which the silent imperative subject might have moved up, licensing the phi-features of -*n* in stepwise fashion. Alternatively, thinking again of Koopman (2005a) on Korean, it might be that in (53)/(59) the verb and subject move up together, with the subject licensing each -*n* in turn from its specifier position within the moved verbal consituent. I leave this question, which bears on how many uninterpretable features -*n* has, open.[33]

H&H p. 206 note the existence in some non-standard Spanish of imperatives with three instances of -*n*:

(61)   Dénmenlon. ("give -*n* me -*n* it -*n*")

30. Possibly, *hagan* moves first to the left of the higher -*n* and subsequently, after the clitic moves to the left of *hagan, hagan* moves further to the left of the clitic.
  Note that each -*n* is merged as an independent morpheme in the ordinary syntax; no morphemes are combined in any pre-syntactic fashion.
31. Leading to the question why negative morphemes are often preverbal in Romance (v. Zanuttini (1997)), while the verbal plural agreement -*n* never is (as far as I know).
32. A striking instance of multiple agreement within DP is found in Italian in:

  i)   troppi pochi libri ("too few books")

in which *tropp-* agrees with *libri* despite not being a modifier of it; see Kayne (2002b, sect. 1.8) and Corver (2006). For recent discussion of multiple definite articles in Greek and of related Germanic agreement phenomena, see Leu (2008).
33. An open question for the time being is why there is (apparently) no instance of -*n* in imperatives following an adverb:

  ii)   *Haga rapidamente-n eso! ("do rapidly-*n* that")

despite there being instances of (diminutive) agreement following an adverb in Occitan; Camproux (1958, 332); cf. also Koopman (2005a, note 17) on Korean.

Pursuing the preceding reasoning, this kind of example can be understood in terms of a derivation involving three (remnant) verb (phrase) movement steps. As in (59), we reach (omitting traces/copies):

(62)   lo n den

which in turn leads to:

(63)   den lo n
       n den lo n
       me n den lo n
       den me n lo n

with successive-cyclic-like movement of *de+n*. Remaining to be understood is why Spanish has no roll-up movement in imperatives of the sort discovered by Terzi (1999) for Greek. Were Spanish like Greek, the following would be possible in addition to (61):

(64)   *Dénlo(n)me(n).

though to judge by H&H's discussion (64) appears not to be found in any variety of Spanish.

   Although the plural *-n* of the various Spanish imperative examples under discussion recalls the *-a* of Italian (60) in showing more than one instance of the same kind of subject agreement in a "simple" sentence, there is a difference having to do with what H&H call metathesis examples such as (4), repeated here:

(65)   Véndalon. ("sell it *-n*")

in which there is a non-standard instance of *-n* following an object clitic, but in which the normal *-n* following the verb itself fails to appear, contrary to:

(66)   Véndanlon. ("sell *-n* it *-n*") (=(3))

The Italian example (60) has no counterpart in which one of the *-a* agreement morphemes fails to appear:[34]

(67)   *Maria è stat vista.

(68)   *Maria è stata vist.

34. A question is whether these are to be found in any Romance language/dialect.

Nor, to judge by H&H's discussion, is the absence of -*n* following V in (65) possible in the absence of the -*n* following the object clitic, in these plural imperatives. The following is possible (H&H 195), but only as a singular imperative:

(69)   Véndalo. ("sell it")

The impossibility of (69) as a plural imperative is presumably due to the same factor that requires -*n* to appear with a plural subject in:

(70)   Los chicos habla*(n) inglés. ("the kids speak -*n* English")

There must be an agreement morpheme in finite and in imperative sentences in Spanish (and third-person plural must be spelled out as -*n* in the relevant paradigms).[35] This leaves open, however, the question whether (65) contains two instances of -*n*, one of which is silent, or just one instance of -*n*. In part because allowing a silent counterpart of plural -*n* would probably ultimately make it harder to understand the absence of (67)/(68), and in part because of further data from H&H, I tentatively prefer the latter option, that is, the idea that (65) contains just one agreement morpheme.[36]

The further data alluded to include:

(71)   Véndamelon. ("sell me it -*n*")

with one -*n* following two object clitics. H&H 208 note that such examples are accepted only by speakers who also accept:

(72)   Véndamenlo. ("sell me -*n* it")

with one -*n* between two object clitics. From the perspective of the proposals concerning (53) and (61) earlier, this fact can be understood as follows. Both (71) and (72) contain the non-standard higher -*n* of (59), without containing the ordinary/standard lower one. As discussed after (50), this higher -*n* (which may be akin to the agreement that follows complementizers in some

---

35. If the -*a* in the singular counterpart:

   i)   El chico habla inglés. ("the kid speaks English")

is a theme vowel, and not an agreement morpheme, then Spanish must have a silent agreement morpheme in such third-person singular sentences; cf. Harris (1969) (vs. Manzini and Savoia (2004)).

36. Possibly, the other option, with a silent plural agreement morpheme, is excluded because agreement morphemes are unable to move (apart from being pied-piped by something else).

Germanic[37]) can be crossed with differing degrees of facility by different object clitics. The fact that (71) is less widely accepted than (72) is due to the fact that the object clitic *lo* has raised past this high *-n* in the former, but not in the latter (and that cross-dialectally *lo* cannot raise across this *-n* as readily as *me*; cf. the discussion of (26)).[38]

The high subject plural agreement *-n* at issue has so far been seen following an object clitic only in imperatives. In non-imperative finite sentences in Spanish, object clitics always precede the finite verb, which has the effect of prohibiting the appearance of this *-n*, for reasons given in the discussion following (55). Spanish object clitics also (apart from clitic climbing) follow the verb when the verb is an infinitive or a gerund and in fact H&H p. 213 give examples with a gerund and with an infinitive in which *-n* follows an object clitic:

(73)   Están besándosen. ("they-are kissing *se -n*" = "they are kissing each other")

(74)   Quieren vermen. ("they-want to-see me *-n*")

They note that cross-dialectally these gerund and infinitive examples with post-clitic *-n* do not seem to cluster with the imperative examples of post-clitic *-n*. They also note that in these, as opposed to the imperative cases such as (71) and (72), the first *-n* cannot be omitted:

(75)   *Está besándosen.

(76)   *Quiere vermen.

These two differences between the gerund/infinitive cases and the imperative cases suggest that in the former pair, that is, in (73) and (74), the second *-n* is

---

37. For Germanic complementizer agreement, which co-occurs with verb agreement with the same subject, see, for example, de Vogelaer et al. (2001). It may also be that the high Spanish *-n* under discussion is itself in part akin to Korean *tul*, as analyzed by Koopman (2005a).
Brandi and Cordin (1989, 132) have an example from Fiorentino in which what raises across this high *-n(o)* is a subject clitic.
38. Although Spanish object clitics show differential facility in raising past the nonstandard high *-n* in question, they do not display any differences, as far as I know, when it comes to raising past a matrix verb in so-called restructuring sentences like:

    i)   Juan me quiere ver. ("J me wants to-see")
    ii) Juan lo quiere ver. ("J him/it wants to-see")

suggesting that it is the high landing site, relative to the normal position of the verb, that matters. Nor are split clitics possible in Spanish restructuring sentences:

    i)   Juan me lo quiere dar. ("J me it wants to-give")
    ii) *Juan me quiere darlo.

For recent discussion of restructuring, see Cinque (2006).

located within the embedded gerund or infinitive phrase. H&H think not, on the grounds that this second -*n* is impossible if the object clitic is absent (even when the first -*n* is present):

(77)   *Están comiendon. ("they-are eating -*n*")

(78)   *Quieren comer(e)n. ("they-want to-eat -*n*")

But this property is arguably shared with the high -*n* of imperatives, for which there is no clear example without a preceding object clitic. In particular, if imperatives could contain a high -*n* with no object clitic preceding it, we would be able to have imperative examples like the following (in which the second -*n* would be the high one):

(79)   *Hagann eso! ("do -*n* -*n* that")

A unified account of (77)–(79) might be available if this high -*n* (the second one in each example) requires a (certain kind of) filled specifier.[39]

The conclusion, then, is that those speakers who allow (73) and (74) allow this high -*n* to appear within a non-finite embedding and that that parametric property does not necessarily correlate with that -*n* being able to appear within imperatives. On the other hand, it seems likely that the way in which the object clitic in (73) and (74) comes to precede -*n* tracks the way in which it does in (71) and (72). If so, we expect that (73) and (74) would be acceptable with a third-person accusative object clitic only to a proper subset of those accepting (73) and (74) with *se* or with *me*.[40]

It is not clear from H&H's discussion whether there are any varieties of Spanish that have post-clitic person agreement morphemes parallel to the post-clitic number morpheme -*n*. If there are not, one would want to understand the reasons. It is in any event notable that Manzini and Savoia (2004) give Italian dialect (imperative) examples with exactly that, for example, from a Calabrian dialect:

(80)   da -mə-'tɛ -llə ("give me *tɛ* it")

where the third morpheme is a second-person plural morpheme (agreeing with the silent subject of the imperative[41]), in a way that makes (80) look very much like (72), so that the derivation of (80) should probably track that of

---

39. Which in turn might follow if Kayne (1998a, Part V) was correct to propose that functional heads must always attract something overtly to their Spec, though the contrast between these Spanish facts and the inflected infinitives of Portuguese needs to be looked into further; on the latter, see Raposo (1987).

40. H&H do not say whether this is so or not.

41. Which might, thinking of English, be PRO rather than pro.

(61) fairly closely. There is, though, one difference worth mentioning between the derivations suggested by Manzini and Savoia and those favored here (cf. the discussion of (50)), namely that, for them (as for Sportiche (1995)), object clitics are inflectional heads merged in the sentential projection line, whereas I have been taking object clitics to be moved into a high(er) Spec position from an original merge position within the VP.[42]

The question arises whether there are non-agreement functional heads that can split two object clitics in the manner of (72) or (80). To judge for Spanish by a quick Google search, there are quite a number of examples of:[43]

(81)   compraserlo ("buy *se -r* it")

(82)   daserlo ("give *se -r* it")

in which the two object clitics *se* and *lo* are separated by the infinitival morpheme *-r*, which in the standard form would precede both clitics, as in:

(83)   comprarselo

(84)   darselo

The existence of these (assuming them not to be a quirk of Google) and similarly of some Italian (Google) counterparts:

(85)   compraglierla ("buy him *-r* it")

(86)   daglierla ("give him *-r* it")

alongside the standard:

(87)   comprargliela

(88)   dargliela

supports the idea that the infinitival morpheme *-r* is merged independently of the verb, whether it ends up next to it or not, and that in some varieties of Spanish and Italian infinitival *-r* can be merged high and can participate in derivations along the lines of those suggested for plural *-n*.[44]

---

42. If pronominal clitics are nominal, as opposed to verbal, then Manzini and Savoia's position (as well as Sportiche's) is incompatible with Kayne's (2008b) claim that nouns do not project.

43. How to reconcile with Cardinaletti (2008b) these and all the earlier imperative examples of split post-verbal clitics needs to be looked into.

44. On the other hand, a quick Google search does not turn up corresponding non-standard examples with gerunds (in which the gerundive *-ndo* would split two object

5. CONCLUSION

A more syntactic approach to the range of phenomena discussed in this chapter (which do not exhaust those discussed in H&H) seems more revealing and more likely to tie in to other aspects of Spanish grammar (and to aspects of the grammar of other languages/dialects) than the more morphological one developed by H&H. In certain respects, this is similar to the argument in Kayne (2008c) that a certain instance of apparent morphological syncretism in North Italian object clitics is best reinterpreted in terms of a single clitic that sometimes co-occurs in the syntax with another, silent clitic (and sometimes does not). There is also a point of contact with the argument in Kayne (1998b) against covert/LF movement, insofar as H&H's use of morphological metathesis can also be seen as redundant relative to standard syntactic movement.[45]

clitics), recalling the discussion of (6)–(12) earlier, as well as Manzini and Savoia's (2004) conjecture that no temporal, modal or aspectual morpheme could split two object clitics in this way. Perhaps this suggests that the infinitival *-r* has more in common with agreement morphemes along the dimension of (un)interpretability than these other functional morphemes do.

45. Cf. Chomsky (2008).

CHAPTER 15

Locality and Agreement in French Hyper-Complex Inversion (with Jean-Yves Pollock)

1. HCI

Standard French has a root interrogative construction that looks a bit like English subject-aux inversion:[1]

(1)   Is he there?

(2)   Est-il là? ("is he there")

In a way related to Pollock's (1989) discussion, the fronted verb in French, as opposed to English, need not be an auxiliary:

(3)   Voit-elle quelqu'un? ("sees she someone")

A second difference between the two languages is that this inversion applies in French only if the subject is a pro-nominal clitic, as it is in (2) and (3). This can be seen clearly in French yes-no questions:[2]

(4)   *Est Jean là? ("is J there")

(5)   *Voit Marie quelqu'un? ("sees M someone")

---

1. Colloquial French has lost the inversions discussed in this chapter. In what follows, we abbreviate "standard French" to "French."
2. French has another, distinct inversion construction informally called "stylistic inversion" that sometimes (but not in yes-no questions) overlaps with subject clitic inversion; see Kayne and Pollock (2001) and references cited there.

A third difference is that French, unlike English, allows a variant of (2) and (3) in which a non-dislocated pre-verbal subject co-occurs with the post-verbal pro-nominal subject. Kayne (1972) called this "complex inversion" (henceforth CI):

(6)   Cela est-il vrai? ("that is it true")

In the appropriate register, CI is highly productive. Relevant to this chapter is the fact that CI is compatible with object clitics (henceforth OCLs):

(7)   Cela la gêne-t-il? ("that her bothers it" = "does that bother her?")

Central to this chapter is an important observation due to Morin (1985), namely that alongside (7) a large number of speakers also accept, with the same interpretation as (7):[3]

(8)   Cela la gêne-t-elle? ("that her bothers she" = "does that bother her?")

in which the post-verbal (nominative) subject clitic (here *elle*) agrees in gender and number with the pre-verbal (accusative) OCL (here *la*).[4] This contrasts with ordinary CI, as in (7), in which the post-verbal subject clitic *il* agrees with the pre-verbal subject *cela*. We shall use for (8) the informal term "hyper-complex inversion" (henceforth HCI).

2. HCI AS CLITIC DOUBLING

In many ways, HCI and CI are very similar,[5] so that one can think of HCI as a subcase of CI characterized by the agreement, in HCI, between subject clitic (henceforth SCL) and OCL (and by the non-agreement, in HCI, between SCL and pre-verbal subject).[6] Of course there are sentences that are potentially ambiguous between HCI and CI, such as:

(9)   Cela le gêne-t-il? ("that him bothers it" = "does that bother him")

---

3. For further background, see Kayne and Pollock (2012), of which the present paper is in effect a continuation.
4. More marginally, the OCL in question can be dative—see (100) later.
5. For example, both are restricted to root contexts lacking any complementizer, both are limited to interrogatives and some affective contexts, both have the property that the post-verbal pronoun must be a clitic. For additional details on CI, see Kayne (1972) and Pollock (2006).
6. There also exist instances of HCI in which the SCL agrees with a non-clitic; v. (96) later on wh-sentences.

in which masculine *il* might be agreeing (in gender and number) either with the lexical subject *cela* or with the masculine OCL *le*. To facilitate bringing out the properties of HCI, then, one needs to study sentences in which, as in (8), the lexical subject and the OCL do not match in phi-features.

It should be noted that although the post-verbal SCL in HCI/CI can agree with either the OCL (HCI) or with the pre-verbal subject (CI), the SCL does not have the option of not agreeing at all:

(10)   *Cette table la gêne-t-il? ("that table her bothers it/him")

Here, both *cette table* and *la* are feminine, while *il* is masculine.

We propose to analyze both CI and HCI as instances of clitic doubling, that is, to relate them to the better-known dative clitic doubling found in languages like Spanish. A key difference is that CI and HCI centrally involve not dative clitics but rather nominative ones (SCLs).[7]

More specifically, we will adopt the "complex constituent" approach to clitic doubling proposed in Kayne (1972, sect. 3) for CI and in Uriagereka (1995, 81) for the Spanish type.[8] This amounts to saying that in a CI example like (7), *cela* and SCL *il* start out within a phrase (a complex DP) that excludes the verb (and the object):[9]

(11)   . . . [cela il] gêne la

In HCI examples like (8), the SCL *elle* starts out paired with the OCL, rather than with the lexical subject:

(12)   . . . cela gêne [la elle]

The agreement effect seen in CI/HCI is in this way reduced to agreement (in gender and number) within the complex DP. (In both (7) and (8), the complex DP is split apart in the course of the derivation.)

The impossibility of (10), in which the post-verbal SCL agrees with nothing, is now excluded as follows. If that SCL is merged within a complex DP containing either *cette table* or *la*, there is a violation of the obligatoriness

---

7. On the nominative status of French subject clitics, see Napoli (1981) and Kayne and Pollock (2001, sect. 5).

8. Cf. also Bianchini, Borgato and Galassi (1982) and Belletti (1999); also Boeckx (2003) and Šimík (2008) on resumptive pronouns in relatives and questions.

9. This complex DP approach to clitic doubling has something in common with Szabolcsi's (1983; 1994) proposal for simple possession sentences like (the Hungarian counterpart of) *John has a sister*, according to which (by transposition to English) the possessor *John* originates within a DP containing *a sister*. Cf. Boneh and Sichel (2010).

of DP-internal gender/number agreement in French. But if the SCL is not merged within some complex DP in (10), it has no viable source at all.[10]

Of interest now is that fact that, contrary to CI, simple SCL inversion (henceforth SCLI) of the sort seen earlier in (2) and (3) has no HCI-like counterpart that would correspond to (8). To see this, note first that SCLI is compatible with an OCL:

(13)   La gêne-t-il? ("her bothers it/he" = "does he/it bother her?")

Here *la* and *il* correspond to distinct arguments. If there existed an HCI-like counterpart, then agreement between SCL and OCL would be possible, keeping the interpretation constant. Such agreement is not, however, possible in (13). The following is well formed, but not with the interpretation of (13):

(14)   La gêne-t-elle? ("her bothers she/it" = "does she/it bother her?")

The argument corresponding to the (post-verbal) subject in (13) must be of masculine gender (whether animate or not), while the corresponding argument in (14) must be of feminine gender.

The reason that (14) cannot be related to (13) in the way that (8) is related to (7) is the following. In (8), *elle* can be taken to be a double of *la* (both then being part of the object argument), since there is still *cela* to fill the role of subject argument. Whereas in (14), if we were to take *elle* to be a double of *la*, there would be nothing left to fill the role of subject argument.[11]

The impossibility of (14) in the relevant reading is brought out by a sharp contrast between HCI and right dislocation:

(15)   Ce scandale la gênera-t-elle? ("this scandal her will-bother she" = "will this scandal bother her?")

(16)   *La gênera-t-elle, ce scandale?[12]

---

10. On the plausible assumption that it could not, in (10), correspond to any kind of expletive.

11. Since French is not a null subject language of the Italian sort. French may allow (cf. Kayne (1972) and Kayne and Pollock (2001)):

　　i)   pro il/elle . . .

but such a pro would have to be linked to the SCL and therefore could not correspond to a separate argument, as would be needed in (14).

The text proposal is in the spirit of Morin (1985, 796).

12. Counterparts of both this example and (14) appear to be possible in the North Italian dialect (close to Paduan) discussed by Penello (2003; 2007 (11b)). The contrast with French might be related to that dialect's being a partial pro-drop language; see also Roberts (1993) and Pollock (2006) on Valdôtain dialects.

(15) is an example of HCI parallel to (8). (16) is an (ill-formed) instance of right dislocation corresponding to the well-formed right dislocation in:

(17) La gênera-t-il, ce scandale? ("her will-bother it, this scandal" = "will it bother her, this scandal?")

in which the subject *il* is paired with the dislocated *ce scandale*. (16) is ill formed for essentially the same reason as (the relevant interpretation of) (14)—having *elle* instead of *il* amounts to having *elle* merged in the same complex DP as object argument *la*. That causes no problem in (15), where (non-dislocated) *ce scandale* is available as subject argument, but in (16) there is no available subject argument once *elle* is paired with *la*. The reason is that a right-dislocated constituent cannot directly correspond to any argument and there is no available pronoun in (16) that can (help it to) fill that role, either (just as there wasn't in (14)).

3. A RESTRICTION CONCERNING SCLS

Pre-verbal SCLs are never compatible with either CI or HCI.[13] Thus alongside:

(18) Ils la voient. ("they her see")

with SCL *ils*, French allows SCLI:

(19) La voient-ils?

but neither CI:

(20) *Ils la voient-ils?

nor HCI:

(21) *Ils la voient-elle?

4. THE -*T*- MORPHEME

Informally speaking, the sharp deviance of (20) and (21) can be thought of as reflecting the fact that French cannot license two SCLs in one simple

---

13. In contrast, the distinct popular French -*ti* mentioned by Morin (1985, 794) is compatible with pre-verbal subject clitics.
There is also a contrast here between French and the dialect studied by Penello (2003; 2007).

sentence,[14] as opposed to French being able, in CI/HCI, to license one SCL and one lexical subject DP at the same time. If we set aside left- and right-dislocation, however, we can see that such double licensing is possible only if the SCL is post-verbal. This is shown using CI in:

(22)   Cela est-il vrai? ("that is it true")

(23)   *Cela il est vrai.

and with HCI in:

(24)   Cela la gêne-t-elle? ("that her bothers *t* she" = "does that bother her?")

(25)   *Cela elle la gêne.

We can take (23) and (25) to be excluded by virtue of the fact that pre-verbal SCLs and pre-verbal lexical subject DPs are, in French,[15] Case-licensed by a functional head that can license only one of them in a given simple sentence.

If so, then post-verbal SCLs must have access to an extra licenser, one that is not available to pre-verbal subjects of any type. In the spirit (though not the letter) of Pollock (2006), we shall claim that it is the *-t-* morpheme of CI and HCI (seen clearly in (24)) that plays a key role in licencing the post-verbal subject clitic in these constructions.[16]

This "extra" *-t-* is not clearly represented in the orthography in cases like (22) that contain a verb whose third person form otherwise ends in *-t*. But it is in (24) and in cases such as:

(26)   Marie a-t-elle une voiture? ("M has *t* she a car")

as compared with the corresponding non-inversion examples:

(27)   Marie a (*-t) une voiture.

(28)   Elle a (*-t) une voiture.

In (26) (and (24) and (22)), the *t* must be pronounced; in (27)/(28) there cannot be a pronounced *t*.

When the verb has an orthographic *-t* as does *est* in (22), then that *-t* can (sometimes) be pronounced even in non-inversion contexts if followed by a

---

14. For some discussion of this restriction, see Kayne and Pollock (2012).
15. As opposed to various dialects in Northern France and in Northern Italy; on the latter, see Poletto (2000) and references cited there.
16. Cf. Schoorlemmer (2006).

word beginning with a vowel. Thus the following, in which the verb-final *-t* can be pronounced, contrast minimally with (27)/(28):

(29)   Ceci est une voiture. ("this is a car")

(30)   Elle parlait à sa soeur. ("she spoke to her sister")

(31)   Elles entendent une symphonie. ("they hear a symphony")

French is thus "irregular" in the following way. Some finite verb forms, such as those in (29)–(31), end in a third-person agreement *-t* morpheme.[17] Others, as in (27)/(28), normally do not, but are nonetheless followed by that *-t-* morpheme in root interrogative contexts in which the finite verb is itself followed by a SCL, as in (26).[18]

   The absence of any *-t* in (27)/(28) means that ordinary subject Case-licensing, whether of a pre-verbal lexical DP, as in (27), or of a pre-verbal SCL, as in (28), cannot in general depend on the presence of overt *-t*. On the other hand, there is without exception a pronounced *-t-* immediately preceding a post-verbal third-person SCL, as in (26). As stated earlier, this makes it plausible to take the licensing of a third-person post-verbal SCL to depend crucially on the presence of this *-t-*.[19]

17. In at least one dialect in France, this third-person *-t* has been generalized; see Morin (1985, note 30).

18. The limitation to root contexts is sharp, but (to an extent as in English) there are some non-interrogative root contexts that allow *-t-* + SCL, for example, with CI and HCI:

   i)   Peut-être cela la gêne-t-il. ("maybe that her bothers it")
   ii) Peut-être cela la gêne-t-elle.

The fact that the *-t-* in question cannot precede a lexical DP:

   iii) Où va-t-il? ("where goes *t* he")
   iv) Où va (*-t-) Anne?

(with (iv) an instance of stylistic inversion; see note 2) can be thought of in terms of a requirement that *-t-* have something to license the nominative Case of; alternatively (or in addition), there might be a link to languages like Irish, in which agreement with a post-verbal lexical subject is excluded.

The fact that (v) contrasts with (iv) in allowing *-t* to be pronounced:

   v)   Que fait Anne? ("what does A")

reinforces the idea that there are two related but non-identical third-person *t*-morphemes.

19. A more syntax-friendly French orthography would arguably write (22) as:

   i)   "Cela est-t-il vrai?"

in which only one *t* would be pronounced, in a way consistent with general properties of French phonology. In other words, we take this "extra" *-t-* to be present in CI/HCI whether the verb has a *-t* of its own or not.

5. REMNANT MOVEMENT AND *-T-*

Thinking of the limitation of this *-t-* to root contexts, of a partial similarity to Germanic complementizer agreement[20], and of Shlonsky (1994), we take *-t-* to be a morpheme located above IP, somewhere in the Comp area, in Rizzi's (1997) sense. It may be an independent Agr head in the spirit of Pollock (1989), in which case it must require the nearby presence of a (silent) root interrogative head, or it may reflect the spelling out of (phi-features on) a root interrogative head.[21]

Of importance to the present chapter are two properties of *-t-*. The first, already discussed to some extent, is that it participates in the Case-licensing of a following (third person[22]) SCL found in the projection just below it. Thus in the CI example (26) *-t-* participates in the Case-licensing of *elle*, and similarly in the HCI example (24).

The second important property of this interrogative *-t-* is that it attracts to its Spec a phrase containing the lexical subject plus the finite verb (along with any intervening OCLs). In (24), for example, *-t-* attracts the phrase "[cela la gêne]," as indicated in the following sketchy derivation of (24):[23]

(32) cela gêne [la elle] --> OCL movement (pied-piping the SCL)[24]
       cela [la elle]$_i$ gêne t$_i$ --> raising of SCL
       elle$_j$ cela [la t$_j$]$_i$ gêne t$_j$ --> merger of *-t-*
       t elle$_j$ cela [la t$_j$]$_i$ gêne t$_j$ --> remnant IP movement
       [cela [la t$_j$]$_i$ gêne t$_j$]$_k$ t elle$_j$ t$_k$

with the last step involving remnant IP movement essentially as in Pollock (2006).[25]

20. For recent discussion, see Gruber (2008). Why Germanic "complementizer agreement" is (apparently) limited to the "OV" Germanic languages needs to be accounted for; see Koopman (2005, note 25).
21. For discussion, see Pollock (2006).
22. First- and second-person SCLs are arguably incompatible with both CI and HCI—cf. Kayne and Pollock (2012, sect. 8)—so that their Case-licensing might well proceed differently, perhaps more as in English subject-aux inversion sentences.
   On *-t-* and Case, see also Kayne and Pollock (2012, sect. 10).
23. Well-formed sentences with *-t-* have no counterpart with zero in place of *-t-*:

   i)   Cela a*(-t-)il été important? ("that has *t* it been important" = "has that been important?")

A more careful formulation of the text derivation would not have subject *cela* present so early in the derivation.
24. On this step, see in part Kayne (2002a, sect. 9). The following SCL-raising step recalls Caha (2010).
25. For sentences like (24) in which the SCL is followed by other material, as in:

   ii) Cela la remplit-elle de joie. ("that her fills-she of joy" = "does that fill her with joy?")

6. HCI AND CLITIC CLIMBING

All the CI examples and their HCI counterparts that we have given so far have had the OCL (here *la*) preceding the SCL (*il* or *elle*):

(33) Cela la gêne-t-il? = CI

(34) Cela la gêne-t-elle? = HCI

CI readily allows a SCL to precede an (unrelated) OCL, given some embedding:

(35) Cela va-t-il la gêner? ("that is-going-to it her bother" = "is that going to bother her?")

The question arises as to whether in this configuration HCI is possible, that is, whether or not the SCL can double the following OCL instead of doubling the preverbal subject. Morin (1985, 796) says no, but we disagree to some extent, insofar as we find acceptable:[26]

(36) Cela va-t-elle la déranger? ("that is-going-to *t* she her disturb" = "is that going to disturb her?")

whose CI counterpart is:

(37) Cela va-t-il la déranger?

   HCI examples such as (36) are not at all possible if the OCL is within a finite embedding (and the SCL in the matrix):

(38) Cela implique-t-il que Jean la voit souvent? ("that implies it that J her sees often")

---

that material, here *de joie*, will need to be scrambled out prior to the remnant movement in question, much as in many derivations in Koopman and Szabolcsi (2000), though there's some tension with the use to which scrambling was put in Kayne (1998b).

26. Especially in a CLLD context, as in:

   i) Cette personne, cela va-t-elle la déranger? ("this person, . . . ")

Having the SCL agreeing with a following OCL is sometimes felt to be less good in the plural:

   i) ??Cela va-t-elles les déranger? ("that is-going-to *t* they them disturb" = "is that going to disturb them")

In the reporting of acceptability judgments, "we" is to be understood as taking as antecedent only the author who is a native speaker of French.

(39) *Cela implique-t-elle que J la voit souvent?

More strikingly, HCI is possible to one degree or another with an infinitival embedding only with matrix verbs/predicates of the "restructuring" type, that is, only with matrix verbs/predicates of the sort that would allow object clitic climbing in Italian.[27] Thus alongside (36) and:[28]

(40) ?Cela pourrait-elle la gêner? ("that could she her bother" = "could that bother her?")

we have the fact that the following well-formed CI example:

(41) Cela a-t-il l''air de la gêner? ("that has *t* it the air of her to-bother" = "does that look like it bothers her?")

has no (even partially) well-formed HCI counterpart:

(42) *Cela a-t-elle l'air de la gêner?

The similarity holding here between HCI and Italian object clitic climbing suggests that the SCL *elle* in (36) (and (40)) has crossed into the matrix from within the infinitive in a way that is subject to the same kinds of locality restrictions as OCL-movement.

A further striking example comes from examples with the verb *sembler* ("to seem"), which can act as (36) and (40) only in the absence of a matrix dative:

(43) ?Cela semble-t-elle la déranger? ("that seems *t* she her to-disturb" = "does that seem to disturb her")

(44) *Cela te semble-t-elle la déranger? ("that you seems *t* she her to-disturb" = "does that seem to you to disturb her")

This contrast recalls Pollock's (1978, 98) point about leftward movement of *tous* ("all"):

(45) ?Elle a tous semblé les avoir lus. ("she has all seemed them to-have read" = "she seemed to have read them all")

(46) *Elle m'a tous semblé les avoir lus. ("she me has all seemed them to-have read" = "she seemed to me to have read them all")

27. For discussion of the relevant class of verbs, see Rizzi (1982) and Cinque (2006).
28. Note the contrast with:

    i) **Cela pourrait-on nous gêner?

which movement is in general sensitive to the class of "restructuring" verbs in French (despite French not allowing object clitic climbing the way Italian does). The contrast between (43) and (44) also recalls, even more minimally, facts about object clitic climbing itself that were pointed out by Cinque (2006, 22) for Italian:

(47)   Gianni non lo sembra apprezzare abbastanza. ("G neg it seems to-appreciate enough" = "G doesn't seem to appreciate it enough")

(48)   *Gianni non ce lo sembra apprezzare abbastanza. ("G neg us it seems to-appreciate enough" = "G doesn't seem to us to appreciate it enough")

While (47) is accepted by many, (48) is accepted by none.

The doubling approach to HCI that we have been pursuing allows us to express the similarity between the HCI facts of (36)–(44) and the non-HCI facts of (45)–(48) as follows. The derivation of (36), for example, will (for those speakers who accept it) be approximately (cf. the derivation given in (32)):[29]

(49)   déranger [la elle] --> OCL movement (pied-piping the SCL)
        [la elle]$_i$ déranger t$_i$ --> merger of matrix *va* and of subject *cela*
        cela va [la elle]$_i$ déranger t$_i$ --> scrambling of infinitive phrase
        [[la elle]$_i$ déranger t$_i$]$_j$ cela va t$_j$ --> raising of SCL and merger of -*t*-
        t elle$_k$ [[la t$_k$]$_i$ déranger t$_i$]$_j$ cela va t$_j$ --> remnant IP movement
        [cela va t$_j$] *t* elle$_k$ [[la t$_k$]$_i$ déranger t$_i$]$_j$

This yields (36), repeated here:

(50)   Cela va-t-elle la déranger? ("that is-going-to *t* she her disturb" = "is that going to disturb her?")

The question now is why the derivation in (49) cannot carry over to (42) or (44) or, more generally, to any matrix predicate that is not of the "restructuring" type.

Keeping in mind that the infinitive phrase scrambling that takes place in (49) must be able to apply even with non-restructuring matrix predicates in CI derivations such as:

(51)   Cela a-t-il l'air de la gêner? ("that has *t* it the air of her to-bother" = "does that seem to bother her")

(52)   Cela te semble-t-il la déranger? ("that you seems *t* it her to-disturb" = "does that seem to you to disturb her")

29. As earlier, for ease of exposition, we oversimplify the role of subject *cela* in the derivation.

it seems pretty clear that, from the perspective of (49), the key step at issue must be the raising of SCL in (49) in the transition from the fourth line to the fifth line.

This SCL raising must (for those who accept (36)) be available when the matrix predicate is of the restructuring type, but not otherwise. A(n informally) sufficient formulation is:

(53)   Only in the case of restructuring predicates can pronominal clitics raise out of infinitival complements.

This statement is intended to hold even if, as in (49), the infinitive phrase has previously scrambled.[30]

This formulation leaves open, however, the curious fact that in (49)/(50) the SCL *elle* has succeeded in escaping from the infinitive phrase despite French not normally (apart from causatives) allowing OCLs to escape from infinitive phrases, even those embedded under restructuring predicates,[31] as seen, for example, in the contrast between (50) and:

(54)   *Cela la va-t-elle déranger?

Continuing to think in terms of the derivation (49), let us suggest that the key difference between SCL *elle* and OCL *la* in (54) is that the landing site of SCL-raising in these HCI inversion derivations is up in the Comp area in Rizzi's (1997) sense, that is, above the normal position of the subject, as seen in both (32) and (49), whereas the landing site of OCLs is in French invariably below normal subject position.[32] (As in the discussion following (25), we take the landing site of SCL in HCI (and CI) sentences to be licensed in some way by *-t-*.)

Another way of putting this is to say that SCL-raising in HCI derivations is A-bar-like, whereas OCL movement is not. If the movement of *tous* illustrated in (45) is A-bar-like in some comparable sense, then we can (informally) have, in a way that brings together (50) and (45):

(55)   Raising out of infinitival phrases (of the sort that crosses a subject position[33]) is possible in French with A-bar-like movements only.

---

30. If SCL-raising were to precede infinitive phrase scrambling, then by the extension condition the infinitive phrase would, incorrectly, end up preceding the SCL in (50).

31. For relevant discussion, see Kayne (1989b; 1991).

32. One will need to bring in Portuguese here; for relevant discussion, see Uriagereka (1995).

33. This is to allow for subject-to-subject raising and for raising of an ECM subject; see Pollock (1978; 1985).

An alternative to the text proposal would be to look in the direction of Collins's (2005) notion of "smuggling."

7. HCI, NUMBER AND VERBAL AGREEMENT

We have not yet discussed the finite verb agreement that holds in CI and HCI. In CI examples such as:

(56) Cela est-il vrai? ("that is it true")

we can in principle ask whether the verb is agreeing with the lexical subject *cela* or with the SCL *il*. Finding a clear answer, though, is made difficult by the fact that the two subjects in CI themselves agree in phi-features.

HCI is more interesting, though in an HCI example like:

(57) Cela la gênera-t-elle? ("that her will-bother *t* she" = "will that bother her?")

the two subject phrases (*cela* and *elle*) happen to both be third person and to both be singular. They disagree in gender, but gender is irrelevant to finite verb agreement in French. Moreover, person disagreement between the two subjects is not possible at all in HCI, since both must be third person. Fortunately, there remains number agreement as a probe of choice into the question of finite verb agreement in HCI.

It is possible to replace the singular object clitic *la* in (57) by plural *les*, keeping the singular verb constant:

(58) Cela les gênera-t-elles? ("that them will-bother(sg.) *t* they" = "will that bother them?")

The object clitic *les* in (58) is clearly plural and the SCL *elles* appears to be agreeing with it. (We say "appears to be" because the orthographic plural *-s* of post-verbal *elles* can in general not be pronounced, in ordinary French.[34] We return briefly to this question later.)

Of more immediate note here is a question raised by Morin (1985, 796) concerning the status of:

(59) OK/*Cela les gêneront-elles? ("that them will-bother(pl.) they" = "will that bother them?")

which he rejected. There is, however, (at least) one speaker who accepts such sentences and who actually prefers (59) to (58), that is, who in the context of an HCI sentence with a plural OCL actually prefers a plural finite verb to a singular one.

---

34. Even in the phonologically most favorable environments, such as:

  i) Ont-elles agi correctement? ("have they acted correctly")

The speaker in question sharply rejects the corresponding declarative without the SCL, though:

(60)   Cela les gênera/*gêneront. ("that them will-bother(sg.)/will-bother(pl.)")

In non-HCI sentences with a singular subject such as (60), a plural OCL cannot trigger plural finite verb agreement. This clearly indicates that for her the plural finite *gêneront* in (59) must be agreeing with *elles* (in a sense to be made more precise later) and not directly with *les*, and moreover that *elles* in (59) must for her indeed be plural, despite the non-pronunciation of its *-s*.

Although (59), with singular subject *cela*, plural finite *gêneront* and plural *elles*, is acceptable to her, a striking restriction arises if we try to switch singular and plural. Strongly parallel to (59) itself (though a shade less acceptable for her[35]) is:

(61)   OK/*Ce bruit les gêneront-elles? ("that noise them(fem.) will-bother they(fem.)" = "will that noise bother them(fem.)?")

still with a singular lexical subject *ce bruit*, plural finite *gêneront* and plural SCL *elles*. Now, switching singular and plural yields the minimally different:

(62)   *Ces bruits la gênera-t-elle? ("those noises her will-bother *t* she")

with plural subject *ces bruits*, singular finite *gênera* and singular SCL *elle*. This sentence, however, is sharply unacceptable even to the speaker who accepts (59) and (61).

Both (61) and (62) contain a pre-verbal lexical subject that apparently fails to agree with the finite verb. Yet (61) is acceptable to the speaker in question, while (62) is not. We can immediately rule out three conceivable proposals for allowing (61), the first being one in which the subject in (61) would have been Case-licensed by Tense despite the disagreement in phi-features. Allowing Tense by itself to license nominative, though, would equally well allow (62), incorrectly. Similarly, allowing the subject in (61) to receive nominative by default would overgenerate by incorrectly allowing (62) to get nominative by default, too. In probe-goal terms, a third attempt would be to somehow allow the subject in (61) to be probed by Tense despite the mismatch in phi-features; again, that would incorrectly allow (62), too.

---

35. The best examples of HCI are those in which the lexical subject contains no lexical noun (*cela* is arguably demonstrative *ce* + deictic *là*), for reasons that we will not pursue here.

It is essential to distinguish here between visible disagreement and the lack of visible agreement. In the Italian aux-to-C sentences discussed by Rizzi (1982), for example:

(63)   Ritengono non essere io . . . ("they-consider neg. to-be I . . . ")

the post-infinitival nominative subject *io* can be taken to have its nominative Case depend at least in part on first-person singular agreement features (or on a corresponding independent agreement morpheme) that happen not to be pronounced in (63) in Italian.[36] This kind of solution to the licensing of nominative *io* in (63) rests, however, on the absence of any visible agreement at all on the infinitive in (63), which makes plausible the postulation of silent agreement.

Consequently, the same kind of solution would appear not to be available for the lexical subject in (59)/(61), since the verb in those two examples is visibly plural, and so visibly disagrees (apparently) with the singular lexical subject.

8. PLURAL VERBAL AGREEMENT *-N-*

Our proposal, which will revolve around the verbal agreement *-nt* visible in (59) and (61), runs as follows. French orthography makes in many cases a distinction between third singular *-t* and third plural *-ent*, for example, for the verb whose infinitive is *écrire* ("to-write"):[37]

(64)   Elle écrit. ("she writes")

(65)   Elles écrivent. ("they write")

In both (64) and (65), the *-t* can be pronounced if followed by a vowel in certain syntactic contexts, even those not involving a post-verbal SCL. It seems natural to take *-t* in both (64) and (65) to represent third person.[38] (The *-e-* of (65)

---

36. As opposed to Portuguese, where agreement with infinitives is (often) pronounced; cf. Raposo (1987).

37. Why non-interrogative *-t* is not found at all in the present (or simple past) tense third singular of first conjugation verbs is left an open question.

38. Cf. the third-person *-t* of Russian.

The first- and second-person forms in French all lack *-t*:

    i)   J'écris ("I write")
   ii)   Tu écris ("you write")
  iii)   Nous écrivons ("we write")
  iv)   Vous écrivez ("you write")

is normally not itself pronounced, but it phonologically allows the preceding final -*v* of the stem to be pronounced. That -*v*- disappears both orthographically and phonetically in the singular.)

The -*n*- of (65) cannot be pronounced under any conditions, but there are four verbs where it is arguably the source of nasalization on the vowel preceding it, as in:

(66)   Elles ont/sont/vont/font . . . ("they have/are/go/do . . .")

We take this -*n*- to represent plural.[39]

We furthermore take the -*ent/-ont* alternation in (65) vs. (66) to be predictable, in the sense that there is a generalization to the effect that -*ont* occurs as third plural agreement in present-tense forms if and only if the verbal root contains no vowel.[40] (The roots in (66) are 0-, *s*-, *v*-, *f*-.) Possibly the -*e*- of -*ent* (like the variant -*o*- in (66)) is a verbal theme vowel rather than (part of) an agreement morpheme. Let us assume that it is (in a way not central to the main lines of the analysis).

We note in passing that the interrogative -*t*- of (58), repeated here:

(67)   Cela les gênera-t-elles? ("that them will-bother(sg.) *t* they" = "will that bother them?")

though limited to occurring with third-person SCLs,[41] does not itself show number agreement. We can see this by thinking back to the discussion of (26)–(31) and in particular to the fact that the -*t* of verbal third plural -*ent/-ont* can be pronounced in certain cases, for example in:

(68)   Elles ont applaudi. ("they have applauded")

as distinct, with the verb "have," from the singular:

(69)   Elle a(*t) applaudi. ("she has applauded")

where there is no -*t* possible. In CI/HCI, though, interrogative -*t*- does (obligatorily) appear and is pronounced in the singular, with "have":

(70)   A-t-elle applaudi? ("has *t* she applauded")

---

39. Cf. the verbal plural -*n* of Spanish discussed in Harris and Halle (2005) and Kayne (2010b).

40. The verbs of (66) do not have -*o*- anywhere else in the present-tense paradigm, so taking this -*o*- to be an inflectional suffix rather than part of the root is straightforward.

41. Cf. Kayne and Pollock (2012, sect. 8).

The corresponding plural is written:

(71)   Ont-elles applaudi? ("have they applauded")

with an obligatorily pronounced -*t*. Plausibly, the interrogative -*t* of (70) also occurs in the plural, so that a syntactically more faithful orthography would write (71) as:

(72)   "Ont-t-elles applaudi?"

with the two *t*s pronounced as a single *t*, in a way consistent with general properties of French phonology. What is clear, in any event, is that making the interrogative -*t*- of (72) plural is not possible:

(73)   *Ont-ent-elles applaudi?

(74)   *Ont-ont-elles applaudi?

   Consider again (59), repeated here:

(75)   OK/*Cela les gêneront-elles? ("that them will-bother(pl.) they" = "will that bother them?")

and the similar:

(76)   OK/*Cela les rendent-elles tristes? ("that them make-they sad" = "does that make them sad?")

By the reasoning of the previous paragraph, plural -*ent/-ont* in these examples is not the plural of interrogative -*t*, but rather ordinary plural finite verb agreement. Again, a syntactically more perspicuous spelling would then be as in:

(77)   . . . gêneront/rendent-t-elles?

   We are (finally) in a position to return to the striking contrast between (61) and (62), both repeated here (but using *rendent* to start with):

(78)   OK/*Cette nouvelle les rendent-elles tristes? ("that piece-of-news them make-they sad" = "does that piece of news make them sad?")

(79)   *Ces nouvelles la rend-elle triste? ("those pieces-of-news her makes-she sad" = "do those pieces of news make her sad?")

For speakers who accept (59) and (61), a plural finite verb, such as *rendent* in (78), is compatible in HCI sentences with a singular lexical subject such as

cette nouvelle. No speaker, though, as far as we know, allows (79), with a singular finite verb (*rend*) and a plural lexical subject (*ces nouvelles*).

Our account of this asymmetry between singular and plural is the following. Sentences such as (78) are to be thought of as:

(80) cette nouvelle les rend -ent-elles . . . ?

The plural SCL *elles* is agreeing (matching features) with *-(e)nt*. The singular lexical subject *cette nouvelle* is agreeing with the singular finite verb *rend*. Thus an even more perspicuous rendering of (78) is (omitting interrogative *-t-*):[42]

(81) cette nouvelle les rend-0 -ent-elles . . . ?

in which 0 is the third singular agreement morpheme "seen" in:

(82) Cette nouvelle me rend triste. ("that piece-of-news me makes sad")

in which *rend* proper is the verbal root.

We are now in a position to understand why (79) is not possible. For it to be possible with an analysis parallel to that indicated for (78) in (81), we would have to have:

(83) *ces nouvelles la rend-ent -0-elle . . . ?

with singular and plural agreement morphemes switching places, relative to (81). But that doesn't match (79), which lacks any visible plural *-ent*. The only alternative would be:

(84) *ces nouvelles la rend-ENT -0-elle . . . ?

with a silent counterpart of *-ent*, which French otherwise never allows.

In effect, the asymmetry between (78) and (79) is traceable back to the asymmetry within French between third-person singular agreement, which

---

42. Note that there is no:

 i) *Cette nouvelle les rendont-elles tristes?

with *-ont* in place of *-ent*, for any speaker. This means that the generalization following (66), namely:

 ii) *-ont* occurs as third plural agreement in present-tense forms if and only if the verbal root contains no vowel.

must be understood to mean that if there is no verbal root at all directly associated with *-ent/-ont*, as there is not in (81), then (ii) does not come into play.

can be zero, as in (81) (and (82)), and third-person plural agreement, which, morphologically speaking, cannot be zero.

This account must carry over to the contrast noted earlier between:

(85) OK/*Ce bruit les gêneront-elles? ("that noise them(fem.) will-bother they(fem.)" = "will that noise bother them(fem.)?")

and:

(86) *Ces bruits la gênera-t-elle? ("those noises her will-bother *t* she")

The first of these can be analyzed, for those who accept it, as:

(87) ce bruit les gêner-0 0-ont-elles?

parallel to (81), whereas (86) will have no possible well-formed representation, just as (79)/(84) did not.

There are two extra points of complexity associated with (85), as compared with (78), however. While the representation for (78) given in (81) has a finite verb form that looks exactly like the one seen in the sentence (82), namely *rend*, the "gêner-0" of (87) does not have an exact counterpart in:

(88) *Ce bruit les gêner.

The second, related point has to do with the presence of *-ont* in (85)/(87) vs. *-ent* in (78)/(81). It is this presence of *-ont* in (85) that has led us to postulate the second zero morpheme in (87), in accordance with the discussion of (66). As in (66), this zero morpheme must be one of the possible roots of the verb *avoir* ("to-have").

This brings our proposal in line with Pollock's (2006, note 43) linking of synchrony and diachrony, and in particular with his proposal that the future-tense forms of French are built on the combination of an infinitive plus a finite form of "have." In other words, future forms like *gêneront* are always (not only in HCI sentences) to be understood as:

(89) gêner(-0) 0-ont

with the second 0 a root of "have" and the first 0 a silent third singular agreement that is essential in (87) to license the singular lexical subject.

Normally, as seen in (88), third singular agreement in future forms cannot be zero. The acceptable counterpart of (88) is:

(90) Ce bruit les gênera. ("that noise them will-bother")

with an *-a* that corresponds to the third singular present-tense form of "have," as in:

(91) Elle a compris. ("she has understood")

A natural proposal, now, is to say that the silent third singular agreement in (89) (the first 0) is available only to some speakers. Those who have access to it allow (87) and therefore (85). Those who do not allow neither (87) nor (85). The precise reason is as follows. For (90), all speakers have:

(92) . . . les gêner a+0

where *gêner* ("to bother") is the infinitive and *a* (=“a”+0) is a root of "have" plus the silent third singular agreement also "seen" in (91), as well as in (82). Since (90) has only one nominative subject, the one (silent) agreement in (92) is sufficient.

In (85), on the other hand, there are in a very real sense two nominative subjects, singular *ce bruit* ("that noise") and plural *elles* ("they"), which doubles the OCL *les* ("them"). For (85) to be acceptable, then, there must be two distinct agreement morphemes, as shown in (87)/(89). Furthermore, while the second of these agreements, plural *-ont*, is associated with (a silent root of) finite "have," as it was in (66), in a way that is uniform in all French, the first of these agreements, whose job it is to license the pre-verbal subject *ce bruit*, must be associated with the infinitive *gêner* ("to bother").

Like Italian (and unlike Portuguese), French never shows overt agreement following an infinitive. Unlike Italian, French does not normally even allow silent agreement following an infinitive, that is, French does not have the aux-to-Comp possibility seen earlier in (63). This is shown by the general unacceptability in French of:

(93) *Ils considèrent ne pas être moi/je/Jean capable de . . . ("they consider neg not to-be me/I/John capable of . . .")

Our proposal amounts to the claim that those speakers who accept (85) are doing so via the limited use of exactly such a silent infinitival agreement, as in (87)/(89).

There is, however, a question as to whether this silent agreement is, in the French of such speakers, specific to infinitives. The acceptability for them of (at least some) sentences like (78), repeated here:

(94) OK/*Cette nouvelle les rendent-elles tristes? ("that piece-of-news them make-they sad" = "does that piece of news make them sad?")

with the analysis in (81), also repeated:

(95)   cette nouvelle les rend-0 -ent-elles . . . ?

suggests not, insofar as the *rend* here is not an infinitive, but a root.[43] Yet the zero agreement 0 must be present to license the singular lexical subject (in addition to the plural agreement *-(e)nt* that licenses the SCL *elles*).

    The same point concerning the availability of singular 0 agreement in combination with overt plural agreement even in non-infinitival contexts is made by the following interrogative counterpart of (94), which if anything is more widely accepted than (94):[44]

(96)   OK/*Combien de personnes cette nouvelle rendent-elles tristes? ("how-many of persons that piece-of-news make-they sad" = "how many people does that piece of news make sad?")

As in (94), the subject *cette nouvelle* here is singular, yet the verb *rendent* looks plural. As in the earlier discussion of (79), switching singular and plural leads to sharp unacceptability:

(97)   *Quelle personne ces nouvelles rend-elle triste? ("which person these pieces-of-news makes-she sad")

which strongly suggests that (96) requires an analysis like that of (94)/(95), namely:

(98)   combien de personnes cette nouvelle rend-0 -ent-elles . . .

---

43. Present-tense forms in French arguably have no overt present-tense morpheme, though there may be a silent one, not indicated.

44. In an embedded context, French interrogatives lack SCL inversion of whatever type, for example:

    i)   Je sais combien de personnes cette nouvelle rend(*-elle) tristes.

In the absence of SCL inversion, a plural verb in examples like (96) seems to be impossible:

    ii)   *Je sais combien de personnes cette nouvelle rendent tristes.

even for those who accept (96). In this respect, French differs from the variety of English that allows:

    iii) I know which people John think should be invited

on which see Kimball and Aissen (1971) and Kayne (2003d).

with the zero agreement 0 licensing the singular subject *cette nouvelle*, even though *rend* is not an infinitive.

The form *rend* is otherwise found in ordinary present-tense sentences, for all speakers, as in:

(99)   Cela nous rend tristes. ("that us makes sad")

giving the impression that (98) is more straightforward than (87), whose infinitival agreement, possible for those who accept (85), is clearly special relative to French as a whole. Yet there is an interesting twist to (96)/(98), too, which can be seen by bringing into consideration HCI sentences in which the OCL is dative, rather than the accusative it was in earlier examples.

Dative HCI seems to be marginal compared with accusative HCI, but differential intuitions are clear. An example is:

(100)   ?/*Cela lui a-t-elle fait mal? ("that her has *t* she done bad" = "has that harmed her?")

The SCL *elle* in (100) is agreeing in gender with the OCL *lui*. The more usual CI sentence, in which the SCL agrees with the subject *cela*, is:

(101)   Cela lui a-t-il fait mal?

A second example of dative HCI, with auxiliary "be" (which will allow us to make the new point in question) is:

(102)   ?/*Cela lui est-elle déjà arrivé? ("that her is-she already arrived" = "has that already happened to her?")

If we replace singular OCL *lui* by plural OCL *leur*, we get:

(103)   ?/*Cela leur est-elles déjà arrivé? ("that them is-they already arrived")

Of importance is the fact that the speaker who accepts plural verb agreement in accusative HCI sentences like (96), (94), and (85) also accepts plural verb agreement here, that is, she accepts:

(104)   ?/*Cela leur sont-elles déjà arrivé? ("that them are-they already arrived")

with plural *sont* in place of singular *est*. Following (95), the analysis of (104) must be:

(105)   cela leur s-0 ont-elles . . .

in which 0 is the silent singular agreement that licenses the singular subject *cela* (and *ont-* the plural agreement that is paired with plural *elles*).[45]

What is new here relative to earlier discussion is that *s-* is a root of "be" that normally does not co-occur with 0 agreement:[46]

(106) Ils s*(ont) heureux. ("they are happy")

(107) *Il s'heureux. ("he *s* happy")

We conclude that those speakers who accept (104), (96), (94), and (85) are allowing 0 third singular agreement to co-occur not only with (certain) infinitives, as in the last of these, but also with some (present-tense) roots that otherwise disallow 0.

9. CONCLUSION

HCI constitutes a new probe into questions of locality related to clitic climbing, and shows that (some) French actually allows clitic climbing out of non-causative infinitive phrases in cases not studied previously. A distinction of the A-movement vs. A-bar-movement sort may be a relevant factor (see (55) and the associated footnote). HCI also constitutes a new probe into questions of number agreement involving the licensing of two distinct subjects in what looks like a simple sentence. The correct analysis appears to necessarily involve, in at least some cases, two distinct agreement morphemes, in a way that sharply distinguishes singular from plural.

---

45. We leave open the question whether HCI always need two "agreements" (even when there is no discrepancy in phi-features), and if so, why exactly. Additionally left open, as a reviewer observes, is the question why the first agreement morpheme in (95) and similar sentences must be silent.
   The question why the SCL in HCI cannot double a lexical DP object that is post-V is beyond the scope of this chapter.
46. Indirectly relevant here is Postma's (1993) idea that reflexive *s-* might be the same as the text *s-*.

Clitic Doubling, Person and Agreement in French Hyper-Complex Inversion

1. HCI

Standard French has, in root interrogatives:[1]

(1)   Est-il heureux? ("is he happy")

This inversion applies only if the subject is a pronominal clitic:[2]

(2)   *Est Jean heureux? ("is J happy")

French also allows a variant of (1) in which a non-dislocated pre-verbal subject co-occurs with the post-verbal pronominal subject clitic. Kayne (1972) informally called this "complex inversion" (henceforth CI):

(3)   Cela est-il vrai? ("that is it true" = "is that true?")

   In the appropriate register, CI, as in (3), is productive. Relevant to this chapter is the fact that CI is compatible with object clitics (henceforth OCLs):

(4)   Cela la gêne-t-il? ("that her bothers it" = "does that bother her?")

---

1. In what follows, "standard French" is abbreviated as "French."
2. French has another, distinct inversion construction informally called "stylistic inversion" that sometimes (but not in yes-no questions) overlaps with subject clitic inversion; see Kayne and Pollock (2001) and references cited there.

Central to this chapter is an important observation due to Morin (1985, 796), namely that alongside (sometimes instead of[3]) (4) there are speakers who accept, with the same interpretation as (4):[4]

(5)   Cela la gêne-t-elle? ("that her bothers she" = "does that bother her?")

In (5) the post-verbal nominative subject clitic (here *elle*) agrees in gender (and number) with the pre-verbal accusative OCL (here *la*). This contrasts with ordinary CI, as in (3) and (4), in which the post-verbal subject clitic (there *il*) agrees with the pre-verbal subject *cela*. I shall use for (5) the informal term hyper-complex inversion (henceforth HCI).

2. HCI AS CLITIC DOUBLING

In many ways, HCI and CI are similar,[5] so that one can think of HCI as a subcase of CI characterized by the agreement, in HCI, between subject clitic (henceforth SCL) and OCL (and by the non-agreement, in HCI, between SCL and pre-verbal subject).[6] Both CI and HCI can be thought of as instances of clitic doubling, that is, as having something in common with the well-known dative clitic doubling found across Spanish. One key difference is that CI and HCI centrally involve not dative clitics but rather nominative ones (SCLs).[7]

---

3. See note 21. There are speakers (for example, Anne Zribi-Hertz, p.c.) who strongly reject HCI; cf. the phenomena concerning *tous* ("all") that are discussed in Kayne (1975, sect. 1.11), which meet with (sometimes strong) disagreement across speakers. In this chapter, I will not attempt to delineate the parameter(s) underlying acceptance vs. non-acceptance of HCI (there may be a link to past participle agreement, which is also not uniformly accepted in French; cf. also sect. 7 later).

4. For further background, see Kayne and Pollock (2012; 2014), from which early sections of this chapter draw freely. HCI sentences are best when the lexical subject contains no lexical noun, as with *cela* ("that there"); the HCI examples in the text have feminine SCL *elle*, but there are also acceptable examples of HCI that have masculine SCL *il* agreeing with masculine OCL *le* in the presence of a feminine lexical subject:

i)   Cette affaire/chose le gêne-t-il? ("that business/thing him bothers *t* it" = "does that business/thing bother him?")

5. For example, both are restricted to root contexts lacking any complementizer, both are limited to interrogatives and some affective contexts, both have the property that the post-verbal subject pronoun must be a clitic. For additional details on CI, see Pollock (2006).

6. There also exist instances of HCI in which the SCL agrees with a preposed wh-phrase; these will be set aside in this chapter, as will the marginal cases of HCI in which the SCL agrees with a dative clitic (cf. Morin (1985, 796); on the latter, see also Kayne and Pollock (2014, (100)).

7. On the nominative status of French subject clitics, see Napoli (1981) and Kayne and Pollock (2001, sect. 5).

Let me now adopt the "complex constituent" approach to French CI clitic doubling proposed in Kayne (1972, sect. 3).[8] Thus in a CI example like (4) the DP *cela* and the SCL *il* start out within a phrase (a complex DP, in more recent terms) that excludes the verb (and the object):[9]

(6)   . . . [cela il] gêne la

By extension, in HCI examples like (5), the SCL *elle* starts out paired with the OCL, rather than with the lexical subject:

(7)   . . . cela gêne [la elle]

The agreement seen in CI/HCI is in this way reduced to agreement (in gender and number) within a complex DP. (In both (4) and (5) the complex DP is split apart in the course of the derivation.)

Contrary to CI, simple SCL inversion (henceforth SCLI) of the sort seen earlier in (1) has no HCI-like counterpart that would correspond to (5). Note first that SCLI is compatible with an OCL:

(8)   La gêne-t-il? ("her bothers it/he" = "does he/it bother her?")

Here *la* and *il* correspond to distinct arguments. If there existed an HCI-like counterpart, then agreement between SCL and OCL would be possible, keeping the interpretation constant.

That is not, however, possible in (8). The following is well formed, but not with the interpretation of (8):

(9)   La gêne-t-elle? ("her bothers she/it" = "does she/it bother her?")[10]

The reason that (9) cannot be related to (8) in the way that (5) is related to (4) is the following. In (5), *elle* can be taken to be a double of *la* (both then being part of the object argument), since there is still *cela* to fill the role of

8. Cf. Uriagereka (1995, 81) on Spanish.

9. This complex DP approach to clitic doubling has something in common with Szabolcsi's (1983; 1994) proposal for simple possession sentences like (the Hungarian counterpart of) *John has a sister*, according to which (by transposition to English) the possessor *John* originates within a DP containing *a sister*. Cf. Kayne (1993) and Boneh and Sichel (2010).

10. A counterpart of this example appears to be possible in the North Italian dialect (close to Paduan) discussed by Penello (2003; 2007 (11b)). The contrast with French might be related to that dialect's being a partial pro-drop language; see also Roberts (1993), Pollock (2006), and Roberts (2010, 119).

subject argument. Whereas in (9), if we were to take *elle* to be a double of *la*, there would be nothing left to fill the role of subject argument.[11]

3. A RESTRICTION CONCERNING SCLS

When the pre-verbal subject is itself a SCL, neither CI nor HCI is possible.[12] Thus alongside:

(10)   Ils la voient. ("they her see")

with SCL *ils*, French allows SCLI:

(11)   La voient-ils?

but neither CI:

(12)   *Ils la voient-ils?

nor HCI:

(13)   *Ils la voient-elle?

4. THE -*T*- MORPHEME

The sharp deviance of (12) and (13) can be thought of as reflecting the fact that French cannot license two SCLs in one simple sentence, as opposed to French being able, in CI/HCI, to license one (post-verbal) SCL and one (pre-verbal) lexical subject DP at the same time.

Setting aside left- and right-dislocation, we can see that such double licensing is possible only if the SCL is post-verbal. This is shown using CI in the following pair of examples:

(14)   Cela est-il vrai? ("that is it true")
(15)   *Cela il est vrai.

11. Since French is not a null subject language of the Italian sort. The text proposal is in the spirit of Morin (1985, 796).
12. As opposed to the dialect studied by Penello (2003; 2007). The -*ti* of popular French mentioned by Morin (1985, 794) is also compatible with pre-verbal subject clitics.

Similarly for HCI we have:

(16)   Cela la gêne-t-elle? ("that her bothers *t* she" = "does that bother her?")

(17)   *Cela elle la gêne.

Let us take (15) and (17) to be excluded for the following reason. Pre-verbal SCLs and pre-verbal non-dislocated lexical subject DPs are, in French,[13] Case-licensed by a functional head that can license only one of them in a given simple sentence.

If so, then post-verbal SCLs, as in (14) and (16), must have access to an extra licenser, one that is not available to pre-verbal subjects of any type. In the spirit of Pollock (2006), let us take the *-t-* morpheme of CI and HCI (seen clearly in (16)) to play a key role in licencing the post-verbal subject clitic.[14] This is plausible since there is without exception a pronounced *-t-* immediately preceding the post-verbal SCL in both CI and HCI.[15]

5. REMNANT MOVEMENT AND *-T-*

Thinking of the limitation of this *-t-* to root contexts, of a partial similarity to Germanic complementizer agreement[16], and of Shlonsky (1994), let us take *-t-* to be a morpheme located above IP, somewhere in the Comp area, in Rizzi's (1997) sense. Of importance now are two properties of *-t-*. The first, already briefly discussed, is that it participates in the Case-licensing of the following SCL (found in the projection just below it).[17]

The second important property of this *-t-* is that it attracts to its Spec a phrase containing the lexical subject plus the finite verb (along with any

13. As opposed to various dialects in Northern France and in Northern Italy; on the latter, see Poletto (2000) and references cited there. On (pre-verbal) SCLs, see also Kayne (1983b).

14. Cf. also Schoorlemmer (2006).

15. A more syntax-friendly French orthography would arguably write (14) as:

   i)   "Cela est-t-il vrai?"

in which only one *t* would be pronounced, in a way consistent with general properties of French phonology.

16. For discussion, see, for example, Gruber (2008). Why Germanic "complementizer agreement" is (apparently) limited to the "OV" Germanic languages needs to be accounted for; see Kayne (1994, 52) and Koopman (2005a, note 25).

17. The licensing of the post-*t* SCL may in addition depend on finite verb agreement; for relevant discussion, v. Kayne and Pollock (2014, sects. 7 and 8), who broach the possibility of there being two agreements, in at least some cases. Licensing (in part) by finite verb agreement would reinforce the nominative character of these SCLs (see note 7); as a reviewer notes, if they were not strictly nominative, one would wonder why there is no counterpart to CI/HCI with a morphologically accusative post-*t* clitic.

intervening OCLs). In (16), for example, -*t*- attracts the phrase "[cela la gêne]," as indicated in the following derivation:

(18) cela gêne [la elle] --> OCL movement (pied-piping the SCL)[18]
      cela [la elle]$_i$ gêne t$_i$ --> raising of SCL[19]
      elle$_j$ cela [la t$_j$]$_i$ gêne t$_j$ --> merger of -*t*-
      t elle$_j$ cela [la t$_j$]$_i$ gêne t$_j$ --> remnant IP movement
      [cela [la t$_j$]$_i$ gêne t$_j$]$_k$ *t* elle$_j$ tk

with the last step involving remnant IP movement essentially as in Pollock (2006).[20]

6. HCI AND CLITIC CLIMBING

All the CI and HCI examples given so far that contain an OCL have had that OCL (*la*) preceding the SCL (*il* or *elle*):[21]

(19) Cela la gêne-t-il? = CI

(20) Cela la gêne-t-elle? = HCI

CI readily allows a SCL to precede an unrelated OCL, given some embedding:

(21) Cela va-t-il la gêner? ("that is-going-to it her bother" = "is that going to bother her?")

In (21), SCL *il* precedes OCL *la*, with which it does not agree and with which it is derivationally unrelated.

---

18. On this step, see in part Kayne (2002a, sect. 9). The subsequent SCL-raising step recalls Caha (2010).

19. The raising of SCL across *cela* leads to a relativized minimality question. It may be that SCL and DP count as sufficiently different (which might lead to an alternative account of the double SCL restriction discussed earlier, if moving one SCL across another is prohibited).

20. For HCI sentences in which the SCL is followed by other material, as in:

   i) Cela la remplit-elle de joie. ("that her fills-she of joy" = "does that fill her with joy?")

that material, here *de joie*, will need to be scrambled out prior to the remnant movement in question, much as in many derivations in Koopman and Szabolcsi (2000), though there's some tension with the use to which such scrambling was put in Kayne (1998b).

21. Left open in this paper is the question why some speakers accept only the HCI variant of such pairs (cf. Morin (1985, note 13)). This may be related to the fact that Dominique Sportiche, who accepts (p.c.) both (19) and (20), finds the HCI variant less elevated than the CI one.

The question arises as to whether in a configuration like that in (21), HCI would be possible, that is, whether or not a SCL can ever agree with an OCL that follows it. Morin (1985, 796) says no, but some speakers find acceptable some sentences such as:[22]

(22) Cela va-t-elle la déranger? ("that is-going-to *t* she her disturb" = "is that going to disturb her?")

whose CI counterpart, without agreement between *il* and *la*, is:

(23) Cela va-t-il la déranger?

HCI examples such as (22) are not, however, possible if the OCL is within a finite embedding (with the SCL in the matrix, as usual):

(24) Cela implique-t-il que Jean la voit souvent? ("that implies it that J her sees often")

(25) *Cela implique-t-elle que J la voit souvent?

(24) is a well-formed CI example, in which SCL *il* agrees with subject *cela*. (25) shows that trying to turn (24) into an HCI example by having SCL *elle* agree with the following OCL *la* is not possible, contrary to (22) (for the relevant speakers).

22. Especially in a CLLD (clitic left dislocation, as in Cinque (1990)) context:
Cette personne, cela va-t-elle la déranger? ("this person, . . .")
  which suggests the involvement of a pied-piping-like movement of *cette personne*.
  Having the SCL agreeing with a following OCL is sometimes felt to be less good in the plural:
Cela va-t-elles les déranger? ("that is-going-to *t* they them disturb" = "is that going to disturb them")
  This may be related to the fact that for some speakers a plural OCL in HCI calls for plural verb agreement; cf. Kayne and Pollock (2014, sect. 7). Possibly, there is also a link to the fact that Spanish *leísmo* is less widespread in the plural than in the singular, as noted in Navarro and Neuhaus (2016, 80, 83). A reviewer also suggests a possible link to the fact that in (much) Catalan, past-participle agreement in the plural seems to be dependent on overt agreement in gender; cf. Bonet (1991, 165n).
  In raising past the OCL *la* that it agrees with, the SCL *elle* in (22) has something in common with the Italian agreeing past participle *offerte* in the following example (from Longobardi (1985, note 23)):

   iii) Offerte a sua moglie, credo che Mario ancora non le abbia. ("offered to his wife, I-believe that M still not them has" = "I believe that M still hasn't offered them to his wife")

in which *offerte* has, via remnant movement, moved past the OCL *le* that it agrees with.

More strikingly, HCI is possible to one degree or another with an infinitival embedding in the manner of (22) only with matrix verbs/predicates of the "restructuring" type. Thus alongside (22) and the similar:

(26) ?Cela pourrait-elle la gêner? ("that could she her bother" = "could that bother her?")

in which HCI is to some extent available, we have the fact that the following well-formed CI example:

(27) Cela a-t-il l'air de la gêner? ("that has *t* it the air of her to-bother" = "does that look like it bothers her?")

has no well-formed HCI counterpart:

(28) *Cela a-t-elle l'air de la gêner?

The similarity holding here between HCI and, say, Italian object clitic climbing (with respect to sensitivity to "restructuring") suggests that the SCL *elle* in (22) and (26) must have raised into the matrix from within the infinitive in French in a way parallel to OCL clitic climbing in Italian.

The derivation of (22), for example, will (for those speakers who accept it) be approximately as in (29) (cf. the derivation given in (18)):

(29) déranger [la elle] --> OCL movement (pied-piping the SCL)
[la elle]$_i$ déranger t$_i$ --> merger of matrix *va* and of subject *cela*
cela va [la elle]$_i$ déranger t$_i$ --> scrambling of infinitive phrase[23]
[[la elle]$_i$ déranger t$_i$]$_j$ cela va t$_j$ --> raising of SCL and merger of *-t-*
t elle$_k$ [[la t$_k$]$_i$ déranger t$_i$]$_j$ cela va t$_j$ --> remnant IP movement
[cela va t$_j$] *t* elle$_k$ [[la t$_k$]$_i$ déranger t$_i$]$_j$

This yields (22), repeated here:

(30) Cela va-t-elle la déranger? ("that is-going-to *t* she her disturb" = "is that going to disturb her?")

The SCL raising seen in (29) must be available only when the matrix predicate is of the restructuring type, not otherwise. A more general formulation is:

(31) Only in the case of restructuring predicates can pronominal clitics raise out of infinitival complements.

23. Cf. Collins (2005) on "smuggling," which interacts here with the relativized minimality question mentioned in note 19; for a partial precursor of smuggling, see Kayne (1975, 272+329); also Kayne (1994, 54) on nominative anaphors.

This statement is intended to hold even if, as in (29), the infinitive phrase has previously scrambled.[24]

The formulation in (31) leaves open the curious fact that in (29)/(30) the SCL *elle* has succeeded in escaping from the infinitive phrase despite French not normally (apart from causatives) allowing OCLs to escape from infinitive phrases, even those embedded under restructuring predicates,[25] as seen in the contrast between (30) and (32):

(32)   *Cela la va-t-elle déranger?

Continuing to think in terms of the derivation (29), the key difference between SCL *elle* in (30) (and (32)) and OCL *la* in (32) may lie in the fact that the landing site of SCL-raising in these HCI inversion derivations is up in the Comp area in Rizzi's (1997) sense, that is, above the normal (pre-verbal) position of the subject, as seen in both (18) and (29), whereas the landing site of OCLs is in French invariably below normal subject position.[26]

Another way of putting this is to say that SCL-raising in HCI derivations is A-bar-like, whereas OCL movement is not:

(33)   Raising out of infinitival phrases (of the sort that crosses a subject position[27]) is possible in French with A-bar-like movements only.

7. A FAMILIAR PROBLEM FOR AGREE

Of further note is the contrast between (30) and the following:

(34)   *Cela va-t-elle déranger Marie? ("that is-going-to *t* she disturb Mary" = "is that going to disturb Mary?")

24. If SCL-raising were to precede infinitive phrase scrambling, then by the extension condition the infinitive phrase would, incorrectly, end up preceding the SCL in (30). Alternatively, it might be possible to rework (29) in the manner of Chomsky's (2008) discussion of CED effects.

25. For relevant discussion, see Kayne (1989b; 1991).

26. One will need to bring in Portuguese OCLs here; for relevant discussion, see Uriagereka (1995).

27. This is to allow for subject-to-subject raising and for raising of an ECM subject; see Pollock (1978; 1985). It will also allow for OCL-raising out of infinitives in (certain) causatives; cf. Kayne (1975, chaps. 4 and 6) and Rouveret and Vergnaud (1980). Also Kayne (1981e) on the extra possibilities for the movement of *tout* (vs. OCLs); the fact that moved *tout* ("all") doesn't license HCI, as seen in:

i)   *Cette affaire gêne-t-il tout? ("that affair upsets *t* it everything")

might be related to moved *tout* not licensing complementizer-like *qui,* as discussed in that paper. (On the fact that *tout* has moved in (i), see Pollock (1989, note 7) and, for Italian, Cinque (1995, chap. 9).)

In both (30) and (34) the agreeing SCL *elle* precedes what it agrees with (*la, Marie*). Yet only in (30) is the result acceptable, indicating that derivation-final word/morpheme order is not what is at issue.

Rather, the contrast between (30) and (34) should be reduced to that holding between the following two simpler cases:[28]

(35)   Cela la dérange-t-elle? ("that her bothers *t* she" = "does that bother her")

(36)   *Cela dérange-t-elle Marie? (= "does that bother Mary?")

The agreeing SCL that characterizes HCI can only successfully agree, as it (*elle*) does in (35), with a direct object if that direct object (*la* in (35)) has moved leftward (to a sufficiently high position, including in (30)). In (36), the object *Marie* has either not moved at all, or else has not moved high enough to license SCL-agreement of the HCI sort.

The contrast between (35) and (36) strongly recalls a basic property of French and Italian past-participle agreement,[29] as illustrated in French by:

(37)   Jean l'a repeinte. ("J it(fem.) has repainted(fem.) = "J has repainted it")

(38)   Jean a repeint/*repeinte la table. ("J has repainted (masc.)/(fem.) the table")

In (37), the direct object clitic *la* (which here loses its *-a*) has moved up past the auxiliary; the past participle *repeint* agrees in gender (and number) with that *la*. In (38), on the other hand, the direct object *la table* has not moved (far enough) up and agreement is impossible.

The contrast seen in (37) vs. (38) is unexpected if Agree need not be associated with movement (and if Agree is taken to underlie past-participle agreement).[30] The same would hold for HCI if one took Agree to underlie the agreement found in HCI sentences. One might pursue that Agree possibility by having *-t-* in (35) act as a probe for *la*, inducing remnant IP- movement as in (29), with *elle* then being the spellout of the agreement relation. But in that case, the impossibility of the agreement shown in (36) would be unexpected, if Agree could be dissociated from movement, insofar as *-t-* in (36) could find *Marie* as goal.

28. As pointed out by Morin (1985, 796).

29. Cf. Kayne (1985; 1989a) and Belletti (2006). As Baker (2008, 198, note 30) notes, this upward bias for past-participle agreement poses a problem for his characterization of agreement in Indo-European languages.

30. Cf. Kayne (2008c; 2016) for an analysis of expletive *there* that doesn't need movement-less Agree; also Koopman (2003; 2005b). On Agree, see Chomsky (2000; 2001).

8. PRONOMINAL CLITICS VS. AGREEMENT MORPHEMES

On the other hand, one could try to maintain the availability of movement-less Agree in the face of (36) (though (38) would remain a challenge) by denying that Agree is relevant to HCI at all. That would in all likelihood lead to denying more generally that Agree is relevant to clitic doubling (which would diminish the interest of Agree), and would in all likelihood lead to saying that there is a sharp difference between clitic doubling and agreement. Whether there is such a sharp difference is a question that can be asked independently of Agree. Let me now turn briefly to that question.

The kind of agreement seen in (35), in which SCL *elle* agrees with feminine singular OCL *la*, does differ sharply from more familiar instances of agreement in French, which otherwise disallow *elle* as the spellout of feminine singular agreement. Thus in (37) the past participle agreement morpheme is *-e* and cannot be *elle*:

(39)   *Jean l'a repeintelle.

Similarly, DP-internal adjective or indefinite article agreement in French shows *-e* for feminine singular (*grand+e, un+e*):

(40)   une grande maison ("a(fem.) big(fem.) house(fem.)")

and cannot show *elle* instead:

(41)   *une grandelle maison; *unelle grande maison; *unelle grandelle maison

Conversely, feminine singular *-e* cannot replace *elle* in (35) or in any other example of HCI:

(42)   *Cela la dérange-t-e?

The same holds for CI:

(43)   Marie a-t-elle une grande maison? ("M has -*t*- she a big house")
(44)   *Marie a-t-e une grande maison?

Following a long tradition, I take the post-verbal SCL *elle* in question (in CI, in HCI, and also in SCLI (11)) to be a pronominal clitic, and the *-e* of (40) and (37) not to be a pronominal clitic. In French, this distinction goes with a difference in form. Third-person non-reflexive pronominal clitics always contain an *l,* as seen in SCLs in:

(45)   il (m.sg.), ils (m.pl.), elle (f.sg.), elles (f.pl.)

in accusative OCLs:

(46)   le (m.sg.), la (f.sg.), les (pl.)

and in dative OCLs:

(47)   lui (sg.), leur (pl.)

whereas the *-e* of (40) and (37) does not contain an *l*.

9. PERSON AND *L*

The pronominal clitic status of SCL *elle* in HCI examples like (35), repeated here:

(48)   Cela la dérange-t-elle? ("that her bothers *t* she" = "does that bother her")

combined with the pronominal clitic status of OCL *la* in the same example leads to the unsurprising conclusion that HCI (like CI) is to be thought of as an instance of clitic doubling. Conversely, since *-e* is not a pronominal clitic, past-participle agreement examples like (37), repeated here:

(49)   Jean l'a repeinte. ("J it(fem.) has repainted(fem.)")

are not instances of clitic doubling.

It is important to note, however, that all cases of clitic doubling themselves involve agreement. In particular, and without exception as far as I know, the following holds:[31]

(50)   Clitic doubling invariably shows person agreement between the clitic and the other element or phrase in question.

This is true of HCI, as in (48) (in which the other element is a second clitic). It is true of CI. It is true of Spanish clitic doubling, both of the dative sort and of the (less widely found) accusative sort.[32]

What this means is that proposals to distinguish clitic doubling from agreement, as, for example, in Preminger (2009), must be understood, given (50),

---

31. Colloquial Spanish allows number agreement not to hold with third-person dative clitic doubling; v. Butt and Benjamin (1988, sect. 11.14.3). As a reviewer points out, the dative clitic must, however, agree in CLLD (Cinque (1990)) sentences, and also, though less sharply, in "V PP DP" sentences.
    As a second reviewer points out, Zagona (2002, 68) gives an example lacking gender agreement. Instances of non-agreement in person have not yet been discovered, that I know of.

32. On Spanish *Nos vio a los lingüistas* ("us (s)he-saw to the linguists" = "(s)he saw us linguists"), which almost certainly contains a silent first-person plural non-clitic pronoun, see Torrego (1996, 124) and Ordóñez and Treviño (1999); also Kayne (2009b).

as shorthand for distinguishing clitic doubling (which itself involves agreement) from instances of agreement that do not involve pronominal clitics.[33]

The difference between clitic doubling, on the one hand, and non-clitic-doubling agreement, on the other,[34] manifests itself in a striking way in French. There is a clear difference between HCI (an instance of clitic doubling) and past-participle agreement (not an instance of clitic doubling) that involves person, in a certain way. In French, a past participle can agree in gender (and number) with a first- or second-person pronoun accusative OCL:

(51)   Jean t'a prise par le bras. (French: "J you(fem.) has taken(fem.) by the arm")

In contrast, while CI in French can readily have a first- or second-person OCL, as in:

(52)   Cela te gêne-t-il? ("that you bothers it" = "does that bother you?")

HCI cannot.[35] Even if the OCL in (52) is understood to be feminine, the SCL must remain *il* (pairing with *cela*); this *il* cannot be replaced by feminine *elle* (which would be agreeing in gender with *te*):

(53)   *Cela te gêne-t-elle?

This contrast between HCI in (53) and past participle agreement in (51) can be understood as follows. In (53) there is a clash between *te* and *elle*. This clash is due to the morpheme *-l-* that is part of *elle.* A clitic doubling relation cannot hold of two elements one of which contains third-person *-l-* and the other of which is (first or) second person. Person agreement must hold with clitic doubling, as stated in (50). On the other hand, the past participle agreement morpheme *-e* in (51) contains no third-person *-l-*; consequently, there is no person clash.[36]

---

33. Preminger's (2009) use of intervention effects as a tool for distinguishing clitic doubling from agreement will need to be recalibrated, given that the French facts that he cites are not entirely representative; for example, Jean-Yves Pollock (p.c.) finds acceptable:

   i)   Jean semblait/avait semblé à Marie pouvoir faire l'affaire. ("J seemed/had seemed to M to- be-able to-do the trick")

For further discussion, see Bruening (2014, 713); it may be that the past (imperfect) tense of the finite verb or auxiliary in (i) favors full acceptability.

34. Despite the differences, there are also, as Anagnostopoulou (2016, 21) notes, "interpretational restrictions (definiteness, specificity, animacy) which are strikingly similar"; cf. Obenauer (1992) and Déprez (1998).

35. As noted by Morin (1985, 795).

36. Finite verb agreement shares with past-participle agreement the absence of third-person *-l-*; for a more detailed discussion, see Kayne (2003c).

10. MISSING PERSONS

Of related importance is a restriction on HCI not yet mentioned, namely that the SCL found in HCI sentences must itself be third person. Alongside the well-formed HCI example (48), or the following similar one:

(54) Cela la gêne-t-elle? ("that her bothers *t* she" = "does that bother her?")

there is no comparable well-formed HCI example with a first- or second-person SCL. We can see this by starting with (52), which is an example of CI with a second-person OCL *te*. If we then try to shift to HCI by making the SCL agree in person with that OCL, we reach:

(55) *Cela te gêne-(t-)tu? ("that you bothers *t* you")

which is impossible. Similarly, alongside the well-formed HCI example:

(56) Cela l'aurait-elle gênée? ("that her would-have she bothered" = "would that have bothered her?")

with a third-person SCL *elle*, there is no parallel first-person SCL example:[37]

(57) *Cela m'aurait-je gêné? ("that me would-have I bothered")

   A question that arises is whether this person restriction on SCLs in HCI sentences is specific to HCI, or rather extends to CI. That is, can the SCL in CI sentences be first or second person? At first glance, there might seem to be well-formed CI sentences that do fit this description, for example:

(58) Jean et moi avons-nous vu ce film? ("J and me have we seen that film")

However, (58) can alternatively be analyzed as left dislocation. Interference from left dislocation can be dampened (and a CI analysis more or less forced) by using sentences whose subject is quantified in a certain way.
   In particular, Morin (1979, sect. 2.4) noted the contrast:

(59) Pourquoi lui seul a-t-il été prévenu? ("why him alone has *t* he been told")

---

37. I have switched to a conditional tense because of restrictions on post-verbal *je* discussed by Pollock (2006, note 43).
   In the first and second plural, the facts are the same:

   i) *Cela nous gêne-nous?
   ii) *Cela vous gêne-vous?

(60) *Pourquoi toi seul as-tu été prévenu?[38] ("why you alone have *t* you been told")

In these examples, the subject DP contains *seul* ("alone," "only") and there is a clear third-person vs. non-third-person contrast. The second-person SCL *tu* in (60) is not possible. In a similar spirit, Pollock (2006, 622) used examples with a contrastive pronominal subject and found facts pointing in the same direction as Morin's:

(61) Quel livre lui a-t-il apporté? ("which book him has *t* he brought" = "which book did HE bring?")

(62) *Quel livre moi ai-je apporté? ("which book me have *t* I brought")

Again, the non-third-person (here first-person) SCL *je* is not possible, with CI. Thus, both CI (as in (60) and (62)) and HCI (as in (55) and (57)) are impossible with a first- or second-person SCL.

The impossiblity of CI and HCI with a first- or second-person SCL contrasts with first- and second-person examples of SCLI (in which the SCL is not doubling anything overt) as seen in:

(63) Aurais-je été prévenu? ("would-have I been told")

(64) As-tu été prévenu? ("have you been told")

(65) Avons-nous été prévenus? ("have we . . . ")

(66) Avez-vous été prévenu(s)? ("have you . . . ")

The well-formedness of (63)–(66) indicates clearly that CI and HCI are excluded from containing a first- or second-person SCL as a function of the clitic doubling that plays a central role in CI/HCI (vs. SCLI). The next question is why clitic doubling of the CI/HCI sort should be incompatible with first or second person.

11. SCL *CE*

There is another restriction on SCLs in CI/HCI that is not found in SCLI. This restriction concerns the subject clitic *ce* of sentences like:[39]

---

38. Pollock (1983, 96) gives this example "*?" and a reviewer of the present paper says that it "does not sound so bad." It may be that some speakers can take *toi seul* to be dislocated or focused, rather than being in subject position, in which case such examples would be examples of SCLI, not of CI; this would then account for the difference between the sometime acceptability of (60) and the strong and uniform rejection of (55), since the OCL *te* in (55) is not amenable to dislocation.
39. SCL *ce* is as a first approximation possible only with the verb "be"; for details, see Kayne and Pollock (2010).

(67)   Ce n'est pas vrai. ("that/it neg is not true")

which is related to the demonstrative *ce* of:[40]

(68)   ce livre ("that/this book")

The SCL *ce* of (67) is sometimes fully compatible with SCLI, as in:[41]

(69)   Est-ce vrai? ("is that/it true")

(70)   Etait-ce vraiment comme cela? ("was that/it really like that")

Surprisingly (at first glance), *ce* is not possible with CI.[42] A relevant example, parallel to (60), is:[43]

(71)   *Pourquoi cela seul est-ce vrai? ("why that alone is that/it true")

Let me, then, pursue the idea that this restriction against *ce* in CI sentences is closely tied to the restriction against first- and second-person SCLs in CI (and HCI) sentences noted earlier in (55), (57), (60), and (62).

40. If the anti-homophony conjecture of Kayne (2016) is correct, SCL *ce* and ordinary demonstrative *ce* must be exactly the same morpheme. The demonstrative character of SCL *ce* (suggested by Jean-Yves Pollock (p.c.)) underlies its being unable to appear in core expletive-containing sentences like:

> i) Il est arrivé une lettre. ("*il* is arrived a letter" = "a letter has arrived")
> ii) *C'est arrivé une lettre.

with this contrast recalling:

> iii) There/*it has arrived a letter.

and suggesting that (standard) English *it* might always be a (reduced) demonstrative.
41. Even when the verb is "be," there are restrictions having to do with tense on *ce* in SCLI sentences that I take to be orthogonal to the present discussion.
42. There are no instances of *ce* with HCI, either, in part at least because there is (for reasons not yet discovered) no OCL *ce*:

> i) *Jean ce sait. ("J that/it knows")

This is so despite the fact that one finds, dialectally (cf. Bürgi (1998)), sentences like:

> ii) Jean a ça vu. ("J has that seen")

where *ça* has moved leftward in a way perhaps reminiscent of *tout* in standard French; on the movement of *tout,* v. Kayne (1975, chap.1), Pollock (1978), Starke (2001).
43. Other such examples are given in Kayne (1972, 83).

12. DEMONSTRATIVES AND FIRST- AND SECOND-PERSON PRONOUNS

Kayne (2010a) proposed an account of the absence in English of a complementizer *this*.

One component of that account was that *this* is invariably associated with a (perhaps unpronounced) first-person morpheme.[44] Let me now complement that idea with the following:[45]

(72) First- and second-person pronouns are invariably associated with demonstrative structure.

By "demonstrative structure," I have in mind Leu's (2007) proposal[46] that demonstratives are phrasal and contain the definite article as a subpart. Combined with (72), this yields:

(73) First- and second-person pronouns are invariably accompanied by a (usually silent) definite article.

This is illustrated in:

(74) THE you/me/us PERSON(S)

where capitalization indicates silence.[47]

We are now in a position to return to the restriction against demonstrative-like SCL *ce* in CI sentences discussed in the previous section and to the closely related restriction against first- and second-person SCLs in CI (and HCI) sentences noted earlier in (55), (57), (60), and (62). If the proposal in (72) is correct, these two restrictions boil down to one:

(75) CI and HCI are incompatible with SCLs associated with phrasal demonstrative structure

If we now ask why (75) should hold, a possible (beginning of an) answer is that the postverbal agreeing SCLs of CI and HCI must not be too complex.[48]

44. Cf. Leu (2007, note 2) and references cited there.
45. Cf. in part Jayaseelan and Hariprasad (2001).
46. Which has various antecedents; see his (2007, Introduction).
47. On PERSON, cf. Kayne (2005b, Appendix). The definite article can be pronounced in:

   i) That's not the you that everybody used to love.

The text proposal differs from Postal (1966), Ritter (1995), and Déchaine and Wiltschko (2002), who take first- and second-person pronouns to be determiners.
48. A reviewer notes an intriguing similarity here to colloquial Central-Oriental Catalan, which allows clitic reduplication of the sort seen in:

SCLs associated with phrasal demonstrative structure (*ce* and, by extension from (74), first- and second-person SCLs) would, then, be too complex to be compatible with HCI or CI,[49] while third-person SCLs would be less complex.[50]

13. OTHER TYPES OF CLITIC DOUBLING

CI and HCI are subtypes of clitic doubling. French has another subtype involving OCLs, seen in:

(76)   Ils la voient elle. ("they her see her")

in which there is a contrastive interpretation and intonation, such that (76) is distinct from right dislocation. The kind of OCL clitic doubling illustrated in (76) (which in French requires that the doubled phrase in argument position be a pronoun) differs from CI and HCI (as does Spanish clitic doubling) in being compatible with first- and second-person pronouns, for example:

(77)   Ils te voient toi. ("they you see you")

French allows this kind of non-dislocation contrastive doubling with subject pronouns, too,[51] as in:

(78)   Elle partira elle. ("she will-leave she/her")

> i)   Ho vol fer-ho ("it (s)he-wants to-do it")

This kind of reduplication is marginally available with *l*-clitics, but not at all with the clitics picked out by (75) (as opposed to Bellinzonese; cf. Cattaneo (2009, sect. 6.7)).

49. Despite first- and second-person plural SCLs being able to co-occur, in SCLI, with distinctive suffixal agreement morphemes, as in:

> i) Partez-vous?
> ii) Partons-nous?

with *part-* ("leave") the verbal root, *vous* ("you") and *nous* ("we") the SCLs, and *-ez* and *-ons* the corresponding agreement morphemes.

50. Possibly, (postverbal) third person SCLs are not phrasal; if so, then, since third person SCLs show gender and number morphology (on number, see Kayne and Pollock (2014, sect. 7)), they would have to have been "put together" by head movement. Alternatively, it is the deictic subpart of demonstratives (and first- and second-person pronouns) that makes the difference.

For an argument, differing from Postal (1966), to the effect that pronouns (in Russian) are nouns, v. Franks and Pereltsvaig (2004). On the varying structural complexity of pronouns, v. Cardinaletti and Starke (1999) and Déchaine and Wiltschko (2002). On French *celui* ("that him") as an instance of (non-agreeing) determiner + third person (strong, non-clitic) pronoun, v. Kayne (2010, sect. 10).

51. Cf. Ronat (1979).

and again allows it with first- and second-person pronouns, for example:

(79)   Je partirai moi. ("I will-leave I/me")

   The question now is why (79), with a first-person SCL, should differ in acceptability from the unacceptable CI example (62), repeated here:

(80)   *Quel livre moi ai-je apporté? ("which book me have *t* I brought")

as well as from the sharply unacceptable HCI example (57), also repeated:

(81)   *Cela m'aurait-je gêné? ("that me would-have I bothered")

(and similarly for other first and second person SCLs).
   A possible answer goes as follows. CI and HCI involve a complex DP analysis of the sort indicated in section 2, in which the SCL and its double both start out within one DP. A complex DP of that sort is not compatible with SCLs associated with phrasal demonstrative structure, that is, with *ce* or with first- or second-person SCLs, whence the unacceptability of (80) and (81). On the other hand, (79) does not involve such a complex DP structure, and is therefore possible. (By extension, (77) will not involve a complex DP structure, either.)
   As for the correct derivation of (77) and (79) (and, possibly, (76) and (78)),[52] one might consider extending to those sentences the kind of analysis envisaged in Kayne (1994, sect. 8.3) for:[53]

(82)   He's real smart, John.

in which this right-dislocation derives from the bi-clausal:

(83)   He's real smart, John is

52. Gatti (1989–90, 195n) pointed out for Trentino a difference between first, second and third person with respect to clitic doubling:

   i)   I me vede mi ("they me see me")
   ii) I te vede ti ("they you see you")
   iii) *?I la vede ela ("they her see her")

Non-clitic *mi/ti* can co-occur in Trentino with clitic *me/te*, but non-clitic *ela* cannot co-occur with clitic *la*. Cf. Burzio (1989) on Piedmontese. This contrast seems to hold for Paduan, too (Paola Benincà, p.c.); cf. Benincà (1983, note 8). On the other hand, it seems to be absent from the dialects studied by Nicoli (1983, 144, 359), Pelliciardi (1977, 93), Vassere (1993, 97, 102), and Spiess (1976, 209). Future work should individuate the parameter(s) underlying this difference.
53. Cf. also Ott (2014). This kind of analysis must then not be available to CI/HCI. Though it must be available to contrastive doubling even with *ne . . . que* added, as in:

   i)   Cela ne te plaît qu'à toi. ("that neg you pleases than to you" = "that pleases only you")

Transposed to (77) and (79), this would amount to taking them to be something like:[54]

(84)   ils te voient ILS VOIENT toi

and:

(85)   je partirai moi PARTIRAI

with capitalization again indicating silence.

The proposal indicated in (85) can be maintained even though *moi* is not normally a possible subject by itself:

(86)   *Moi partirai.

This is so (and similarly for (84)), since *moi* can be a subject by itself in gapping examples like:

(87)   Jean aime la physique et moi la chimie. ("J likes the physics and I the chemistry")

in which there must be a silent verb in the second part of the sentence, as, then, in (85).[55]

14. THE SENSITIVITY OF SILENT PRONOUNS TO PERSON

The difference in structure suggested in (72) between first- and second-person pronouns, which are associated with phrasal demonstrative structure, and third-person pronouns, which are not, may find additional support in the behavior of certain silent pronouns, in a way that can be seen in French. For example, French allows:[56]

(88)   Tous chantaient. ("all were-singing-3pl.")

54. And similarly for Spanish clitic doubling, at least with first- and second-person OCLs.
   Possibly, there's a link here to sentences like the following, in some Italian:

   i)   È andato a Parigi è andato. ("he-is gone to P he-is gone")

For discussion, see Gulli (2003).
55. If Johnson (2009) is correct and extendable to gapping in comparatives, the silent verb in gapping would come about as the result of across-the-board movement. Possibly, (79)/(85) contains a silent JE, too.
56. For additional details, see Kayne (2001).

in which there must certainly be a silent third-person pronoun within the subject DP. Of note is the fact that sentences like (88) are limited to third-person subjects, as shown in:

(89)   *Tous chantiez. ("all were-singing-2pl.")

(90)   *Tous chantions. ("all were-singing-1pl.")

All of (88)–(90) have distinctive verbal agreement endings. They can nonetheless be distinguished in acceptability if we take French to allow a silent third-person pronoun as part of the subject in (88), but to disallow comparable silent first- or second-person pronouns.

   English shows similar behavior, as seen in:

(91)   Both/all five were behaving themselves yesterday morning.

There must again be a silent third-person pronoun here, accompanying *both* and *all five*, within the subject DP:

(92)   both/all five THEM were . . .

As in French, this silent pronoun cannot be first or second person:

(93)   *Both/all five were behaving ourselves/yourselves yesterday morning.

Similarly, we have:

(94)   Five/most/not very many were behaving themselves/*ourselves/
       *yourselves yesterday morning.

again with a silent (OF) THEM that has no first- or second-person counterpart.

   Italian shows similar behavior in the particular case of:

(95)   Quattro sono venuti. ("four are-3pl. come" = "four of them have come")

(96)   *Quattro siete venuti. ("four are-2pl. come")

On the other hand, Italian allows sentences of the sort seen in (89)/(90), for example:

(97)   Tutti siamo felici. ("all are(1pl.) happy")

Since Italian is a robust null subject language, (97) is possible with an analysis in which *tutti* is not in subject position. This amounts to saying that the

acceptability of (97) doesn't depend on the presence of *tutti*, as shown in fact by:

(98)   Siamo felici.[57]

That French (89) or (90) is not possible now reduces to the fact that French, not being a null subject language, does not allow:

(99)   *Chantions. ("were singing")

In the same way English (93) is impossible exactly as is:

(100)   *Were behaving ourselves/yourselves yesterday morning.

The fact that within Italian (96) contrasts with (97) can now be related to the fact that *tutti* is a possible floating/stranded quantifier, just as English *all* is, whereas *quattro* is not, just as English *four* is not:

(101)   They are all here.
(102)   *They are four here.

The facts of (88)–(102) taken together support the following cautious statement:

(103)   Silent pronouns are sometimes limited to third person.

The caution is warranted by the fact that Italian itself allows a silent first-person pronoun in:

(104)   Vogliono che parta. ("they-want that leave")

In this example, the embedded verb *parta* is present subjunctive and is notable in that its *-a* suffix is in all probability not an agreement morpheme (but rather a theme vowel). Despite the lack of any overt first-person agreement morpheme, (104) can have the subject of *parta* interpreted as first person (singular). This leads to the conclusion that (104) can contain a silent first-person singular pronoun. (There is also a possible third singular interpretation.)
     One factor relevant to (104) vs. (88)–(96) is that in the latter set of cases, the silent pronoun is a subpart of the subject, not the whole subject, which suggests that a canonical pro-drop configuration provides an extra licensing

57. Here the true subject may be pro or it may be the agreement suffix *-m(o)*; cf. Taraldsen (1992).

possibility.[58] Setting that aside, let me propose that the limitation to third person in (88)–(96) is to be understood in terms of (72), that is, in terms of the idea that first- and second-person pronouns are associated with a demonstrative structure, whose silence in contexts like those of (88)–(96) can evidently not be licensed in the way that the silence of less (or differently) complex third-person pronouns can be.

15. FRENCH *ON*

The French SCL *on* (which in certain other cases can correspond to English generic subject *one*) can pair with *nous* ("we/us") in sentences like:

(105)   Nous, on va à Paris. ("us *on* go to P" = "we're going to P")

(106)   On va à Paris, nous.

with a first-person plural interpretation.[59] Yet alongside the CI example:

(107)   Cela nous gêne-t-il? ("that us bothers it" = "does that bother us?")

there is no HCI-like:

(108)   *Cela nous gêne-t-on?

This is so even though *on* is compatible with SCLI:

(109)   A-t-on tous fait la même erreur? ("has *on* all made the same mistake" = "have we all . . . ?")

The incompatibility of *on* with HCI can also be seen using so-called middle sentences like:

(110)   Cela se lit facilement. ("this book *se* reads easily")

which is very close in interpretation to:

(111)   On lit cela facilement.

58. Somewhat similarly, all instances of PRO are apparently indifferent to person; the silent subject of at least non-agreeing imperatives might be PRO, thinking of Ross (1970). French *voici/voilà* might, exceptionally (for French), have a(n obligatorily) silent non-PRO second-person subject; cf. Morin (1985, 817).

59. For relevant discussion concerning a comparable property of Italian *si*, see Cinque (1988).

Of interest here is the fact that middles are compatible with CI, with SCL = *il*:

(112)   Cela se lit-il facilement?

but not with HCI:

(113)   *Cela se lit-on facilement?

that is, HCI-type doubling of *se* by *on* is prohibited.

Similarly, although the following two sentences are close in interpretation:

(114)   Quelqu'un vous attend. ("someone you awaits" = "someone awaits you")

(115)   On vous attend.

we have, with HCI:

(116)   Quelqu'un vous attend-il?

but not:

(117)   *Quelqu'un vous attend-on?

The incompatibility of *on* with HCI seen in (108), (113) and (117) suggests that *on* should be grouped with *ce, je* and *tu* and that as with those SCLs we should attribute to *on* demonstrative structure.[60] Grouping *on* with first- and second-person pronouns (despite its triggering the same verb agreement as third singular[61]) is supported by the fact that no subtype of *on* ever varies in form for gender, just as first- and second-person pronouns never do, in Romance.[62]

This grouping of *on* with first- and second-person pronouns is also indirectly supported by the parallelism between French *on* and Italian impersonal *si* discussed by Cinque (1988, sect. 3.5). This is so if *on* is a nominative

60. If so, that would lead in a different direction from Kayne's (1972, 95) taking *nous* and *on* to be part of one DP-like phrase.

61. And despite its differing with respect to coordination (*on* can be dropped from a second conjunct less readily then *je, tu*—cf. Kayne (1975, chap. 2, notes 37, 40), Sportiche (1999, sect. 5.2)), in a way that may be linkable to the fact that Italian third-person counterparts to French *on* sentences cannot be without *si*.

62. This is completely clear for first/second singular (cf. Kayne (2003c)). Spanish first and second plural *nosotros, vosotros* have feminine counterparts *nosotras, vosotras*; rather than taking them to be exceptions, as in Dobrovie-Sorin and Giurgea (2011, 134), I take them to have a non-agreeing pronominal subpart *nos, vos* that is followed by an agreeing non-pronominal *otras,* the feminine plural form of *otro* ("other").

counterpart of French *se*, as suggested by Togeby (1982, 428), if all instances of *se* are the same element[63] and if, as in Kayne (2003c), *se* and *si* are themselves to be grouped with first- and second-person singular pronouns.[64]

16. CONCLUSION

French hyper-complex inversion (HCI) is an instance of clitic doubling that is subject to a person restriction not found with more familiar cases of clitic doubling. This restriction is argued to result from an incompatibility between the post-verbal subject clitic (SCL) of HCI and the demonstrative structure associated with first- and second-person pronouns. That demonstrative structure also plays a role in asymmetries that hold concerning the possible silence, in certain cases, of third-person pronouns, but not first- or second-person pronouns.

HCI shares with past-participle agreement the property that it is incompatible with an unmoved lexical direct object, in a way that presents a challenge to Agree, if Agree is taken to be available even in the absence of movement.

The SCL of HCI sentences can sometimes climb out of an embedded infinitive, in a way related to the Comp-area character of its landing site.

63. Necessarily so if Kayne's (2016, (17)) anti-homophony conjecture (cf. Embick (2003, 146, 156) for an earlier, more flexible version) is correct; cf. also Leu (2017).

64. Which would suggest, from the present perspective, that all instances of *se/si* are associated with demonstrative structure, with the possibility then arising that all instances of *se/si* have something in common with expletive *there*, in particular if expletive *there* originates DP-internally, as in Kayne (2008c). More specifically, it may be that *se/si* is to *where* as first- and second-person singular pronouns are to *here* and *there*; on the status of *-r-* in these, see Noonan (2017).

BIBLIOGRAPHY

Abbott, B. 1993. "A Pragmatic Account of the Definiteness Effect in Existential Sentences." *Journal of Pragmatics* 19:39–55.

Abels, K., and A. Neeleman. 2006. "Universal 20 Without the LCA," ms. University of Tromsø / UCL (extended version available at LingBuzz).

Aboh, E.O. 2004. *The Morphosyntax of Complement-Head Sequences. Clause Structure and Word Order Patterns in Kwa.* New York: Oxford University Press.

Adams, M. 1987. "From Old French to the Theory of Pro-Drop." *Natural Language and Linguistic Theory* 5:1–32.

Agbayani, B., and M. Ochi. 2014. "The Split Lexical Insertion Hypothesis." Berkeley Linguistics Society 40, UC Berkeley.

Aikhenvald, A.Y. 2000. *Classifiers. A Typology of Noun Categorization Devices*. New York: Oxford University Press.

Aldridge, E. 2009. "Minimalist Questions for the Nominalist Analysis of Tagalog Syntax." *Theoretical Linguistics* 35:51–62.

Alexiadou, A., and C. Wilder. 1998. "Adjectival Modification and Multiple Determiners." In A. Alexiadou and C. Wilder (eds.), *Possessors, Predicates and Movement in the Determiner Phrase,* 305–332. Amsterdam: John Benjamins.

Alexiadou, A., E. Anagnostopoulou, and F. Schäfer. 2006. "The Properties of Anticausatives Crosslinguistically." In M. Frascarelli (ed.), *Phases of Interpretation*, 187–211. Berlin: Mouton de Gruyter.

Algeo, J. 2006. *British or American English? A Handbook of Word and Grammar Patterns*. Cambridge: Cambridge University Press.

Allan, R., P. Holmes, and T. Lundskaer-Nielsen. 1995. *Danish. A Comprehensive Grammar*. London: Routledge.

Alvarez, A.I. 1999. "Las Construcciones Consecutivas." In I. Bosque and V. Demonte (eds.), *Gramática Descriptiva de la Lengua Española*, volume 3. Madrid: Espasa.

Amritavalli, R., and K.A. Jayaseelan. 2003. "The Genesis of Syntactic Categories and Parametric Variation." In H.-J. Yoon (ed.), *Generative Grammar in a Broader Perspective: Proceedings of the 4th GLOW in Asia 2003*. Seoul: Hankook.

Anagnostopoulou, E. 2016. "Clitic Doubling and Object Agreement." In S. Fischer and M. Navarro (eds.), *Proceedings of the VII Nereus International Workshop: "Clitic Doubling and other issues of the syntax/semantic interface in Romance DPs,"* Arbeitspapier 128, 11–42. Fachbereich Sprachwissenschaft, Universität Konstanz.

Anagnostopoulou, E. 2005. "Holmberg's Generalization and Cyclic Linearization. Remarks on Fox and Pesetsky." *Theoretical Linguistics* 31.

Androutsopoulou, A. 1997. *On Remnant DP-Movement in Modern Greek*. M.A. thesis, UCLA.

Antonov, A., and G. Jacques. 2014. "Transitive NEED Does Not Imply Transitive HAVE: Response to Harves and Kayne 2012." *Linguistic Inquiry* 45:147–158.

Aoun, J.E., E. Benmamoun, and L. Choueiri. 2010. *The Syntax of Arabic*. New York: Cambridge University Press.

Avelar, J. 2009. "The Comitative-Copular Basis of Possessive-Existential Constructions in Brazilian Portuguese." In J. Nunes (ed.), 139–160. *Minimalist Essays on Brazilian Portuguese Syntax*. Amsterdam: John Benjamins.

Bader, M., and J. Häussler. 2010. "Toward a Model of Grammaticality Judgments." *Journal of Linguistics* 46:273–330.

Baker, C.L. 1978. *Introduction to Generative-Transformational Syntax*. Englewood Cliffs, NJ: Prentice-Hall.

Baker, M. 1985. "The Mirror Principle and Morphosyntactic Explanation." *Linguistic Inquiry* 16:373–415.

Baker, M.C. 1988. *Incorporation: A Theory of Grammatical Function Changing*. Chicago: University of Chicago Press.

Baker, M.C. 1993. "Why Unaccusative Verbs Cannot Dative-Shift." *Proceedings on NELS 23*, University of Massachusetts, Amherst, 1:33–47.

Baker, M.C. 1996. *The Polysynthesis Parameter.* New York: Oxford University Press.

Baker, M.C. 2003. *Lexical Categories. Verbs, Nouns, and Adjectives*. Cambridge: Cambridge University Press.

Baker, M.C. 2005. "On Verb-initial and Verb-final Word Orders in Lokąą." *Journal of African Languages and Linguistics* 26:125–164.

Baker, M.C. 2008. "The Macroparameter in a Microparametric World." In T. Biberauer (ed.), *The Limits of Syntactic Variation*, 351–374. Amsterdam: John Benjamins.

Baltin, M. 2012. "Deletion Versus Pro-forms: An Overly Simple Dichotomy?" *Natural Language and Linguistic Theory*,

Baltin, M., and L. Barrett. 2002. "The Content of Null Case." Ms., New York University.

Barbiers, S. 2005. "Variation in the Morphosyntax of *One*." *Journal of Comparative Germanic Linguistics* 8:159–183.

Barbiers, S. 2007. "Indefinite Numerals *One* and *Many* and the Cause of Ordinal Suppletion." *Lingua* 117:859–880.

Barrie, M., and E. Mathieu. 2016. "Noun Incorporation and Phrasal Movement." *Natural Language and Linguistic Theory* 34:1–51.

Barss, A. 1986. "Chains and Anaphoric Dependence: On Reconstruction and Its Implications." Doctoral dissertation, M.I.T, Cambridge, MA.

Basilico, D. 1997. "The Topic Is 'There'." *Studia Linguistica* 51:278–316.

Beal, J.C., L. Burbano-Elizondo, and C. Llamas. 2012. *Urban North-Eastern English: Tyneside to Teesside*. Edinburgh: Edinburgh University Press.

Beghelli, F., and T. Stowell. 1997. "Distributivity and Negation: The Syntax of *Each* and *Every*." In A. Szabolcsi (ed.), *Ways of Scope Taking*, 71–107. Dordrecht: Kluwer.

Belletti, A. 1981. "Frasi ridotte assolute." *Rivista di grammatica generativa* 6:3–32.

Belletti, A. 1988. "The Case of Unaccusatives." *Linguistic Inquiry* 19:1–34.

Belletti, A. 1999. "Italian/Romance Clitics: Structure and Derivation." In H. van Riemsdijk (ed.), *Clitics in the Languages of Europe*, 543–579. Berlin: Mouton de Gruyter.

Belletti, A. 2006. "(Past) Participle Agreement." In M. Everaert and H. van Riemsdijk (eds.), *The Blackwell Companion to Syntax, Volume III*, 493–521. Malden, MA and Oxford: Blackwell.

Belletti, A., and L. Rizzi. 1988. "Psych-Verbs and Θ-Theory." *Natural Language and Linguistic Theory*. 6:291–352.

Benincà, P. 1983. "Il clitico *a* nel dialetto padovano." In *Scritti linguistici in onore di G.B. Pellegrini*, 25–35. Pisa: Pacini (reprinted in Benincà (1994)).

Benincà, P. 1989. "Note introduttive a un atlante dialettale sintattico." In G.L. Borgato and A. Zamboni (eds.), *Dialettologia e varia linguistica per Manlio Cortelazzo* (Quaderni patavini di linguistica, Monografie.6). Padua.

Benincà, P. 1994. *La variazione sintattica. Studi di dialettologia romanza*. Bologna: Il Mulino.

Benincà, P., and C. Poletto. 1995. "*Bisogna* and its Companions: The Verbs of Necessity." In G. Cinque, J. Koster, J.-Y. Pollock, L. Rizzi and R. Zanuttini (eds.), *Paths Towards Universal Grammar. Studies in Honor of Richard S. Kayne*, 35–57. Washington, D.C.: Georgetown University Press.

Bernstein, J. 1991. "DP's in French and Walloon: Evidence for Parametric Variation in Nominal Head Movement." *Probus* 3:101–126.

Bernstein, J. 1993. "The Syntactic Role of Word Markers in Null Nominal Constructions." *Probus* 5:5–38.

Bernstein, J. 1997. "Demonstratives and Reinforcers in Romance and Germanic Languages." *Lingua* 102:87–113.

Bernstein, J. 2015. "The Expression of Case Across English Demonstrative Forms." Talk presented at New York University.

Bernstein, J., and C. Tortora. 2005. "Two Types of Possessive Forms in English." *Lingua* 115:1221–1242.

Bhatt, R. 1998. "Obligation and Possession." In H. Harley (ed.), *The Proceedings of the UPenn/MIT Workshop on Argument Structure and Aspect*, MITWPL 32, 21–40.

Bianchi, V. 1999. *Consequences of Antisymmetry. Headed Relative Clauses*. Berlin: Mouton de Gruyter.

Bianchini, S., G. Borgato, and R. Galassi. 1982. "Raddoppiamento del pronome in basso-mantovano/ferrarese." In D. Calleri and C. Marello (eds.), *Linguistica contrastiva. Atti del XIII Congresso internazionale di studi, Asti, 26–28 maggio 1979*, 371–389. Rome: Bulzoni.

Biberauer, T. 2008. "Doubling vs. Omission: Insights from Afrikaans Negation." In *Microvariation in Syntactic Doubling, Syntax and Semantics*, vol. 36, 103–140. Leiden: Brill.

Biberauer, T. 2008. "Introduction." In T. Biberauer (ed.), *The Limits of Syntactic Variation*, 7–72. Amsterdam: John Benjamins.

Bobaljik, J.D. 2005. "Re: CycLin and the Role of PF in Object Shift." *Theoretical Linguistics* 31:111–125.

Bobaljik, J.D., and S. Brown. 1997. "Interarboreal Operations: Head Movement and the Extension Requirement." *Linguistic Inquiry* 28:345–356.

Boeckx, C. 2001. "Resumptive Pronouns as Derivational Residues," WCCFL, University of Southern California.

Boeckx, C. 2003. *Islands and Chains: Resumption as Stranding*. Philadelphia, PA: John Benjamins Publishing Company.

Boeckx, C. 2014. "What Principles and Parameters Got Wrong." In C. Picallo (ed.), *Linguistic Variation in the Minimalist Framework*. Oxford: Oxford Scholarship Online.

Bolinger, D. 1971. "A Further Note on the Nominal in the Progressive." *Linguistic Inquiry* 2:584–586.

Bolinger, D. 1978. "Asking More Than One Thing at a Time." In H. Hiz (ed.), *Questions*, 97–106. Dordrecht: Reidel.

Boneh, N., and I. Sichel. 2010. "Deconstructing Possession." *Natural Language and Linguistic Theory* 28: 1–40.

Boneh, Nora. 2002. "The Grammar of the Possession Link: Modern Hebrew *yeS* Constructions." In Marjo van Koppen, Erica Thrift, Jan van der Torre and Malte Zimmerman (eds.), *Proceedings of ConSOLE 9*, 1–13. Leiden: University of Leiden, Holland Institute of Generative Linguistics (HIL).

Bonet, E. 1991. *Morphology After Syntax: Pronominal Clitics in Romance*. Doctoral dissertation, M.I.T., Cambridge, MA.

Borer, H. 1984. *Parametric Syntax*. Dordrecht: Foris.

Borer, H. 2005. *In Name Only*. Oxford: Oxford University Press.

Borer, H. 2013. "Heads and Segments." Paper presented at the Bilbao Workshop "Toward a Theory of Syntactic Variation."

Bošković, Ž. 2015. "From the Complex NP Constraint to Everything: On Deep Extractions Across Categories." *The Linguistic Review* 32:603–669.

Bosque, I., and V. Demonte. 1999. *Gramática descriptiva de la lengua española* (3 volumes). Madrid: Espasa.

Brame, M.K. 1976. *Conjectures and Refutations in Syntax and Semantics*. New York and Amsterdam: North-Holland.

Brandi, L., and P. Cordin. 1989. "Two Italian Dialects and the Null Subject Parameter." In O. Jaeggli and K.J. Safir (eds.), *The Null Subject Parameter*, 111–142. Dordrecht: Kluwer Academic Publishers.

Brattico, P., and A. Leinonen. 2009. "Case Distribution and Nominalization: Evidence from Finnish." *Syntax* 12:1–31.

Bresnan, J.W. 1972. "Theory of Complementation in English Syntax." Ph.D. dissertation, M.I.T., Cambridge, MA.

Brillman, R. 2011. "Overt Obligations and Covert Desires." Ms., New York University.

Bruening, B. 2014. "Defects of Defective Intervention." *Linguistic Inquiry* 45:707–719.

Bürgi, A. 1998. *Le pronom* ça *en français vaudois, description et analyse*, Mémoire de Maîtrise, University of Sherbrooke.

Burzio, L. 1986. *Italian Syntax. A Government-Binding Approach*. Dordrecht: Reidel.

Burzio, L. 1989. "Work in Progress." Ms., Harvard University, Cambridge, MA.

Butt, J., and C. Benjamin. 1988. *A New Reference Grammar of Modern Spanish*. London: Edward Arnold.

Cable, S. 2010. *The Grammar of Q. Q-Particles, Wh-Movement, and Pied-Piping*. New York: Oxford University Press.

Caha, P. 2010. "The German Locative-Directional Alternation. A Peeling Account." *Journal of Comparative Germanic Linguistics* 13:179–223.

Camproux, C. 1958. *Etude syntaxique des parlers gévaudanais* (Publications de la Faculté des Lettres de l'Université de Montpellier, XX), Presses Universitaires de France.

Canepari, L. 1986. *Lingua italiana nel Veneto (Seconda edizione)*, CLESP, Padua.

Cardinaletti, A. 1997. "Agreement and Control in Expletive Constructions." *Linguistic Inquiry* 28:521–533.

Cardinaletti, A. 2008a. "On Morphologically Simple vs. Complex Clitic Pronouns, and Spurious *Se* Once Again." Paper presented at the Linguistic Institute, Barcelona.

Cardinaletti, A. 2008b. "On Different Types of Clitic Clusters." In C. de Cat and K. Demuth (eds.), *The Bantu-Romance Connection. A Comparative Investigation of Verbal Agreement, DPs, and Information Structure*, 41–82. Amsterdam: John Benjamins, Amsterdam.

Cardinaletti, A., and M. Starke. 1999. "The Typology of Structural Deficiency: A Case Study of the Three Classes of Pronouns." In H. van Riemsdijk (ed.), *Clitics in the Languages of Europe*, 145–233. Berlin: Mouton de Gruyter.

Carstens, V. 2002. "Antisymmetry and Word Order in Serial Constructions." *Language* 78:3–50.

Cattaneo, A. 2009. *It Is All About Clitics: The Case of a Northern Italian Dialect Like Bellinzonese.* Doctoral dissertation, New York University.

Cecchetto, C. 1999. "A Comparative Analysis of Left and Right Dislocation in Romance." *Studia Linguistica* 53: 40–67.

Chalcraft, F. 2006. "Right Node Raising as Ellipsis: Evidence from (what the) British *Do.*" *Snippets* 12, http://www.ledonline.it/snippets/.

Charnavel, I. 2011. "On French *un même* and Antispecificity." In I. Reich, et al. (eds.), *Proceedings of Sinn & Bedeutung* 15:133–147. Saarbrücken: Saarland University Press.

Chenal, A. 1986. *Le franco-provençal valdôtain*. Aoste: Musumeci.

Cheng, L.L.-S., and R. Sybesma. 1999. "Bare and Not-So-Bare Nouns and the Structure of NP." *Linguistic Inquiry* 30:509–542.

Cheng, L.L.-S., and R. Sybesma. 2005. "Classifiers in Four Varieties of Chinese." In G. Cinque and R. Kayne (eds.), *Handbook of Comparative Syntax*, 259–292. New York: Oxford University Press.

Cheng, L.L.-S., and R. Sybesma. 2012. "Classifiers and DP." *Linguistic Inquiry* 43:634–650.

Chierchia, G. 1998. "Reference to Kinds Across Languages." *Natural Language Semantics* 6:339–405.

Choe, H. S. 2006. "The Syntax of Existential *there* and the Structure of Nominal Expressions," ms.

Chomsky, N. 1964. *Current Issues in Linguistic Theory*. The Hague: Mouton.

Chomsky, N. 1965. *Aspects of the Theory of Syntax.* Cambridge, MA: MIT Press.

Chomsky, N. 1970. "Remarks on Nominalization." In R.A. Jacobs and P.S. Rosenbaum (eds.), *Readings in English Transformational Grammar*, 184–221. Waltham: Ginn.

Chomsky, N. 1973. "Conditions on Transformations." In S.R. Anderson and P. Kiparsky (eds.), *A Festschrift for Morris Halle*, 232–286. New York: Holt, Rinehart and Winston.

Chomsky, N. 1977. "On wh-movement." In P.W. Culicover, T. Wasow and A. Akmajian (eds.), *Formal Syntax*, 71–132. New York: Academic Press.

Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.

Chomsky, N. 1986. *Barriers*. Cambridge, MA: MIT Press.

Chomsky, N. 1986. *Knowledge of Language.* New York: Praeger.

Chomsky, N. 1993. "A Minimalist Program for Linguistic Theory." In K. Hale and S.J. Keyser (eds.), *The View from Building 20. Essays in Linguistics in Honor of Sylvain Bromberger*, 1–52. Cambridge, MA: MIT Press (reprinted as chapter 3 of Chomsky (1995)).

Chomsky, N. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Chomsky, N. 2000. "Minimalist Inquiries: The Framework." In R. Martin, D. Michaels and J. Uriagereka (eds.), *Step by Step: Essays in Minimalist Syntax in Honor of Howard Lasnik*, 89–155. Cambridge, MA: MIT Press.

Chomsky, N. 2001. "Derivation by Phase." In M. Kenstowicz (ed.), *Ken Hale. A Life in Language*, 1–52. Cambridge, MA: MIT Press.

Chomsky, N. 2004. "Beyond Explanatory Adequacy." In A. Belletti (ed.), *Structures and Beyond—The Cartography of Syntactic Structure*, Vol. 3 New York: Oxford University Press.

Chomsky, N. 2005. "Three Factors in Language Design." *Linguistic Inquiry*, 36, 1–22.

Chomsky, N. 2008. "On Phases." In R. Freidin, C.P. Otero and M.L. Zubizarreta (eds.), *Foundational Issues in Linguistic Theory. Essays in Honor of Jean-Roger Vergnaud*, 133–166. Cambridge, MA: MIT Press.

Chomsky, N. 2013. "Problems of Projection." *Lingua* 130:33–49.

Chomsky, N., and M. Halle. 1968. *The Sound Pattern of English*. New York: Harper and Row.

Chomsky, N., and H. Lasnik. 1993. "Principles and Parameters Theory." In J. Jacobs, A. von Stechow, W. Sternefeld and T. Vennemann (eds.), *Syntax: An International Handbook of Contemporary Research*. Berlin: Walter de Gruyter Berlin (reprinted as chapter 1 of Chomsky (1995)).

Chomsky, N., and G. Miller. 1963. "Introduction to the Formal Analysis of Natural Languages." In R. Luce, R. Bush and E. Galanter (eds.), *Handbook of Mathematical Psychology, Vol 2,* 269–323. New York: Wiley.

Cinque, G. 1977. "The Movement Nature of Left Dislocation." *Linguistic Inquiry* 8:397–412.

Cinque, G. 1982. "On the Theory of Relative Clauses and Markedness." *The Linguistic Review* 1:247–294.

Cinque, G. 1988. "On *Si* Constructions and the Theory of *Arb*." *Linguistic Inquiry* 19:521–581.

Cinque, G. 1990. *Types of A'-Dependencies*. Cambridge, MA: MIT Press.

Cinque, G. 1994. "On the Evidence for Partial N-movement in the Romance DP." In G. Cinque, J. Koster, J.-Y. Pollock, L. Rizzi and R. Zanuttini (eds.), *Paths Towards Universal Grammar. Studies in Honor of Richard S. Kayne,* 85–110. Washington, D.C.: Georgetown University Press.

Cinque, G. 1995. *Italian Syntax and Universal Grammar*. Cambridge, UK: Cambridge University Press.

Cinque, G. 1999. *Adverbs and Functional Heads. A Cross-Linguistic Perspective*. New York: Oxford University Press.

Cinque, G. 2003. "The Prenominal Origin of Relative Clauses." Paper presented at the Workshop on Antisymmetry and Remnant Movement, New York University.

Cinque, G. 2004. "Restructuring" and Functional Structure." In A. Belletti (ed.), *The Cartography of Syntactic Structures*, vol. 3: *Structures and Beyond*, 132–191. New York: Oxford University Press (reprinted in Cinque (2006)).

Cinque, G. 2005. "Deriving Greenberg's Universal 20 and Its Exceptions." *Linguistic Inquiry* 36:315–332.

Cinque, G. 2006. "Complement and Adverbial PPs: Implications for Clause Structure." In G. Cinque, *Restructuring and Functional Heads. The Cartography of Syntactic Structures, Volume 4*, 145–166. New York: Oxford University Press.

Cinque, G. 2006. *Restructuring and Functional Heads. The Cartography of Syntactic Structures, Volume 4*. New York: Oxford University Press.

Cinque, G. 2010a. "On a Selective "Violation" of the Complex NP Constraint." In C. J.-W. Zwart and M. de Vries (eds.), *Structure Preserved. Studies in Syntax for Jan Koster*, 81–90. Amsterdam: John Benjamins.

Cinque, G. 2010b. *The Syntax of Adjectives. A Comparative Study*. Cambridge, MA: MIT Press.

Cinque, G. 2013a. "Are All Languages 'Numeral Classifier Languages'?" In G. Cinque, *Typological Studies. Word Order and Relative Clauses*, 107–109. New York: Routledge.

Cinque, G. 2013b. "Cognition, Typological Generalizations, and Universal Grammar." *Lingua* 130:50–65.

Cinque, G., and R.S. Kayne (eds.). 2005. *The Oxford Handbook of Comparative Syntax.* New York: Oxford University Press.

Cinque, G., and I. Krapova. 2007. "A Note on Bulgarian Numeral Classifiers." In G. Alboiu, A.A. Avram, L. Avram and D. Isac (eds.), *Pitar Moș: A Building with a View. Papers in Honour of Alexandra Cornilescu*, 45–51. Bucharest: Editura Universității din București.

Cinque, G., and L. Rizzi. 2010. "The Cartography of Syntactic Structures." In B. Heine and H. Narrog (eds.), *The Oxford Handbook of Linguistic Analysis*, 51–65. Oxford: Oxford University Press.

Cochet, E. 1933. *Le patois de Gondecourt (Nord)*. Paris: E. Droz.

Collins, C. 2005. "A Smuggling Approach to the Passive in English." *Syntax* 8:81–120.

Collins, C. 2006. "A Note on Derivational Morphology." Ms., New York University (lingbuzz/004119).

Collins, C. 2008. "Home Sweet Home." *NYU Working Papers in Linguistics* 1.

Collins, C. 2014. "Relative Clause Deletion." Ms., New York University (lingbuzz/002094).

Collins, C., and P.M. Postal. 2012. *Imposters. A Study of Pronominal Agreement*. Cambridge, MA: MIT Press.

Collins, C., and E. Stabler. 2016. "A Formalization of Minimalist Syntax." *Syntax* 19:43–78.

Comrie, B. 1987. "Introduction." In B. Comrie (ed.), *The World's Major Languages,* 1–29. New York: Oxford University Press.

Comrie, B., M.S. Dryer, D. Gil, and M. Haspelmath. 2005. "Introduction." In M. Haspelmath, M.S. Dryer, D. Gil and B. Comrie (eds.), *The World Atlas of Language Structures*, 1–8. Oxford: Oxford University Press.

Coon, J. 2010. *Complementation in Chol (Mayan): A Theory of Split Ergativity.* Doctoral dissertation, M.I.T., Cambridge, MA.

Corver, N. 2006. "Proleptic Agreement as a Good Design Property." In J. Costa and M.C.F. Silva (eds.), *Studies on Agreement*, 47–73. Amsterdam: John Benjamins.

Craig, C.G. 1977. *The Structure of Jacaltec.* Austin: University of Texas Press.

Crystal, D. 1987. *The Cambridge Encyclopedia of Language.* Cambridge, UK: Cambridge University Press.

Cuervo, M.C. 2003. "Datives at Large." Ph.D. diss., M.I.T., Cambridge, MA.

Culicover, P.W. 1971. *Syntactic and Semantic Investigations.* Doctoral diss., M.I.T., Cambridge, MA.

Culicover, P.W., and R. Jackendoff. 2010. "Quantitative Methods Alone Are Not Enough: Response to Gibson and Fedorenko." *Trends in Cognitive Sciences* 14:234.

Curme, G. O. 1977 (1931). *A Grammar of the English Language. Volume II: Syntax.* Essex, CT: Verbatim.

Davis, H., C. Gillon, and L. Matthewson. 2014. "How to Investigate Linguistic Diversity: Lessons from the Pacific Northwest." *Language* 90:e180–e226.

Deal, A.R. 2009. "The Origin and Content of Expletives: Evidence from 'Selection'." *Syntax* 12:285–323.

Dehaene, S. 2011. *The Number Sense* (2nd edition). New York: Oxford University Press.

Dejean, Yves. 1993. "Manifestations en créole haïtien du principe d'adjacence stricte."

Den Dikken, M. 1995. *Particles. On the Syntax of Verb-Particle, Triadic, and Causative Constructions.* New York: Oxford University Press.

Den Dikken, M. 2001. "Pluringulars, Pronouns, and Quirky Agreement." *The Linguistic Review* 18:19–41.

Den Dikken, M. 2006a. *Relators and Linkers. The Syntax of Predication, Predicate Inversion, and Copulas*. Cambridge, MA: MIT Press

Den Dikken, M. 2006b. "*Either*-Float and the Syntax of Co-*or*-dination." *Natural Language and Linguistic Theory* 24:689–749.

Déchaine, R.-M., and M. Wiltschko. 2002. "Decomposing Pronouns." *Linguistic Inquiry* 33:409–442.

Déprez, V. 1998. "Semantic Effects of Agreement: The Case of French Participle Agreement." *Probus* 10:1–67.

Diesing, M. 1992. *Indefinites*. Cambridge, MA: MIT Press.

Dixon, R.M.W. 1977. "Semantic Neutralization for Phonological Reasons." *Linguistic Inquiry* 8:599–602.

Dobrovie-Sorin, C., and I. Giurgea. 2011. "Pronominal Possessors and Feature Uniqueness." *Language* 87:126–157.

Downing, B.T. 1978. "Some Universals of Relative Clause Structure." In J.H. Greenberg (ed.), *Universals of Human Language. vol. 4. Syntax*, 375–418. Stanford, CA: Stanford University Press.

Dryer, M.S. 1992. "The Greenbergian Word Order Correlations." *Language* 68:81–138.

Dryer, M.S. 2005. "Negative Morphemes." In M. Haspelmath, M.S. Dryer, D. Gil and B. Comrie (eds.), *The World Atlas of Language Structures,* 454–457. Oxford: Oxford University Press.

Duncan, D. 2016. "A Freezing Approach to theIsh-Construction in English." *University of Pennsylvania Working Papers in Linguistics* 22:101–108.

Dunn, M., S.J. Greenhill, S.C. Levinson, and R.D. Gray. 2011. "Evolved Structure of Language Shows Lineage-Specific Trends in Word-Order Universals." *Nature* 473, no. 7345:79–82.

Embick, D. 2003. "Locality, Listedness, and Morphological Identity." *Studia Linguistica* 57:143–169.

Emonds, J. 1978. "The Verbal Complex V'-V in French." *Linguistic Inquiry* 9:151–175.

Emonds, J.E. 1976. *A Transformational Approach to English Syntax. Root, Structure-Preserving and Local Transformations*. New York: Academic Press.

Erdocia, K., I. Laka, A. Mestres-Missé, and A. Rodriguez-Fornells. 2009. "Syntactic Complexity and Ambiguity Resolution in a Free Word Order Language: Behavioral and Electrophysiological Evidences from Basque." *Brain & Language* 109:1–17.

Etxepare, R. 2006. "Number Long Distance Agreement in (Substandard) Basque." In J.A. Lakarra and J.I. Hualde (eds.), *Studies in Basque and Historical Linguistics in Memory of R. L. Trask. Supplements of the Anuario del Seminario de Filologia Vasca "Julio de Urquijo" XL:1–2*, 303–350.

Etxepare, R. 2009. "Case, Person and Number in Basque Long Distance Agreement." (Handout of) paper presented at the 19th Colloquium on Generative Grammar, University of the Basque Country.

Etxepare, R. 2010. "From Hearsay Evidentiality to Samesaying Relations." *Lingua* 120:604–627.

É. Kiss, K. 1996. "Two Subject Positions in English." *The Linguistic Review* 13:119–142.

Fedorenko, E., and E. Gibson. 2010. "Adding a Third Wh-phrase Does Not Increase the Acceptability of Object-initial Multiple-wh-questions." *Syntax* 13:183–195.

Ferrari, F. 2005. "A Syntactic Analysis of the Nominal Systems of Italian and Luganda. How Nouns Can Be Formed in the Syntax." Ph.D. dissertation, New York University.

Fiengo, R., and J. Higginbotham. 1981. "Opacity in NP." *Linguistic Analysis* 7:395–421.

Frampton, J. 2009. *Distributed Reduplication*. Cambridge, MA: MIT Press.

Franks, S., and T.H. King. 2000. *A Handbook of Slavic Clitics*. New York: Oxford University Press.

Franks, S., and A. Pereltsvaig. 2004. "Functional Categories in the Nominal Domain." In O. Arnaudova et al. (eds.), Proceedings of Formal Approaches to Slavic Linguistics 12. The Ottawa Meeting 2003, 109–128. Ann Arbor: University of Michigan Press.

Freeze, R. 1992. "Existentials and Other Locatives." *Language* 68:553–595.

Gathercole, V.C. 1981. "Support for a Unified QP Analysis." *Linguistic Inquiry* 12:147–148.

Gatti, T. 1989/1990. *Confronto tra fenomeni sintattici nell'italiano e nel dialetto trentino: participio passato, ÿccord e ausiliari*. Tesi di laurea, University of Trento.

Ghomeshi, J. 1996. "Projection and Inflection: A Study of Persian Phrase Structure." Doctoral dissertation, University of Toronto.

Ghomeshi, J. 2001. "Control and Thematic Agreement." *Canadian Journal of Linguistics* 46:9–40.

Ghosh, R. 2001. "Some Aspects of Determiner Phrase in Bangla and Asamiya." Doctoral dissertation, Tezpur University, Assam.

Goldberg, A.E., and J. van der Auwera. 2012. "This Is to Count as a Construction." *Folia Linguistica* 46:109–132.

Greenberg, J.H. 1966. "Some Universals of Grammar with Particular Reference to the Order of Meaningful Elements." In J.H. Greenberg (ed.), *Universals of Language*, second edition, 73–113. Cambridge, MA: MIT Press.

Grevisse, M. 1993. *Le bon usage,* thirteenth edition, by André Goosse. Paris: Duculot.

Grevisse, M., and A. Goosse. 2011. *Le Bon Usage. 75 Ans*. Brussels: De Boeck Duculot.

Groat, E., and J. O'Neil. 1996. "Spell-out at the LF Interface." In W. Abraham, S.D. Epstein, H. Thráinsson and C.J.-W. Zwart (eds.), *Minimal Ideas. Syntactic Studies in the Minimalist Framework*, 113–139. Amsterdam: John Benjamins.

Groat, E.M. 1995. "English Expletives: A Minimalist Approach." *Linguistic Inquiry* 26:354–365.

Gross, M. 1968. *Grammaire transformationnelle du français. Syntaxe du verbe*. Paris: Larousse.

Gross, M. 1975. *Méthodes en syntaxe*. Paris: Hermann.

Gruber, B. 2008. "Complementiser Agreement—New Evidence from the Upper Austrian Variant of Gmunden." Master's thesis, University of Vienna.

Guéron, J. 1980. "On the Syntax and Semantics of PP Extraposition." *Linguistic Inquiry* 11:637–678.

Gulli, A. 2003. "Reduplication in Syntax." Doctoral dissertation, Graduate Center, City University of New York.

Haddican, B. 2007. "The Structural Deficiency of Verbal Pro-Forms." *Linguistic Inquiry* 38:539–547.

Haddican, W., A. Holmberg, H. Tanaka, and G. Tsoulas. 2014. "Interrogative Slifting in English." *Lingua* 138:86–106.

Haegeman, L. 2000. "Remnant Movement and OV Order." In P. Svenonius (ed.), *The Derivation of VO and OV*, 69–96. Amsterdam: John Benjamins.

Hale, K. 1973. "Person Marking in Walbiri." In S.R. Anderson and P. Kiparsky (eds.), *A Festschrift for Morris Halle*, 308–344. New York: Holt, Rinehart and Winston.

Hale, K., and S.J. Keyser. 1993. "On Argument Structure and the Lexical Expression of Syntactic Relations." In K. Hale and S.J. Keyser (eds.), *The View from Building*

20. Essays in Linguistics in Honor of Sylvain Bromberger, 53–109. Cambridge, MA: MIT Press.

Hale, K., and S.J. Keyser. 2002. *Prolegomenon to a Theory of Argument Structure.* Cambridge, MA: MIT Press.

Hall, B. 1965. "Subject and Object in Modern English." Ph.D. dissertation, M.I.T., Cambridge, MA.

Halle, M., and A. Marantz. 1993. "Distributed Morphology and the Pieces of Inflection." In K. Hale and S.J. Keyser (eds.), *The View from Building 20. Essays in Linguistics in Honor of Sylvain Bromberger*, 111–176. Cambridge, MA: MIT Press.

Halliday, M.A.K., and R. Hasan. 1976. *Cohesion in English.* London: Longman.

Halpert, C., and M. Diercks. 2013. "No Need for 'have' (for 'need'): A Reply to Harves and Kayne (2012)." Ms., University of Minnesota and Pomona College.

Harbour, D. 2008. "Discontinuous Agreement and the Syntax-Morphology Interface." In D. Harbour, D. Adger and S. Béjar (eds.), *Phi Theory. Phi-Features across Modules and Interfaces*, 185–220. Oxford: Oxford University Press.

Harley, Heidi. 2004. "Wanting, Having, and Getting: A Note on Fodor and Lepore 1998." *Linguistic Inquiry* 35:255–267.

Harlow, R. 2006. *Māori. A Linguistic Introduction.* Cambridge: Cambridge University Press.

Harrell, R.S. 1962. *A Short Reference Grammar of Moroccan Arabic*. Washington, D.C.: Georgetown University Press.

Harris, A.C. 2006. "Revisiting Anaphoric Islands." *Language* 82:114–130.

Harris, J., and M. Halle. 2005. "Unexpected Plural Inflections in Spanish: Reduplication and Metathesis." *Linguistic Inquiry* 36:195–222.

Harris, J.W. 1969. *Spanish Phonology*. Cambridge, MA: MIT Press.

Harris, R. 1969. "Pronominal Postposition in Valdôtain." *Revue de linguistique romane* 33:133–143.

Harves, S. 2008. "Intensional Transitives and silent HAVE: Distinguishing Between *want* and *need*." In Natasha Abner and Jason Bishop (eds.), *WCCFL 27: Proceedings of the 27th West Coast Conference on Formal Linguistics*, 211–219. Somerville, MA: Cascadilla Press.

Harves, S., and R.S. Kayne. 2012. "Having *Need* and Needing *Have*." *Linguistic Inquiry* 43:120–132.

Haspelmath, M. 2007. "Pre-established Categories Don't Exist—Consequences for Language Description and Typology." *Linguistic Typology* 11.

Haspelmath, M. 2008. "Coordination." In T. Shopen (ed.), *Language Typology and Syntactic Description, vol. 2: Complex Constructions,* second edition, 1–51. Cambridge: Cambridge University Press.

Hasty, J.D. 2014. "We Might Should Be Thinking This Way. Theory and Practice in the Study of Syntactic Variation." In R. Zanuttini and L.R. Horn (eds.), *Micro-Syntactic Variation in North American English*, 269–293. New York: Oxford University Press.

Hauser, M.D., N. Chomsky, and W.T. Fitch. 2002. "The Faculty of Language: What Is It, Who Has It, and How Did It Evolve?" *Science* 298:1569–1579.

Hawkins, J.A. 1983. *Word Order Universals.* San Diego, CA: Academic Press.

Heim, I. 1987. "Where Does the Definiteness Restriction Apply? Evidence from the Definiteness of Variables." In E.J. Reuland and A.G.B. ter Meulen (eds.), *The Representation of (In)definiteness*, 21–42. Cambridge, MA: MIT Press.

Heim, I., H. Lasnik, and R. May. 1991. "Reciprocity and Plurality." *Linguistic Inquiry* 22:63–101.

Heller, D., and L. Wolter. 2008. "*That Is Rosa*. Identificational Sentences as Intensional Predication." In Atle Grønn (ed.), *Proceedings of SuB12*, 1–15. Oslo: ILOS.

Hendrick, R. 1990. "Operator Binding in NP." In A. Halperin (ed.), *Proceedings of the Ninth West Coast Conference on Formal Linguistics*. Chicago: University of Chicago Press.

Henry, A. 1995. *Belfast English and Standard English. Dialect Variation and Parameter Setting*. New York: Oxford University Press.

Henry, A., and S. Cottell. 2007. "A New Approach to Transitive Expletives: Evidence from Belfast English." *English Language and Linguistics* 11:279–299.

Her, O.-S., and H.-C. Tsai. 2015. "On Silent Elements: A Case Study of *Grand* and its Silent Entourage." *Natural Language and Linguistic Theory* 33:575–605.

Herrmann, T. 2005. "Relative Clauses in English Dialects of the British Isles." In B. Kortmann, T. Herrmann, L. Pietsch and S. Wagner (eds.), *A Comparative Grammar of British English Dialects. Agreement, Gender, Relative Clauses*, 21–123. Berlin: Mouton de Gruyter.

Hestvik, A.G. 1992. "LF Movement of Pronouns and Antisubject Orientation." *Linguistic Inquiry* 23:557–594.

Hinterhölzl, R. 2000. "Licensing Movement and Stranding in the West Germanic OV Languages." In P. Svenonius (ed.), *The Derivation of VO and OV*, 293–314. Amsterdam: John Benjamins.

Holmberg, A. 1986. "Word Order and Syntactic Features in the Scandinavian Languages and English." Doctoral dissertation, University of Stockholm.

Holmberg, A. 1999. "Remarks on Holmberg's Generalization." *Studia Lingustica* 63:1–39.

Holmberg, A. 2000. "Deriving OV Order in Finnish." In P. Svenonius (ed.), *The Derivation of VO and OV*, 123–152. Amsterdam: John Benjamins.

Holmberg, A. 2000. "Scandinavian Stylistic Fronting: How Any Category Can Become an Expletive." *Linguistic Inquiry* 31:445–483.

Horn, L.R. 1989. *A Natural History of Negation.* Chicago: University of Chicago Press.

Hornstein, N. 1999. "Movement and Control." *Linguistic Inquiry* 30:69–96.

Hróarsdóttir, Th. 2000. "Parameter Change in Icelandic." In P. Svenonius (ed.), *The Derivation of VO and OV*, 153–179. Amsterdam: John Benjamins.

Hualde, J.I., and J. Ortiz de Urbina. 2003. *A Grammar of Basque*. Berlin: Mouton de Gruyter.

Huang, C.-T. J., Y.-H. A. Li, and Y. Li. 2009. *The Syntax of Chinese*. Cambridge: Cambridge University Press.

Huang, C.-T.J. 1982. "Logical Relations in Chinese and the Theory of Grammar." Doctoral dissertation, M.I.T.

Huang, C.-T.J. 2010. "Macro- and Micro-Variations and Parametric Theory: Principles-and-Parameters and Minimalism." Ms., Harvard University.

Huddleston, R. 2002. "The Verb." In R. Huddleston and G.K. Pullum (eds.), *The Cambridge Grammar of the English Language*, 71–212. Cambridge: Cambridge University Press.

Huddleston, R., and G.K. Pullum (eds.). 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.

Ihsane, T. 2008. *The Layered DP. Form and Meaning of French Indefinites*. Amsterdam: John Benjamins.

Isaenko, A.V. 1974. "On 'HAVE' and 'BE' Languages (A Typological Sketch)." In Michael Flier (ed.), *Slavic Forum: Essays in Linguistics and Literature*, 43–77. The Hague: Mouton.

Ivana, A., and H. Sakai. 2007. "Honorification and Light Verbs in Japanese." *Journal of East Asian Linguistics* 16:171–191.

Izard, V., P. Pica, E.S. Spelke, and S. Dehaene. 2008. "Exact Equality and Successor Function: Two Key Concepts on the Path towards Understanding Exact Numbers." *Philosophical Psychology* 21:491–505.

Jaeggli, O., and K. Safir (eds.). 1989. *The Null Subject Parameter*. Dordrecht: Reidel.

Jayaseelan, K.A. 1990. "Incomplete VP Deletion and Gapping." *Linguistic Analysis* 20:64–81.

Jayaseelan, K.A. 1991. "The Pronominal System of Malayalam." *CIEFL Occasional Papers in Linguistics* 3:68–107.

Jayaseelan, K.A. 2001. "IP-internal Topic and Focus Phrases." *Studia Linguistica* 55:39–75.

Jayaseelan, K.A. 2008. "Bare Phrase Structure and Specifier-less Syntax." *Biolinguistics* 2:87–106.

Jayaseelan, K.A. 2010. "Stacking, Stranding, and Pied Piping: A Proposal about Word Order." *Syntax* 13:298–330.

Jayaseelan, K.A., and M. Hariprasad. 2001. "Deixis in Pronouns and Noun Phrases." *Linguistic Analysis* 31:132–149.

Jespersen, O. 1961a. *A Modern English Grammar on Historical Principles, Part VI*. London: George Allen and Unwin, and Copenhagen: Ejnar Munksgaard.

Jespersen, O. 1961b. *A Modern English Grammar on Historical Principles. Part II. Syntax. First Volume*. London: George Allen & Unwin, and Copenhagen: Ejnar Munksgaard.

Jespersen, O. 1970–1974. *A Modern English Grammar on Historical Principles*. London: George Allen & Unwin, and Copenhagen: Ejnar Munksgaard.

Johansson, S. 1979. "American and British English Grammar: An Elicitation Experiment." *English Studies* 60, no. 2:195–215.

Johnson, K. 1988. "Verb Raising and 'Have'." McGill Working Papers in Linguistics. Special Issue on Comparative Germanic Syntax, Montreal, 156–167.

Johnson, K. 2001. "What VP-Ellipsis Can Do, and What it Can't, but not Why." In M. Baltin and C. Collins (eds.), 439–479. *The Handbook of Contemporary Syntactic Theory*. Malden, MA: Blackwell.

Johnson, K. 2009. "Gapping Is Not (VP-) Ellipsis." *Linguistic Inquiry* 40:289–328.

Jónsson, J.G. 1996. "Clausal Architecture and Case in Icelandic." Doctoral dissertation, University of Massachusetts, Amherst.

Julien, M. 2002. *Syntactic Heads and Word Formation*, Oxford University Press, New York.

Julien, M. 2003. "Word Order Type and Syntactic Structure." In J. Rooryck and P. Pica (eds.), *Linguistic Variation Yearbook 1*, 19–61. Amsterdam: John Benjamins.

Kandybowicz, J., and M.C. Baker. 2003. "On Directionality and the Structure of the Verb Phrase: Evidence from Nupe." *Syntax* 6:115–155.

Kato, M.A., and J. Nunes 2009. "A Uniform Raising Analysis for Standard and Nonstandard Relative Clauses in Brazilian Portuguese." In J. Nunes (ed.), *Minimalist Essays on Brazilian Portuguese Syntax*, 93–120. Amsterdam: John Benjamins.

Katz, J.J., and P.M. Postal. 1964. *An Integrated Theory of Linguistic Descriptions*. Cambridge, MA: MIT Press.

Kayne, R.S. 1972. "Subject Inversion in French Interrogatives." In J. Casagrande and B. Saciuk (eds.), *Generative Studies in Romance Languages*, 70–126. Rowley, MA: Newbury House.

Kayne, R.S. 1975. *French Syntax. The Transformational Cycle*. Cambridge, MA: MIT Press.

Kayne, R.S. 1976. "French Relative 'que'." In F. Hensey and M. Luján (eds.), *Current Studies in Romance Linguistics*, 255–299. Washington, D.C.: Georgetown University Press.

Kayne, R.S. 1981a. "Two Notes on the NIC." In A. Belletti, L. Brandi and L. Rizzi (eds.), *Theory of Markedness in Generative Grammar. Proceedings of the 1979 GLOW Conference*, 317–346. Pisa: Scuola Normale Superiore (reprinted in Kayne (1984)).

Kayne, R.S. 1981b. "On Certain Differences between French and English." *Linguistic Inquiry* 12:349–371 (reprinted in Kayne (1984)).

Kayne, R.S. 1981c. "ECP Extensions." *Linguistic Inquiry* 12:93–133 (reprinted in Kayne (1984)).

Kayne, R.S. 1981d. "Unambiguous Paths." In R. May and J. Koster (eds.), *Levels of Syntactic Representation*, 143–183. Dordrecht: Foris (reprinted in Kayne (1984)).

Kayne, R.S. 1981e. "Binding, Quantifiers, Clitics and Control." In F. Heny (ed.), *Binding and Filtering*, 191–211. London: Croom Helm (reprinted in Kayne (1984)).

Kayne, R.S. 1983a. "Connectedness." *Linguistic Inquiry* 14:223–249 (reprinted in Kayne (1984)).

Kayne, R.S. 1983b. "Chains, Categories External to S and French Complex Inversion." *Natural Language and Linguistic Theory* 1:107–139 (reprinted in Kayne (1984)).

Kayne, R.S. 1984. *Connectedness and Binary Branching*. Dordrecht: Foris.

Kayne, R.S. 1985. "L'accord du participe passé en français et en italien." *Modèles Linguistiques* VII:73–90 (English translation in Kayne (2000b), chap.2).

Kayne, R.S. 1989a. "Facets of Romance Past Participle Agreement." In P. Benincà (ed.), *Dialect Variation and the Theory of Grammar*, 85–103. Dordrecht: Foris (reprinted in Kayne (2000b)).

Kayne, R.S. 1989b. "Null Subjects and Clitic Climbing." In O. Jaeggli and K. Safir (eds.), *The Null Subject Parameter*, 239–261. Dordrecht: Reidel (reprinted in Kayne (2000b)).

Kayne, R.S. 1991. "Romance Clitics, Verb Movement and PRO." *Linguistic Inquiry* 22:647–686 (reprinted in Kayne (2000b)).

Kayne, R.S. 1992. "Italian Negative Infinitival Imperatives and Clitic Climbing." In L. Tasmowski and A. Zribi-Hertz (eds.), *Hommages à Nicolas Ruwet*, 300–312. Ghent: Communication & Cognition (reprinted in Kayne 2000b).

Kayne, R.S. 1993. "Toward a Modular Theory of Auxiliary Selection." *Studia Linguistica* 47:3–31 (reprinted in Kayne (2000b)).

Kayne, R.S. 1994. *The Antisymmetry of Syntax*. Cambridge, MA: MIT Press.

Kayne, R.S. 1995. "Agreement and Verb Morphology in Three Varieties of English." In H. Haider, S. Olsen and S. Vikner (eds.), *Studies in Comparative Germanic Syntax*, 159–165. Dordrecht: Kluwer (reprinted in Kayne (2000b)).

Kayne, R.S. 1996. "Microparametric Syntax. Some Introductory Remarks." In J.R. Black and V. Motapanyane (eds.), *Microparametric Syntax and Dialect Variation*, ix–xviii. Amsterdam: Benjamins (reprinted in Kayne 2000b).

Kayne, R.S. 1997. "The English Complementizer *of*." *Journal of Comparative Germanic Linguistics* 1:43–54.

Kayne, R.S. 1998a. "A Note on Prepositions and Complementizers." Article posted on the Chomsky Internet Celebration, The MIT Press (also in Kayne (2000) as "A Note on Prepositions, Complementizers and Word Order Universals").

Kayne, R.S. 1998b. "Overt vs. Covert Movement." *Syntax* 1:128–191 (reprinted in Kayne (2000b)).

Kayne, R.S. 1999. "Prepositional Complementizers as Attractors." *Probus* 11:39–73.

Kayne, R.S. 2000a. "A Note on Prepositions, Complementizers and Word Order Universals." in Kayne (2000b).

Kayne, R.S. 2000b. *Parameters and Universals.* New York: Oxford University Press.

Kayne, R.S. 2001. "A Note on Clitic Doubling in French." In G. Cinque and G. Salvi (eds.), *Current Studies in Italian Syntax. Essays Offered to Lorenzo Renzi*, 189–212. Amsterdam: North-Holland (North-Holland Linguistic Series: Linguistic Variations Volume 59) (also in Kayne (2000b)).

Kayne, R.S. 2002a. "Pronouns and Their Antecedents." In S. Epstein and D. Seely (eds.), *Derivation and Explanation in the Minimalist Program*, 133–166. Malden, MA: Blackwell (reprinted in Kayne (2005b)).

Kayne, R.S. 2002b. "On Some Prepositions That Look DP-internal: English *of* and French *de.*" *Catalan Journal of Linguistics* 1:71–115 (reprinted in Kayne 2005b).

Kayne, R.S. 2003a. "Antisymmetry and Japanese." *English Linguistics* 20:1–40 (reprinted in Kayne (2005b)).

Kayne, R.S. 2003b. "Silent Years, Silent Hours." In L.-O. Delsing et al. (eds.), *Grammar in Focus. Festschrift for Christer Platzack. Volume 2*, 209–226. Lund: Wallin and Dalholm (reprinted in Kayne (2005b)).

Kayne, R.S. 2003c. "Person Morphemes and Reflexives in Italian, French and Related Languages." In C. Tortora (ed.), *The Syntax of Italian Dialects*, 102–136. New York: Oxford University Press (also in Kayne (2000b)).

Kayne, R.S. 2003d. "Some Remarks on Agreement and on Heavy-NP-Shift." In M. Ukaji, M. Ike-Uchi and Y. Nishimara (eds.), *Current Issues in English Linguistics* (Special Publications of the English Linguistic Society of Japan, volume 2), 67–86. Tokyo: Kaitakusha (reprinted in Kayne (2005b)).

Kayne, R.S. 2004a. "Prepositions as Probes." In A. Belletti (ed.), *Structures and Beyond*, 192–212. New York: Oxford University Press (reprinted in Kayne (2005)).

Kayne, R.S. 2004b. "Here and There." In C. Leclère, E. Laporte, M. Piot and M. Silberztein (eds.), *Syntax, Lexis & Lexicon-Grammar. Papers in Honour of Maurice Gross*, 253–273. Amsterdam: John Benjamins (reprinted in Kayne 2005b).

Kayne, R.S. 2005a. *Movement and Silence*. New York: Oxford University Press.

Kayne, R.S. 2005b. "On the Syntax of Quantity in English." In Kayne (2005a) (also in J. Bayer, T. Bhattacharya and M. T. Hany Babu (eds.), *Linguistic Theory and South-Asian Languages. Essays in Honour of K.A. Jayaseelan*. Amsterdam: John Benjamins, Amsterdam).

Kayne, R.S. 2005c. "Some Notes on Comparative Syntax, with Special Reference to English and French." In G. Cinque and R. Kayne (eds.), *Handbook of Comparative Syntax*, 3–69. New York: Oxford University Press (reprinted in Kayne (2005a)).

Kayne, R.S. 2006a. "On Parameters and on Principles of Pronunciation." In H. Broekhuis, N. Corver, R. Huybregts, U. Kleinhenz and J. Koster (eds.), *Organizing Grammar. Linguistic Studies in Honor of Henk van Riemsdijk*, 289–299. Berlin: Mouton de Gruyter (reprinted in Kayne 2010d).

Kayne, R.S. 2006b. "A Note on the Syntax of Numerical Bases." In Y. Suzuki (ed.), *In Search of the Essence of Language Science: Festschrift for Professor Heizo Nakajima on the Occasion of his Sixtieth Birthday*, 21–41. Tokyo: Hituzi Syobo (reprinted in Kayne (2010d)).

Kayne, R.S. 2007a. "Some English (and Romance) Auxiliaries." (Handout of) Paper presented at XVII Colloquium on Generative Grammar, Girona.

Kayne, R.S. 2007b. "A Short Note on *where* vs. *place*." In R. Maschi, N. Penello, and P. Rizzolatti (eds.), *Miscellanea di Studi Linguistici offerti a Laura Vanelli da amici e allievi padovani*, 245–257. Udine: Forum (reprinted in Kayne (2010d)).

Kayne, R.S. 2007c. "*Several, Few* and *Many*." *Lingua* 117:832–858 (reprinted in Kayne (2010c)).

Kayne, R.S. 2008a. "Some Preliminary Comparative Remarks on French and Italian Definite Articles." In R. Freidin, C.P. Otero, and M.L. Zubizarreta (eds.), *Foundational Issues in Linguistic Theory. Essays in Honor of Jean-Roger Vergnaud*, 291–321. Cambridge, MA: MIT Press (reprinted in Kayne 2010d).

Kayne, R.S. 2008b. "Antisymmetry and the Lexicon." In *Linguistic Variation Yearbook*, 8, 1–31 (also in A.M. di Sciullo and C. Boeckx (eds.), *The Biolinguistic Enterprise: New Perspectives on the Evolution and Nature of the Human Language Faculty*, 329–353. London: Oxford University Press (2011)) (reprinted in Kayne (2010d)).

Kayne, R.S. 2008c. "Expletives, Datives, and the Tension between Morphology and Syntax." In T. Biberauer (ed.), *The Limits of Syntactic Variation*, 175–217. Amsterdam: John Benjamins (reprinted in Kayne (2010d)).

Kayne, R.S. 2009a. "A Note on Auxiliary Alternations and Silent Causation." In L. Baronian and F. Martineau (eds.), *Le français d'un continent à l'autre. Mélanges offerts à Yves Charles Morin*, 211–235. Québec: Presses de l'Université Laval (reprinted in Kayne (2010d)).

Kayne, R.S. 2009b. "Some Silent First Person Plurals." In J.M. Brucart, A. Gavarró and J. Solà (eds.), *Merging Features. Computation, Interpretation, and Acquisition*, 276–292. Oxford: Oxford University Press (reprinted in Kayne (2010d)).

Kayne, R.S. 2010a. "Why Isn't *This* a Complementizer?" In Kayne 2010d (also in P. Svenonius (ed.), *Functional Structure from Top to Toe: A Festschrift for Tarald Taraldsen*. New York: Oxford University Press, 2014).

Kayne, R.S. 2010b. "Toward a Syntactic Reinterpretation of Harris and Halle (2005)." In R. Bok-Bennema, B. Kampers-Manhe, and B. Hollebrandse (eds.), *Romance Languages and Linguistic Theory* 2008*, Selected papers from "Going Romance" Groningen* 2008, 145–170. Amsterdam: John Benjamins (= chapter 14 of this collection).

Kayne, R.S. 2010c. "The DP-Internal Origin of Datives." Talk presented at the 4th European Dialect Syntax Workshop in Donostia/San Sebastián.

Kayne, R.S. 2010d. *Comparisons and Contrasts.* New York: Oxford University Press.

Kayne, R.S. 2011. "Why Are There No Directionality Parameters?" In M. Byram Washburn, K. McKinney-Bock, E. Varis, A. Sawyer and B. Tomaszewicz (eds.), *Proceedings of the 28th West Coast Conference on Formal Linguistics*, 1–23. Cascadilla Proceedings Project, Somerville, MA (also in *Studies in Chinese Linguistics* 34:3–37 (2013); and in T. Biberauer and M. Sheehan (eds.), *Theoretical Approaches to Disharmonic Word Order*, 219–244. New York: Oxford University Press, 2014) (= chapter 13 of this collection).

Kayne, R.S. 2012. "A Note on *Grand* and its Silent Entourage." *Studies in Chinese Linguistics* 33:71–85 (= chapter 12 of this collection).

Kayne, R.S. 2013. "Comparative Syntax." *Lingua* 130:132–151 (= chapter 2 of this collection).

Kayne, R.S. 2014. "*Once* and *Twice*." In C. Contemori and L. Dal Pozzo (eds.), *Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti*, Siena, CISCL Press (also in *Studies in Chinese Linguistics* 36:1–20 (2015)) (= chapter 11 of this collection).

Kayne, R.S. 2016. "The Unicity of *There* and the Definiteness Effect." In Elisângela Gonçalves (ed.), *Existential Constructions in Focus*, Editora da Universidade Federal da Bahia, Brazil (= chapter 7 of this collection).

Kayne, R.S. 2017a. "English *One* and *Ones* as Complex Determiners." In G. Sengupta, S. Sircar, M.G. Raman, and R. Balusu (eds.), *Perspectives on the Architecture and Acquisition of Syntax. Essays in Honor of R. Amritavalli*, 77–114. Springer Nature, Singapore.

Kayne, R.S. 2017b. "Antisymmetry and Morphology. Prefixes vs. Suffixes." In C. Mayr and E. Wiliams (eds.), *Festschrift für Martin Prinzhorn, Wiener Linguistische Gazette* 82:145–161.

Kayne, R.S., and S. Harves. 2012. "Having *Need* and Needing *Have*." *Linguistic Inquiry* 43:120–132 (= chapter 4 of this collection).

Kayne, R.S., and J.-Y. Pollock. 2001. "New Thoughts on Stylistic Inversion." In A. Hulk and J.-Y. Pollock (eds.), *Inversion in Romance*, 107–162. New York: Oxford University Press (reprinted in Kayne (2005)).

Kayne, R.S., and J.-Y. Pollock. 2010. "Notes on French and English Demonstratives." In J.-W. Zwart and M. de Vries (eds.), *Structure Preserved: Studies in Syntax for Jan Koster*, 215–228. Amsterdam: John Benjamins (= chapter 8 of this collection).

Kayne, R.S., and J.-Y. Pollock. 2012. "Toward an Analysis of French Hyper-Complex Inversion." In L. Brugè, A. Cardinaletti, G. Giusti, N. Munaro and C. Poletto (eds.), *Functional Heads*, 150–167. New York: Oxford University Press (also in Kayne (2010)).

Kayne, R.S., and J.-Y. Pollock. 2014. "Locality and Agreement in French Hyper-Complex Inversion." In E.O. Aboh, M.T. Guasti and I. Roberts (eds.), *Locality*, 32–57. New York: Oxford University Press (= chapter 15 of this collection).

Keenan, E.L. 1985. "Relative Clauses." In T. Shopen (ed.), *Language Typology and Syntactic Description. Volume II. Complex constructions*, 141–170. Cambridge: Cambridge University Press.

Kester, E.-P. 1996. *The Nature of Adjectival Inflection*. Doctoral dissertation, University of Utrecht (OTS Dissertation Series).

Kimball, J., and J. Aissen. 1971. "*I Think, You Think, He Think*." *Linguistic Inquiry* 2:242–246.

Kiparsky, P., and C. Kiparsky. 1970. "Fact." In M. Bierwisch and K.E. Heidolph (eds.), *Progress in Linguistics*. The Hague: Mouton.

Klima, E.S. 1964. "Relatedness between Grammatical Systems." *Language* 40:1–20 (reprinted in D.A. Reibel and S.A. Schane (eds.), *Modern Studies in English. Readings in Transformational Grammar*, 227–246. Englewood Cliffs, NJ: Prentice-Hall).

Koch, K., and L. Matthewson. 2009. "The Lexical Category Debate in Salish and its Relevance for Tagalog." *Theoretical Linguistics* 35:125–137.

Kok, A.C. de. 1985. "La place du pronom personnel régime conjoint en français: une étude diachronique." Doctoral dissertation, University of Amsterdam.

Koopman, H., and A. Szabolcsi. 2000. *Verbal Complexes*. Cambridge, Ma: MIT Press.

Koopman, H., and D. Sportiche. 1991. "The Position of Subjects." *Lingua* 85:211–258.

Koopman, H., and D. Sportiche 1989. "Pronouns, Logical Variables and Logophoricity in Abe." *Linguistic Inquiry*, 20, 555–589.

Koopman, H. 2003. "The Locality of Agreement and the Structure of the DP in Maasai." In W.E. Griffin (ed.), *The Role of Agreement in Natural Language: TLS 5 Proceedings, Texas Linguistic Forum* 53:206–227.

Koopman, H. 2005a. "Korean (and Japanese) Morphology from a Syntactic Perspective." *Linguistic Inquiry* 36:601–633.

Koopman, H. 2005b. "On the Parallelism of DPs and Clauses. Evidence from Kisongo Maasai." In A. Carnie, H. Harley and S.A. Dooley (eds.), *Verb First, On the Syntax of Verb-initial Languages,* 281–302. Amsterdam: John Benjamins.

Kornfilt, J. 1997. *Turkish.* London: Routledge.

Kornfilt, J. 2000. "Locating Relative Agreement in Turkish and Turkic." In A. Göksel and C. Kerslake (eds.), *Studies on Turkish and Turkic Languages*, 189–196. Wiesbaden: Harrassowitz Verlag.

Koster, J. 1994. "Predicate Incorporation and the Word Order of Dutch." In G. Cinque, J. Koster, J.-Y. Pollock, L. Rizzi and R. Zanuttini (eds.), *Paths toward Universal Grammar. Studies in honor of Richard S. Kayne*, 255–276. Washington, D.C.: Georgetown University Press.

Kroch, A.S. 2001. "Syntactic Change." In M. Baltin and C. Collins (eds.), *The Handbook of Contemporary Syntactic Theory*, 699–729. Malden, MA: Blackwell.

Laenzlinger, C. 1998. *Comparative Studies in Word Order Variation. Adverb, Pronouns, and Clause Structure in Romance and Germanic.* Amsterdam: John Benjamins.

Laka, I. 1993. "The Structure of Inflection: A Case Study in X^0 Syntax." In J.I. Hualde and J. Ortiz de Urbina (eds.), *Generative Studies in Basque Linguistics,* 21–70. Amsterdam: John Benjamins.

Laka, I. 2006. "Deriving Split Ergativity in the Progressive: The Case of Basque." In A. Johns, D. Massam and J. Ndayiragije (eds.), *Ergativity: Emerging issues*, 173–196. Dordrecht: Springer.

Lakoff, G. 1970. "Global Rules." *Language* 46:627–639.

Lakoff, G., and S. Peters. 1969. "Phrasal Conjunction and Symmetric Predicates." In D.A. Reibel and S.A. Schane (eds.), *Modern Studies in English*, 113–142. Englewood Cliffs, NJ: Prentice-Hall.

Landau, I. 2003. "Movement Out of Control." *Linguistic Inquiry* 34:471–498.

Larson, R.K. 1985. "Bare-NP Adverbs." *Linguistic Inquiry* 16:595–621.

Larson, R.K. 1988. "On the Double Object Construction." *Linguistic Inquiry* 19:335–391.

Larson, R.K. 1990. "Double Objects Revisited: Reply to Jackendoff." *Linguistic Inquiry* 21:589–632.

Larson, Richard S., Marcel den Dikken, and Peter Ludlow. 1997. "Intensional Transitive Verbs and Abstract Clausal Complementation." Ms., SUNY at Stony Brook and Vrije Universiteit Amsterdam.

Lasnik, H. 1976. "Remarks on Coreference." *Linguistic Analysis* 2:1–22.

Lasnik, H., with M. Depiante and A. Stepanov. 2000. Syntactic Structures *Revisited. Contemporary Lectures on Classic Transformational Theory.* Cambridge, MA: MIT Press.

Law, A. 2002. "Cantonese Sentence-Final Particles and the CP Domain." *UCL Working Papers in Linguistics* 14.

Łazorczyk, A.A. 2010. "Decomposing Slavic Aspect: The Role of Aspectual Morphology in Polish and Other Slavic Languages." Doctoral dissertation, University of Southern California.

Lechner, Winfried. 2007. "Interpretive Effects of Head Movement." Ms., University of Tübingen. Available at http://ling.auf.net/lingBuzz.

Legate, J.A. 2003a. "The Configurational Structure of a Nonconfigurational Language." *Linguistic Variation Yearbook*, 61–104.

Legate, J.A. 2003b. "Reconstructing Nonconfigurationality." In A.M. Di Sciullo (ed.), *Asymmetry in Grammar*, 99–116. Philadelphia, PA: John Benjamins.

Leu, T. 2005. "Something Invisible in English." *UPenn Working Papers in Linguistics* 11.1 (*Proceedings of PLC 28*), 143–155.

Leu, T. 2007. "These HERE demonstratives." In T. Scheffler, J. Tauberer, A. Eilam and L. Mayol (eds.), *Proceedings of the 30th Annual Penn Linguistics Colloquium, UPenn Working Papers in Linguistics* 13.1: 141–154.

Leu, T. 2008. "The Internal Syntax of Determiners." Doctoral dissertation, New York University.

Leu, T. 2008. "*What for* Internally." *Syntax* 11:1–25.

Leu, T. 2015. *The Architecture of Determiners.* New York: Oxford University Press.

Leu, T. 2017. "*Ein* is *Ein* and that is that: A Note on Anti-homophony and Meta-morphology." In H. Newell, M. Noonan, G. Piggott and L. deMena Travis (eds.), *The Structure of Words at the Interfaces*. Oxford: Oxford University Press.

Levinson, L. 2011. "Possessive WITH in Germanic: HAVE and the Role of P." *Syntax* 14:355–393.

Liao, W.-W.R. 2015. "Once Upon an Invisible TIME: On Frequentative Phrases in Chinese." *Studies in Chinese Linguistics* 36:21–33.

Lin, J.-W. 1996. "Polarity Licensing and Wh-phrase Quantification in Chinese." Ph.D. dissertation, University of Massachussets, Amherst.

Lin, S.-Y.J. 2014. "Questions, SFPs, and Silence." Ms., New York University.

Lindner, S.J. 1981. "A Lexico-Semantic Analysis of English Verb Particle Constructions with OUT and UP." Doctoral dissertation, University of California at San Diego.

Llombart-Huesca, A. 2002. "Anaphoric *One* and NP-Ellipsis." *Studia Linguistica* 56:59–89.

Longa, V.M., G. Lorenzo, and G. Rigau. 1998. "Subject Clitics and Clitic Recycling: Locative Sentences in Some Iberian Romance Languages." *Journal of Linguistics* 34:125–164.

Longobardi G., and C. Guardiano. 2009. "Evidence for Syntax as a Signal of Historical Relatedness." *Lingua* 119, no. 11:1679–1706.

Longobardi, G. 1985. "Connectedness, Scope, and C-command." *Linguistic Inquiry* 16:163–192.

Longobardi, G. 1994. "Reference and Proper Names." *Linguistic Inquiry* 25:609–665.

Longobardi, G. 1996. "The Syntax of N-Raising: A Minimalist Theory." *OTS Working Papers*, Utrecht University.

Lyons, C. 1999. *Definiteness.* Cambridge: Cambridge University Press.

MacWhinney, Brian. 2000. *The CHILDES Project: Tools for Analyzing Talk.* Mahwah, NJ: Lawrence Erlbaum.

Maddieson, I. 1989. "Prenasalized Stops and Speech Timing." *Journal of the International Phonetic Association* 19:57–66.

Mahajan, A. 1992. "The Specificity Condition and the CED." *Linguistic Inquiry* 23:510–516.

Malamud, S.A. 2013. "(In)definiteness-driven Typology of Arbitrary Items." *Lingua* 126:1–31.

Manzini, M.R., and L.M. Savoia. 2002. "Clitics. Lexicalization Patterns of the So-Called 3rd Person Dative." *Catalan Journal of Linguistics* 1:117–155 (reprinted in Manzini and Savoia (2008)).

Manzini, M.R., and L.M. Savoia. 2004. "The Nature of the Agreement Inflections of the Verb." In *MIT Working Papers in Linguistics*, 149–178 (reprinted in Manzini and Savoia (2008)).

Manzini, M.R., and L.M. Savoia. 2007. *A Unification of Morphology and Syntax.* London: Routledge.

Manzini, M.R., and L.M. Savoia. 2008. *Work Notes on Romance Morphosyntax. Appunti di Morfosintassi Romanza*. Alessandria: Edizioni dell'Orso.

Marantz, A. 1982. "Re Reduplication." *Linguistic Inquiry* 13:435–482.

Marantz, A. 1997. "No Escape from Syntax: Don't Try Morphological Analysis in the Privacy of Your Own Lexicon." *University of Pennsylvania Working Papers in Linguistics* 4:201–225.

Marantz, A. 2010. "Locality Domains for Contextual Allosemy in Words." Handout, New York University.

Martín, F.J. 2012. "Deconstructing Catalan Object Clitics." Ph.D. dissertation, New York University.

Martinon, P. 1927. *Comment on parle en français*. Paris: Larousse.

Marušič, F., and R. Žaucer. 2006. "The 'Definite Article' TA in Colloquial Slovenian." In J.E. Lavine et al. (eds.), *Formal Approaches to Slavic Linguistics 14 (The Princeton Meeting)*, 189–204. Ann Arbor: Michigan Slavic Publications.

Massuet, M.I.O. 2000. "On the Notion of Theme Vowel: A New Approach to Catalan Verbal Morphology." *MIT Occasional Papers in Linguistics* 19.

Matthews, S., and V. Yip. 1994. *Cantonese. A Comprehensive Grammar.* London: Routledge.

McCawley, James. 1974. "On Identifying the Remains of Deceased Clauses." *Language Research* 9:73–85.

McDonald, C., and J.C. Beal. 1987. "Modal Verbs in Tyneside English." *Journal of the Atlantic Provinces Linguistic Association* 9:43–55.

Merat, F. 1974. "Une comparaison grammaticale et lexicale de l'anglais britannique et américain enseigné aux étrangers." Thèse de Doctorat de 3e Cycle, Université de Paris VII.

Milsark, G.L. 1977. "Toward an Explanation of Certain Peculiarities of the Existential Construction in English." *Linguistic Analysis* 3:1–29.

Moltmann, F. 1997. *Parts and Wholes in Semantics*. Oxford: Oxford University Press.

Moltmann, F. 2009. "Specificational Sentences, Presentational Pronouns, and Apparent Statements of Identity." Ms., Institute for the History and Philosophy of Science and Technology (Paris1/ Centre National de la Recherche Scientifique / Ecole Normale Supérieure).

Morin, A. 2009. "On the Quebec French interrogative particle *tu*." In Enoch O. Aboh, Elisabeth van der Linden, Josep Quer, and Petra Sleeman (eds.), *Romance languages and linguistic theory 2007*, 201–222. Amsterdam: John Benjamins.

Morin, Y.-C. 1979. "There Is No Inversion of Subject Clitics in Modern French." Ms., University of Montreal.

Morin, Y.-C. 1985. "On the Two French Subjectless Verbs *Voici* and *Voilà*." *Language* 61:777–818.

Moro, A. 1997. *The Raising of Predicates. Predicative Noun Phrases and the Theory of Clause Structure*. Cambridge: Cambridge University Press.

Moro, A. 2000. *Dynamic Antisymmetry*. Cambridge, MA: MIT Press.

Moshiri, L. 1988. *Colloquial Persian.* London: Routledge.

Munn, A.B. 1993. "Topics in the Syntax and Semantics of Coordinate Structures." Doctoral dissertation, University of Maryland.

Myers, S.P. 1987. "Tone and the Structure of Words in Shona." Doctoral dissertation, University of Massachusetts, Amherst, MA.

Napoli, D.J. 1981. "Subject Pronouns: The Pronominal System of Italian vs. French." *Chicago Linguistic Society* 17.

Nathan, G.S. 1981. "What's These Facts About?" *Linguistic Inquiry* 12:151–153.

Navarro, M., and M. Neuhaus 2016. "Clitic Doubling Restrictions in *Leísta* Spanish." In S. Fischer and M. Navarro (eds.), *Proceedings of the VII Nereus International Workshop: "Clitic Doubling and Other Issues of the Syntax/Semantic Interface in Romance DPs,"* 79–89. Arbeitspapier 128, Fachbereich Sprachwissenschaft, Universität Konstanz.

Newmeyer, F.J. 2005. *Possible and Probable Languages*. Oxford: Oxford University Press.

Ngonyani, D.S. 2006. "Resumptive Pronominal Clitics in Bantu Languages." In O.F. Arasanyin and M.A. Pemberton (eds.), *Selected Proceedings of the 36th Annual Conference on African Linguistics*, 51–59. Somerville, MA: Cascadilla Proceedings Project.

Nicoli, F. 1983. *Grammatica Milanese*. Busto Arsizio: Bramante Editrice.

Nilsen, Ø. 2003. "Eliminating Positions: The Syntax and Semantics of Sentence Modification." Doctoral dissertation, University of Utrecht.

Nilsen, Ø. 2005. "Some Notes on Cyclic Linearization." *Theoretical Linguistics* 31.

Nkemnji, M.A. 1992. "Issues in the Syntax of Negation in Nweh." Master's thesis, University of California, Los Angeles.

Nkemnji, M.A. 1995. "Heavy Pied-piping in Nweh." Doctoral dissertation, University of California, Los Angeles.

Noonan, M. 1993. "Statives, Perfectives and Accusativity: The Importance of Being HAVE." In Jonathan Mead (ed.), *Proceedings of the Eleventh West Coast Conference on Formal Linguistics*, 354–370. Stanford, CA: CSLI Publications.

Noonan, M. 2010. "À to Zu." In G. Cinque and L. Rizzi (eds.), *Mapping Spatial PPs. The Cartography of Syntactic Structures, Volume 6*, 161–195. New York: Oxford University Press.

Noonan, M. 2017. "Dutch and German *r*-pronouns and P-stranding." In H. Newell, M. Noonan, G. Piggott and L. deMena Travis (eds.), *The Structure of Words at the Interfaces*, 209–239. Oxford: Oxford University Press.

Nunberg, G., I. A. Sag, and T. Wasow. 1994. "Idioms." *Language* 70:491–538.

Nunes, J. 2001. "Sideward Movement." *Linguistic Inquiry* 32:303–344.

Nurse, D., and H.R.T. Muzale. 1999. "Tense and Aspect in Great Lakes Bantu Languages." In J.-M. Hombert and L.M. Hyman (eds.), *Bantu Historical Linguistics. Theoretical and Empirical Perspectives*, 517–544. CSLI Publications.

O'Neil, J. 1995. "Out of Control." In J.N. Beckman (ed.), *Proceedings of NELS 25*, 361–371. GLSA, University of Massachusetts, Amherst.

O'Neil, J. 1997. "Means of Control: Deriving the Properties of PRO in the Minimalist Program." Ph.D. dissertation, Harvard University.

Obenauer, Hans-Georg. 1992. "L'interpretation des structures *wh* et l'accord du participe passe." In H.G. Obenauer and A. Zribi Hertz (eds.), *Structures de la phrase et theorie du Liage, Presses Universitaires de Vincennes.*

Ordóñez, F. 1998. "Post-Verbal Asymmetries in Spanish." *Natural Language and Linguistic Theory* 16:313–346.

Ordóñez, F. 2002. "Some Clitic Combinations in the Syntax of Romance." *Catalan Journal of Linguistics* 1:201–224.

Ordóñez, F., and E. Treviño. 1999. "Left Dislocated Subjects and the Pro-drop Parameter: A Case Study of Spanish." *Lingua* 107:39–68.

Ortiz de Urbina, J. 2002. "Focus of Correction and Remnant Movement in Basque." In X. Artiagoitia, P. Goenaga and J.A. Lakarra (eds.), *Erramu Boneta: Festschrift for Rudolf P.G. De Rijk*, 511–524. Bilbao: Universidad del País Vasco/Euskal Herriko Unibertsitatea.

Otero, C.P. 1996. "Head Movement, Cliticization, Precompilation, and Word Insertion (Comments on Uriagereka's Paper)." In R. Freidin (ed.), *Current Issues in Comparative Grammar*, , 296–337. Dordrecht: Kluwer..

Ott, D. 2009. "Remnant Movement in German Revisited." (Handout of) talk given at New York University.

Ott, D. 2014. "An Ellipsis Approach to Contrastive Left-Dislocation." *Linguistic Inquiry* 45:269–303.

Ouhalla, J. 2005. "Clitic Placement, Grammaticalization, and Reanalysis in Berber." In G. Cinque and R. Kayne (eds.), *Handbook of Comparative Syntax*, 607–638. New York: Oxford University Press.

Paddock, H. 1990. "On Explaining Macrovariation in the Sibiliant and Nasal Suffixes of English." *Folia Linguistica Historica* 9:235–269.

Parry, M.M. 1997. "Clitic Ordering in the Dialects of the Ligurian-Piedmontese Border, with Particular Reference to the Preverbal Negative." *Zeitschrift für Romanische Philologie* 113:243–271.

Partee, B.H. 1973. "Some Structural Analogies between Tenses and Pronouns in English." *The Journal of Philosophy* 70:601–609.

Payne, J., and R. Huddleston. 2002. "Nouns and Noun Phrases." In R. Huddleston and G.K. Pullum (eds.), *The Cambridge Grammar of the English Language*, 323–523. Cambridge: Cambridge University Press.

Payne, J, G.K. Pullum, B.C. Scholz, and E. Berlage. 2013. "Anaphoric *One* and Its Implications." *Language* 89:794–829.

Pearce, E. 2015. *A Grammar of Unua*. Boston, MA: De Gruyter Mouton.

Pearson, M. 2000. "Two Types of VO Languages." In P. Svenonius (ed.), *The Derivation of VO and OV*, 327–363. Amsterdam: John Benjamins.

Pelliciardi, F. 1977. *Grammatica del dialetto romagnolo*. Ravenna: Longo.

Penello, N. 2003. *Capitolo di morfologia e sintassi del dialetto di Carmignano di Brenta*. Tesi di dottorato, Università di Padova.

Penello, N. 2007. "On Double Clitics in Interrogatives in a Northern Italian Dialect." *Nordlyd* 34:201–217.

Pereltsvaig, A. 2007. "The Universality of DP: A View from Russian." *Studia Linguistica* 61:59–94.

Perlmutter, D.M. 1970. "On the Article in English." In M. Bierwisch and K.E. Heidolph (eds.), *Progress in Linguistics*, 233–248. The Hague: Mouton.

Perlmutter, D.M. 1971. *Deep and Surface Structure Constraints in Syntax*. New York: Holt, Rinehart and Winston.

Perlmutter, D.M. 1972. "Evidence for Shadow Pronouns in French Relativization." In P.M. Peranteau et al. (eds.), *The Chicago Which Hunt. Papers from the Relative Clause Festival*, 73–105. Chicago, IL: Chicago Linguistic Society.

Perlmutter, D.M. 1976. "Evidence for Subject Downgrading in Portuguese." In J. Schmidt-Radefeldt (ed.), *Readings in Portuguese Linguistics*. Amsterdam: North Holland.

Perlmutter, D.M. 1989. "Multiattachment and the Unaccusative Hypothesis: The Perfect Auxiliary in Italian." *Probus* 1:63–119.

Pesetsky, D. 1991. "Zero Syntax. Volume 2: Infinitives." Ms., M.I.T.

Pesetsky, D. 1993. "Topic . . . Comment." *Natural Language and Linguistic Theory* 11:557–558.

Pesetsky, D. 1995. *Zero Syntax. Experiencers and Cascades*. Cambridge, MA: MIT Press.

Pesetsky, D. 2013. *Russian Case Morphology and the Syntactic Categories*. Cambridge, MA: MIT Press.

Phillips, C. 2009. "Should We Impeach Armchair Linguists?" In S. Iwasaki (ed.), *Japanese/Korean Linguistics 17*. CSLI Publications. (Special section of papers from a workshop on "Progress in Generative Grammar.")

Phillips, C., and H. Lasnik. 2003. "Linguistics and Empirical Evidence. Reply to Edelman and Christensen." *Trends in Cognitive Sciences* 7:61–62.

Pica, P., and A. Lecomte. 2008. "Theoretical Implications of the Study of Numbers and Numerals in Mundurucu." *Philosophical Psychology* 21:507–522.

Pica, P., Lemer, C., Izard, V., and S. Dehaene. 2004. "Exact and Approximate Arithmetic in an Amazonian Indigene Group." *Science* 306:499–503.

Poletto, C. 2000. *The Higher Functional Field in the Northern Italian Dialects*. New York: Oxford University Press.

Poletto, C. 2012. "Contrastive Linguistics and Micro-variation: The Role of Dialectology." In M. Hüning and B. Schlücker (eds.), *Contrastive Linguistics and other Approaches to Language Comparison,* 47–68. Amsterdam: John Benjamins.

Pollock, J.-Y. 1978. "Trace Theory and French Syntax." In S.J. Keyser (ed.), *Recent Transformational Studies in European Languages*, 65–112. Cambridge, MA: MIT Press.

Pollock, J.-Y. 1981. "On Case and Impersonal Constructions." In R. May and J. Koster (eds.), *Levels of Syntactic Representation*, 219–252. Dordrecht: Foris.

Pollock, J.-Y. 1983. "Sur quelques propriétés des phrases copulatives en français." *Langue Française* 58:89–125.

Pollock, J.-Y. 1985. "On Case and the Syntax of Infinitives in French." In J. Guéron, H.-G. Obenauer and J.-Y. Pollock (eds.), 293–326. *Grammatical Representation*. Dordrecht: Foris.

Pollock, J.-Y. 1989. "Verb Movement, Universal Grammar, and the Structure of IP." *Linguistic Inquiry* 20:365–424.

Pollock, J.-Y. 1992. "Opérateurs nuls, *dont*, questions indirectes, et théorie de la quantification." In L. Tasmowski and A. Zribi-Hertz (eds.), *Hommages à Nicolas Ruwet*, Communication & Cognition, 440–463. Ghent.

Pollock, J.-Y. 1998. "On the Syntax of Subnominal Clitics: Cliticization and Ellipsis." *Syntax* 1:300–330.

Pollock, J.-Y. 2006. "Subject Clitics and Complex Inversion." In M. Everaert and H. van Riemsdijk (eds.), *The Blackwell Companion to Syntax, Volume IV*, 601–659. Malden, MA and Oxford: Blackwell.

Postal, P. 1969. "Anaphoric Islands." *Chicago Linguistic Society* 5:205–239.

Postal, P.M. 1966. "On So-Called 'Pronouns' in English." In F.P. Dineen, (ed.), *Report of the Seventeenth Annual Roundtable Meeting on Linguistics and Language Studies*, 177–206. Washington, D.C.: Georgetown University Press (reprinted in Reibel, D.A. and S.A. Schane (eds.), *Modern Studies in English*. Englewood Cliffs, NJ: Prentice-Hall, 1969).

Postal, P.M. 1974. *On Raising. One Rule of English Grammar and its Theoretical Implications*. Cambridge, MA: MIT Press.

Postma, G. 1993. "The Syntax of the Morphological Defectivity of *BE*." *HIL Manuscripts* 3:31–67.

Postma, G. 1994. "The Indefinite Reading of WH." In R. Bok-Bennema and C. Cremers (eds.), *Linguistics in the Netherlands 1994*, 187–198. Amsterdam: John Benjamins.

Postma, G. 2015. "Numerals in Dutch Paucal Constructions. The Compositional Nature of Paucal Number." Paper presented at the SLE-Workshop on the Syntax & Semantics of Numerals, Leiden.

Postma, G., and J. Rooryck. 1996. "Modality and Possession in NPs." In K. Kusumoto (ed.), *Proceedings of NELS 26*, 273–287. Amherst, MA: GLSA.

Preminger, O. 2009. "Breaking Agreements: Distinguishing Agreement and Clitic Doubling by Their Failures." *Linguistic Inquiry* 40:619–666.

Pullum, G., and D. Wilson. 1977. "Autonomous Syntax and the Analysis of Auxiliaries." *Language* 53:741–788.

Purves, D. 2002. *A Scots Grammar. Scots Grammar & Usage*. Edinburgh: The Saltire Society.

Pylkkänen, Liina. 1998. "The 'be' of Possession in Finnish." Ms., MIT, Cambridge, MA.

Raposo, E. 1987. "Case Theory and Infl-to-Comp: The Inflected Infinitive in European Portuguese." *Linguistic Inquiry* 18:85–109.

Renzi, L. (G. Salvi (and A. Cardinaletti)). 1988–1995. *Grande grammatica italiana di consultazione* (3 volumes). Bologna: Il Mulino.

Renzi, L., and L. Vanelli. 1983. "I pronomi soggetto in alcune varietà romanze." In *Scritti linguistici in onore di Giovan Battista Pellegrini*, 121–145. Pisa: Pacini.

Reymond, J., and M. Bossard. 1979. *Le patois vaudois*, second edition, Payot, Lausanne.

Riemsdijk, H. van. 1978. *A Case Study in Syntactic Markedness*. Lisse, Netherlands: Peter de Ridder Press.

Riemsdijk, H. van. 2005. "Silent Nouns and the Spurious Indefinite Article in Dutch." In M. Vulchanova and T. Åfarli, *Grammar & Beyond: Essays in Honour of Lars Hellan*, 163–178. Oslo: Novus Press.

Rigau, G. 1984. "De com *si* no és conjunció i d'altres elements interrogatius." *Estudis Gramaticals 1*, 249–278. Bellaterra: Universitat Autònoma de Barcelona.

Rigau, G. 2005. "Number Agreement Variation in Catalan Dialects." In G. Cinque and R. Kayne (eds.), *Handbook of Comparative Syntax*, 775–805. New York: Oxford University Press.

Rimell, L. 2005. "Tense and Aspect Projections in Niger-Congo Languages." Ms., New York University.

Ritter, E. 1995. "On the Syntactic Category of Pronouns and Agreement." *Natural Language and Linguistic Theory* 13:405–443.

Rizzi, L. 1982. *Issues in Italian Syntax*. Dordrecht: Foris.

Rizzi, L. 1990. *Relativized Minimality*. Cambridge, MA: MIT Press.

Rizzi, L. 1997. "The Fine Structure of the Left Periphery." In L. Haegeman (ed.), *Elements of Grammar. Handbook of Generative Syntax*, 281–337. Dordrecht: Kluwer.

Rizzi, L. 2009. "Some Elements of Syntactic Computations." In D. Bickerton and E. Szathmáry (eds.), *Biological Foundations and Origin of Syntax,* 63–87. Cambridge, MA: MIT Press.

Rizzi, L. 2010. "On the Elements of Syntactic Variation." (Handout of) paper presented at the Workshop on Linguistic Variation in the Minimalist Framework, Universitat Autònoma de Barcelona.

Rizzi, L. 2016. "Monkey Morpho-syntax and Merge-based Systems." *Theoretical Linguistics* 42:139–145.

Roberts, I. 1993. "The Nature of Subject Clitics in Franco-Provençal Valdôtain." In A. Belletti (ed.), *Syntactic Theory and the Dialects of Italy*, 319–353. Torino: Rosenberg & Sellier.

Roberts, I. 2000. "Auxiliary Reduction and Negation Reduction—A Rough Sketch." *Snippets* 1:15–16.

Roberts, I. 2010. *Agreement and Head Movement. Clitics, Incorporation, and Defective Goals*. Cambridge, MA: MIT Press.

Ronat, M. 1979. "Pronoms topiques et pronoms distinctifs." *Langue Française* 44:106–128.

Rooryck, J. 1992. "Romance Enclitic Ordering and Universal Grammar." *The Linguistic Review* 9:219–250.

Rooryck, J. 2003. "The Morphosyntactic Structure of Articles and Pronouns in Dutch." In J. Koster and H. van Riemsdijk (eds.), *Germania et alia. A linguistic webschrift for Hans den Besten*, http://odur.let.rug.nl/~koster/DenBesten/contents.htm.

Rosenbaum, P.S. 1967. *The Grammar of English Predicate Complement Constructions.* Cambridge, MA: MIT Press.

Ross, J.R. 1967. *Constraints on Variables in Syntax.* Doctoral dissertation, M.I.T.

Ross, J.R. 1970. "On Declarative Sentences." In R.A. Jacobs and P.S. Rosenbaum (eds.), *Readings in English Transformational Grammar*, 222–272. Waltham: Ginn.

Round, E. 2014. "Prestopping of Nasals and Laterals is Only Partly Parallel." In R. Pensalfini, M. Turpin and D. Guillemin (eds.), *Language Description Informed by Theory*, 81–95. Amsterdam: John Benjamins.

Rouveret, A., and J.R. Vergnaud. 1980. "Specifying Reference to the Subject: French Causatives and Conditions on Representations." *Linguistic Inquiry* 11:97–202.

Sabel, J. 2000. "Expletives as Features." In R. Billerey et al. (eds.), *WCCFL 19 Proceedings*, 411–424. Somerville, MA: Cascadilla Press.

Safir, K. 1987. "What Explains the Definiteness Effect?" In E.J. Reuland and A.G.B. ter Meulen (eds.), *The Representation of (In)definiteness*, 71–97. Cambridge, MA: MIT Press.

Sauerland, U. 2009. "Decomposing Question Acts." *Snippets* 20:62–63.

Sauerland, U., and P. Elbourne. 2002. "Total Reconstruction, PF Movement, and Derivational Order." *Linguistic Inquiry* 33:283–319.

Sauerland, U., and K. Yatsushiro. 2014. "Remind-Me Presuppositions and Speech-Act Decomposition: Japanese *kke* and German *wieder*." lingbuzz/002005.

Săvescu-Ciucivara, O. 2007. "Challenging the Person Case Constraint: Evidence from Romanian." *Romance Linguistics 2006. Selected Papers from from the 36th Linguistic Symposium on Romance Languages (LSRL), New Brunswick, March-April 2006*, J. Camacho, N. Flores-Ferrán, L. Sánchez, V. Déprez and M. José Cabrera (eds.). Amsterdam: John Benjamins.

Săvescu-Ciucivara, O. 2009. "A Syntactic Analysis of Pronominal Clitic Clusters in Romance. The View from Romanian." Doctoral dissertation, New York University.

Schachter, P. 1973. "Focus and Relativization." *Language* 49:19–46.

Schibsbye, K. 1970. *A Modern English Grammar. Second Edition.* London: Oxford University Press.

Schoorlemmer, E. 2006. "Double Agreement in Complex Inversion." In J. Doetjes and P. González (eds.), *Romance Languages and Linguistic Theory 2004. Selected papers from 'Going Romance', Leiden, 9–11 December 2004*, 275–295. Amsterdam: John Benjamins.

Schütze, C.T. 1999. "Expletive Constructions Are Not Infected." *Linguistic Inquiry* 30:467–484.

Schwarz, Florian. 2006. "On Needing Propositions and Looking for Properties." In Masayuki Gibson and Jonathan Howell (eds.), *Proceedings of Semantics and Linguistic Theory XVI*, 259–276. Ithaca, NY: Cornell University, CLC Publications.

Schweikert, W. 2005. *The Order of Prepositional Phrases in the Structure of the Clause.* Amsterdam: John Benjamins.

Selkirk, E. 1977. "Some Remarks on Noun Phrase Structure." In P.W. Culicover, T. Wasow and A. Akmajian (eds.), *Formal Syntax*, 285–316. New York: Academic Press.

Seppänen, J. 1999. "Dialectal Variation in English Relativisation." *Lingua* 109:15–34.

Shlonsky, U. 1989. "The Hierarchical Representation of Subject Verb Agreement." Ms., University of Geneva/University of Haifa.

Shlonsky, U. 1994. "Agreement in Comp." *The Linguistic Review* 11:351–375.

Shlonsky, U. 2004. "The Form of Semitic Noun Phrases. An Antisymmetric, non N-movement Account." *Lingua* 114:1465–1526.

Sichel, I. 2001. "Studies in the Syntax of Pronouns and Features with Particular Reference to Hebrew." Doctoral dissertation, Graduate Center, City University of New York, New York.

Sigurðsson, H.Á. 2010. "On EPP Effects." *Studia Linguistica* 64:159–189.

Šimík, R. 2008. "The Source of *Wh*-Morphology in Questions and Relative Clauses." *ConSOLE XV,* 273–294.

Simpson, A. 2005. "Classifiers and DP Structure in South East Asia." In G. Cinque and R. Kayne (eds.), *Handbook of Comparative Syntax.* New York: Oxford University Press.

Simpson, A., and P. Biswas. 2015. "Bare Nominals, Classifiers and the Representation of Definiteness in Bangla." Handout of talk presented at FASAL-5, Yale University.

Simpson, A., and Z. Wu. 2002a. "IP-raising, Tone Sandhi and the Creation of Particles: Evidence for Cyclic Spell-Out." *Journal of East Asian Linguistics* 11:67–99.

Simpson, A., and Z. Wu. 2002b. "Understanding Cyclic Spell-Out." In M. Hirotani (ed.), *Proceedings of NELS 32,* 499–518. GLSA, University of Massachusetts, Amherst.

Simpson, A., H.L. Soh, and H. Nomoto. 2011. "Bare Classifiers and Definiteness. A Cross-linguistic Investigation." *Studies in Language* 35:168–193.

Solà, J. 1994. "Morphology and Word Order in Germanic Languages." In C.J.-W. Zwart (ed.), *Groninger Arbeiten zur germanistischen Linguistik*, 37 (*Minimalism and Kayne's Asymmetry Hypothesis*), 209–225.

Solà, J., M.-R. Lloret, J. Mascaró, and M.P. Saldanya. 2002. *Gramàtica del català contemporani*. Barcelona: Empúries.

Spiess, F. 1976. "Di un'innovazione morfologica nel sistema dei pronomi personali oggetto del dialetto della Collina d'Oro." In *Problemi di morfosintassi dialettale*, 203–212. Pisa: Pacini.

Sportiche, D. 1995. "Clitic Constructions." In L. Zaring and J. Rooryck (eds.), *Phrase Structure and the Lexicon*, 213–276. Dordrecht: Kluwer (reprinted in Sportiche (1998)).

Sportiche, D. 1998. *Partitions and Atoms of Clause Structure. Subjects, Agreement, Case and Clitics*. London: Routledge.

Sportiche, D. 1999. "Subject Clitics in French and Romance. Complex Inversion and Clitic Doubling." In K. Johnson and I. Roberts (eds.), *Beyond Principles and Parameters*, 189–221. Dordrecht: Kluwer.

Sprouse, J. 2009. "Revisiting Satiation: Evidence for an Equalization Response Strategy." *Linguistic Inquiry* 40:329–341.

Sprouse, J. 2011. "A Test of the Cognitive Assumptions of Magnitude Estimation: Commutativity Does Not Hold for Acceptability Judgments." *Language* 87:274–288.

Starke, M. 2001. "Move Dissolves into Merge: A Theory of Locality." Doctoral dissertation, University of Geneva.

Starke, M. 2004. "On the Inexistence of Specifiers and the Nature of Heads." In A. Belletti (ed.), *The Cartography of Syntactic Structures*, vol. 3: *Structures and Beyond*, 252–268. New York: Oxford University Press.

Starke, M. 2009. "Nanosyntax. A Short Primer to a New Approach to Language." *Nordlyd* 36.

Stassen, Leon. 2009. *Predicative Possession*. New York: Oxford University Press.

Stirling, L., and R. Huddleston. 2002. "Deixis and Anaphora." In R. Huddleston and G.K. Pullum (eds.), *The Cambridge Grammar of the English Language,* 1449–1564. Cambridge: Cambridge University Press.

Stjepanović, S. 1998. "On the Placement of Serbo-Croatian Clitics: Evidence from VP-Ellipsis." *Linguistic Inquiry* 29:527–537.

Stowell, T. 1981. "Origins of Phrase Structure." Doctoral dissertation, M.I.T., Cambridge, MA.

Stowell, T. 1985. "Licensing Conditions on Null Operators." In J. Goldberg, S. MacKaye and M.Westcoat (eds.), *Proceedings of the West Coast Conference on Formal Linguistics*, Vol. 4, (WCCFL 4), 314–326.

Sugisaki, Koji. 2009. "On Children's NEEDs." In Rajat Mohanty and Mythili Menon (eds.), *The Proceedings of the Seventh GLOW in Asia*, 225–236. Hyderabad: EFL University Press.

Svenonius, P. 1994. "C-selection as Feature-checking." *Studia Linguistica* 58:133–155.

Svenonius, P. 2000. "Quantifier Movement in Icelandic." In P. Svenonius (ed.), *The Derivation of VO and OV*, 255–292. Amsterdam: John Benjamins.

Sybesma, R., and J.U.-S. Sio. 2008. "D Is for Demonstrative—Investigating the Position of the Demonstrative in Chinese and Zhuang." *The Linguistic Review* 25:453–478.

Szabolcsi, A. 1983. "The Possessor that Ran Away from Home." *The Linguistic Review* 3:89–102.

Szabolcsi, A. 1994. "The Noun Phrase." In F. Kiefer and K. E. Kiss (eds.), *Syntax and Semantics 27. The Syntactic Structure of Hungarian*, 179–274. San Diego, CA: Academic Press.

Tang, S.-W. 2015. "A Generalized Syntactic Schema for Utterance Particles in Chinese." *Lingua Sinica* 1:1–23.

Taraldsen, K.T 1992. "Agreement as Pronoun Incorporation." Paper presented at the 15th GLOW Colloquium, *GLOW Newsletter* 28:50–51.

Taraldsen, K.T. 2000. "V-movement and VP-movement in Derivations Leading to VO-order." In P. Svenonius (ed.), *The Derivation of VO and OV*, 97–122. Amsterdam: John Benjamins.

Tat, D. 2011. "APs as Reduced Relatives: The Case of *Bir* in Some Varieties of Turkic." *Proceedings of WAFL7, MIT Working Papers in Linguistics* 62.

Terzi, A. 1999. "Clitic Combinations, their Hosts, and their Ordering." *Natural Language and Linguistic Theory* 17:85–121.

Terzi, A. 2010. "Locative Prepositions and Place." In G. Cinque and L. Rizzi (eds.), *Mapping Spatial PPs. The Cartography of Syntactic Structures, Volume 6*, 196–224. Oxford: Oxford University Press.

Thráinsson, H., H.P. Petersen, J.íL. Jacobsen, and Z.S. Hansen. 2004. *Faroese. An Overview and Reference Grammar*. Foroya Frodskaparfelag.

Togeby, K. 1982. *Grammaire Française, Volume I: Le Nom* Copenhagen: Akademisk Forlag.

Torrego, E. 1996. "On Quantifier Float in Control Clauses." *Linguistic Inquiry* 27:111–126.

Torrence, H. 2005. "On the Distribution of Complementizers in Wolof." Doctoral dissertation, University of California, Los Angeles.

Trask, R.L. 1995. "On the History of the Non-Finite Verb Forms in Basque." In J.I. Hualde, J.A. Lakarra and R.L. Trask (eds.), *Towards a History of the Basque Language*, 207–234. Amsterdam: John Benjamins.

Travis, L. 1989. "Parameters of Phrase Structure." In A.S. Kroch and M.R. Baltin (eds.), *Alternative Conceptions of Phrase Structure*, 263–279. Chicago, IL: University of Chicago Press.

Travis, L. 2003. "Reduplication Feeding Syntactic Movement." In Stanca Somesfalean (ed.), *Proceedings of Canadian Linguistics Association (CLA)*. Université du Québec à Montréal.

Troseth, E. 2009. "Degree Inversion and Negative Intensifier Inversion in the English DP." *The Linguistic Review* 26:37–65.

Trudgill, P., and J. Hannah. 1994. *International English. A Guide to Varieties of Standard English*, third edition. London: Edward Arnold.

Trudgill, P., and J.K. Chambers (eds.). 1991. *Dialects of English. Studies in Grammatical Variation*. London: Longman.

Tsai, W.-T. 1994. "On Economizing the Theory of A-bar Dependencies." Doctoral dissertation, M.I.T.

Tsoulas, G. 2013. "Before-Clauses and the Syntax-Semantics Interface." Paper presented at the University of Stuttgart.

Turpin, M., K. Demuth, and A.N. Campbell. 2014. "Phonological Aspects of Arandic Baby Talk." In R. Pensalfini, M. Turpin and D. Guillemin (eds.), *Language Description Informed by Theory*, 49–79. Amsterdam: John Benjamins.

Uriagereka, J. 1995. "Aspects of the Syntax of Clitic Placement in Western Romance." *Linguistic Inquiry* 26:79–123.

Uriagereka, J. 1996a. "Determiner Clitic Placement." In R. Freidin (ed.), *Current Issues in Comparative Grammar*, 257–295. Dordrecht: Kluwer.

Uriagereka, J. 1996b. "A Brief Response." In R. Freidin (ed.), *Current Issues in Comparative Grammar*, 338–345. Dordrecht: Kluwer.

Van Riemsdijk, H. 1978. *A Case Study in Syntactic Markedness*. Lisse, Netherlands: Peter de Ridder Press.

Vassere, S. 1993. *Sintassi formale e dialettologia. I pronomi clitici nel luganese*. Milan: FrancoAngeli.

Vergnaud, J.-R. 1974. "French Relative Clauses." Doctoral dissertation, M.I.T., Cambridge, MA.

Vergnaud, J.-R. 1985. *Dépendances et niveaux de représentation en syntaxe*. Amsterdam: John Benjamins.

Vergnaud, J.-R., and M.L. Zubizarreta. 1992. "The Definite Determiner and the Inalienable Constructions in French and in English." *Linguistic Inquiry* 23:595–652.

Vilkuna, M. 1998. "Word Order in European Uralic." In A. Siewierska (ed.), *Constituent Order in the Languages of Europe*, 173–233. Berlin: Mouton de Gruyter.

Villalba, X. 1999. "Right Dislocation Is Not Right Dislocation." In O. Fullana and F. Roca (eds.), *Studies on the Syntax of Central Romance Languages. Proceedings of the III Symposium on the Syntax of Central Romance Languages*, 227–241. Universitat de Girona.

Villalba, X., and A. Bartra-Kaufmann. 2009. "Predicate Focus Fronting in the Spanish Determiner Phrase." *Lingua*.

Vinet, M.-T. 2000. "Feature Representation and *-tu (pas)* in Quebec French." *Studia Linguistica* 54:381–411.

Vizmuller-Zocco, J. 1984. "L'oscillazione tra enclisi e proclisi nell'italiano contemporaneo." In N. Villa and M. Danesi (eds.), *Studies in Italian Applied Linguistics* (Biblioteca di Quaderni d'italianistica, 1), Canadian Society for Italian Studies.

Vogelaer, G. de, A. Neuckermans, and G. Vanden Wyngaerd. 2001. "Complementizer Agreement in the Flemish Dialects." In *Syntactic Microvariation*, http://www.meertens.knaw.nl/books/synmic.

Ward, G., B. Birner, and R. Huddleston. 2002. "Information Packaging." In R. Huddleston and G.K. Pullum (eds.), *The Cambridge Grammar of the English Language*, 1363–1447. Cambridge: Cambridge University Press.

Watanabe, A. 2017. "Natural Language and Set-Theoretic Conception of Natural Number." *Acta Linguistica Academica* 64:125–151.

Weinberg, S. 1992. *Dreams of a Final Theory.* New York: Vintage Books.

Whitman, J. 2001. "Kayne 1994: p. 143, fn. 3." In G. Alexandrova and O. Artunova (eds.), *The Minimalist Parameter*, 77–100. Amsterdam: John Benjamins.

Whitman, J. 2005. "Preverbal Elements in Korean and Japanese." In G. Cinque and R.S. Kayne (eds.), *Handbook of Comparative Syntax*, 880–902. New York: Oxford University Press.

Williams, E. 1981. "On the Notions 'Lexically Related' and 'Head of a Word'." *Linguistic Inquiry* 12:245–274.

Williams, E.S. 1977. "Discourse and Logical Form." *Linguistic Inquiry* 8:101–139.

Wood, J. 2011. "Decomposing Impersonal Modals in Icelandic." Ms., New York University.

Wood, J. 2014. "Affirmative Semantics with Negative Morphosyntax. Negative Exclamatives and the New England *So AUXn't NP/DP* Construction." In R. Zanuttini and L.R. Horn (eds.), *Micro-Syntactic Variation in North American English*, 71–114. New York: Oxford University Press.

Wood, J.L. 2002. "Much about *Such*." *Studia Linguistica* 56:91–115.

Wood, J.L. 2013. "Indefinite Determiner Doubling." Abstract of talk presented at the Germanic Linguistics Annual Conference, 19, State University of New York, Buffalo.

Wood, J., and A. Marantz. 2017. "The Interpretation of External Arguments." In R. D'Alessandro, I. Franco and Á. Gallego (eds.), *The Verbal Domain.* Oxford: Oxford University Press.

Wurmbrand, S. 2005. "Verb Clusters, Verb Raising, and Restructuring." In M. Everaert and H. van Riemsdijk (eds.), *The Blackwell Companion to Syntax,* 227–341. Oxford: Blackwell.

Zamparelli, R. 2004. "Every Two Days." *Snippets* 9:19–20.

Zandwoort, R.W. 1965. *A Handbook of English Grammar*. 3rd edition. London: Longmans.

Zanuttini, R. 1997. *Negation and Clausal Structure. A Comparative Study of Romance Languages*. New York: Oxford University Press.

Zanuttini, R., and L.R. Horn. 2014. *Micro-Syntactic Variation in North American English*. New York: Oxford University Press.

Zeijlstra, H. 2008. "Modal Concord." In T. Friedman and M. Gibson (eds), *SALT XVII*, 317–332. Ithaca, NY: Cornell University.

Zepeda, O. 1983. *A Papago Grammar.* Tucson: University of Arizona Press.

Zwart, J.-W. 1996. "Verb Clusters in Continental West-Germanic Dialects." In J.R. Black and V. Motapanyane (eds.), *Microparametric Syntax and Dialect Variation,* 229–258. Amsterdam: John Benjamins.

Zwart, J.-W. 2003. "Agreement and Remnant Movement in the Domain of West-Germanic Verb Movement." In J. Koster and H. van Riemsdijk (eds.), *Germania et alia: a linguistic Webschrift for Hans den Besten*. Department of Linguistics, University of Groningen.

Zwart, J.-W. 2007. "Some Notes on the Origin and Distribution of the IPP-effect." *Groninger Arbeiten zur Germanistischen Linguistik* 45:77–99.

Zwart, J.-W. 2009. "Relevance of Typology to Minimalist Inquiry." *Lingua* 119:1589–1606.

Zwart, Jan-Wouter. 2011. "Structure and Order: Asymmetric Merge." In Cedric Boeckx (ed.), *Oxford Handbook of Linguistic Minimalism*. Oxford: Oxford University Press.

Zweig, E. 2006. "Nouns and Adjectives in Numeral NPs." In L. Bateman and C. Ussery (eds.), *NELS 35: Proceedings of the thirty-fifth annual meeting of the North East Linguistic Society,* GLSA, University of Massachusetts, Amherst, Mass, 663–675.

INDEX

adjective (*Cont.*)
  soon
    and silent TIME, 109–11, 253–54,
      253n23
    superlative, 37–38, 110, 254
adposition, 82–83, 97, 104n25, 107–
      8, 108n34, 113–18, 117n61,
      122, 126, 140n17, 253–57,
      294n47, 308, 308n10. *See also*
      postposition; preposition
  silent, 103n24
adverb
  and suffixation, in Spanish, 319n33
  as modifier of silent structure, 87n12,
      100, 103
  as specifier of silent head, 111,
      111n46, 120
  effect on acceptability, 72n41
  necessarily, 68
    NECESSARILY (*see* silent elements:
      adverb)
adverbial genitive, 240
affective contexts
  and HCI and CI, 327n5, 350n5
again. *See* particle: sentence final
Agbayani, 121, 121n73
age
  AGE (*see* silent elements: noun)
agent phrase, 31–32, 32n49,
      75–77, 75n47
agentive argument, 32
ago. *See* postposition
Agree, 144n25, 155n44, 238n72,
      285, 357–61
agreement
  and relative clauses, 287
  discontinuous, 284
  downward, 160, 160n54, 284
  in existential sentences, 160–62
  in gender
    with *one* in Romance, 188, 219
  in number
    of *kind,* 7–8, 12
    of *pound,* 246–48
    of *twice,* 245–48
  in person, 119, 286, 360n31, 362
  licensed by movement, 319, 358
  morpheme
    as incorporated pronoun, 119
    in Basque, 283n21

-n in Spanish, 304–25
  silent, 119
  vs. pronominal clitic, 359–61
multiple
  of past participles, in Italian, 307
  inside DP, with *troppo*, in Italian,
      319n32
  non-discontinuous, in Icelandic,
      286n31
  of the clitic in Complex Inversion (CI)
      and Hyper Complex Inversion
      (HCI), in French, 326–48, 349–73
  of the complementizer in Germanic,
      284n24, 321–22, 322n37, 333,
      333n20, 353, 353n16
  of the diminutive, 319n33
  of the first conjunct, 281n18
  of the infinitive
    in Portuguese, 340n36, 345
    in French, 345
  of the past participle, 20n21, 33n51,
      35, 36, 285–86, 286n29, 319,
      355n22, 358, 358n29, 360, 361,
      361n36, 373
  of verb and subject
    French vs. Italian, 22
    in Hyper Complex Inversion, in
      French, 338–40
    in Italian, 285
  optionality, in Belfast English, 160,
      161n57
  suspension, 161, 284
  vs. clitic-doubling, 360–61
Aikhenvald, 250n17
-aine, in French. *See* suffix
Aissen, 346n44
Albanian, 80, 84, 84n6, 86*t*, 310n14
Aldridge, 40n61
Alexiadou, 36n55, 38n57, 202n5
Algeo, 6n7, 104n26, 234n68
all. *See* quantifier
Allan, 136n1, 165n66, 289–90
allosemy, 129n6
along. *See* preposition: complex
altrui, in Italian. *See* pronoun
Alvarez, 242n4
Amharic, 86*t*, 283n23
A-movement. *See* movement
Amritavalli, 19n20, 55n21, 242
Anagnostopoulou, 278n11, 361n34

Pearce, 192n23

Pearson, 278n7

Pelliciardi, 367n52

Penello, 329n12, 330n13, 351n10, 352n12

people, 216

    PEOPLE (*see* silent elements: noun)

Pereltsvaig, 111n46, 366n50

Perlmutter, 33n51, 34n53, 47n14, 174, 182,
    183–85, 199–204, 267, 311

permutation, 305n3

Persian, 97n9, 110, 254, 283n23

person

    agreement (*see* agreement)

    restriction, 362–63

person, 229

    PERSON (*see* silent elements: noun)

Person Phrase, 286

Peruvian Quechua. See Quechua

Pesetsky, 36n55, 115n56, 117n61,
    196n32, 224n46, 247, 253n22

Phase Impenetrability Condition
    (PIC), 302

phi-feature. *See* feature

Phillips, 12n6

phrasal movement. *See* movement

phrase-structure rules, 293n46

Pica, 197n36, 197n37

Piedmontese. *See* Italian: dialects

pied-piping, 61–62, 65, 65n35, 70, 133,
    155n44, 299n52, 355n22

place, 118n64, 140n18, 141, 229n55

    PLACE (*see* silent elements)

plupart, in French, as counterpart of
    most, 151

point. See aspectual: expressions

polarity

    and *long* with silent TIME, 256

Poletto, 17n15, 20n23, 22n29, 24n35,
    52n19, 119n68, 331n15, 353n13

Polish, 86*t*, 88*t*

polite forms, 304n1

Pollock, 27n40, 77n48, 97n9, 113n51,
    119n67, 119, 140n17, 145n27,
    158n49, 161n57, 169n3, 174n12,
    177n16, 177, 208n18, 214n28,
    238n72, 277n5, 281n18, 326–73

polysynthetic language, 20n23

Portuguese, 86*t*, 136, 323, 337n32,
    340n36, 345, 357n26

possessee

    and accusative case, 79–80,
        90, 91n16

    and nominative case, 82–83

possession

    complex DP analysis of,
        328n9, 351n9

    transitory vs. permanent, 82n4

possessive

    verb

        be, 81–83, 90, 91n16

        have (*see* verb: transitive)

        imet', in Russian, 82n4

possessor, 79–80, 91n15

    and licensing of *one,* 226–27

    in Hungarian, 82–83, 143

Postal, 56–57, 69n38, 76, 140n18,
    161n57, 236, 236n70, 237,
    238n72, 247, 289n38, 365n47,
    366n50

Postma, 128, 139n15, 153n39, 196n34,
    310n13, 348n46

postnominal

    adjective (*see* adjective)

    relative (*see* relative clause)

postposition, 239–41, 244, 244n9, 252,
    253, 254–56, 308

    ago, 105n29, 256

    -ce (*see* suffix)

    in *forthwith,* 255

    in *hence,* 255

    in *hereby,* 255

    in *thence,* 255

    in *thereby,* 140, 255

    in *therefore,* 140, 255

    in thereof, 20, 140n17, 140, 141,
        182n1, 255

        See also clitic *en:* in French

    in *whence,* 255

    in *whereabouts,* 255

    in whereby, 255

    in *whereupon,* 255

    in *wherewithal,* 255

pound. See agreement: in number

precedence, 276, 289–94, 297–98.
    See also hierarchical structure

    i(mmediate)-, 301–2

predicate

    silent, 51, 54–57

prefix, 139
  adpositional
    a-, as in *ago,* 103–4, 105n29, 105
  negative
    il-, 139
    in-, 139
    ir-, 139
    un-, 139
  reversative
    un-, 139
prefixing language, 19n20, 308
Preminger, 283n21, 360–61, 361n33
prenominal adjective. *See* adjective
prenominal relative. *See* relative clause
preposition. *See also* complementizer:
      prepositional
  as probe, 279
  complex, 117
    aboard, 103–4, 105–6
    along, 105
    aside, 104
    astride, 117
    atop, 117, 139n11
    before, 117
    behind, 117
    below, 117
    between, 117
    beyond, 117
    despite, 117, 117n59
    within, 117
    without, 117
  monomorphemic, 117–18
    at, temporal, 117–18, 240
    by, in passives, 117–18
    de, in French, 39n59, 113,
        191n22, 214
    of, temporal, 240
    on, temporal, 240
    to, 117–18
    with, 117–18
  silent, 107
prepositional complementizer. *See*
      complementizer
PRO, 26–28, 289n38, 371n58
  PRO vs. lexical subject, 54
  PRO vs. *pro,* 323n41
pro, 171n8, 329n11
pro-drop, 9, 21–22, 22n29, 24
  partial, 329n12

probe, 277n4, 279, 291–94, 292n45, 296,
      298, 300, 301–2, 339, 348, 358
process. See aspectual expressions
processing
  of canonical vs. non-canonical word
      order, 277n5
production. *See also* directionality
projection
  intermediate-level, 299
  maximal, 299
pronominal clitic. *See* clitic
pronominalization
  forward vs. backward, 289–90
pronoun. *See also* interrogative pronoun;
      relative pronoun
  altrui, in Italian, 128n4
  and movement of the double, 238
  and demonstrative structure, 368
  as noun, in Russian, 366n50
  lui, in Italian, 128n4
  nosotros, in Spanish, 372n62
  on, in French, 371–73, 372n60,
      372n61
  personal
    as definite article, 236, 365n47
  quelques-uns, in French, 208–9
  resumptive, 132, 132n14, 133,
      267n15, 328n8
  strong, 283
    and gapping in French, 368
  uno, in Spanish, 132n13, 206–9, 211
  unstressed, 134–35, 136, 145, 145n27
  vosotros, in Spanish, 372n62
  weak, 283, 284
pseudo-gapping, 266n14
Pullum, 13–14, 42, 52, 70
Purépecha, 86*t*, 89
Purves, 256n33

quale, in Italian. *See* interrogative
      pronoun; relative pronoun
quantifier
  all, 369
    in existential sentences, 152,
        153n41
  both, 190–97, 369
  float, 289n39, 370
  tout, in French, 169n4, 278n11,
      357n27