

## Comparative Syntax\*

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1.

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 paper.

To put this in perspective, it is useful to think in terms of the notions of observational, descriptive and explanatory adequacy.<sup>1</sup> 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.<sup>2</sup>

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 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 in 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.<sup>3</sup> 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.<sup>4</sup> 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:<sup>5</sup>

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<sup>1</sup> Cf. Chomsky’s (1964, 29).

<sup>2</sup> 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  $10^{86}$ .

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

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

<sup>4</sup> 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.

<sup>5</sup> Cf. Selkirk (1977, note 11) on *these many people*.

(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).<sup>6</sup> Sprouse's well-grounded position is disagreed with to a certain extent by Fedorenko and Gibson (2010), on the basis of psycholinguistic work having to do with multiple interrogation in English. There are contrasts of the following sort:<sup>7</sup>

(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), and 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.<sup>8</sup> 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.<sup>9</sup>

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. (1998-1995), 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 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

<sup>6</sup> Cf. also Phillips and Lasnik (2003), Phillips (2009), Sprouse (2009), Bader and Häussler (2010), and Culicover and Jackendoff (2010).

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

<sup>8</sup> Bolinger (1978) has an example where focal intonation on the verb improves acceptability, too.

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

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.<sup>10</sup>

2.

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 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.<sup>11</sup> 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.

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<sup>10</sup> 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.

<sup>11</sup> For example to Jespersen (1970-1974) for English or to Martinon (1927) and Grevisse (1993) for French.

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 thought 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...

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,<sup>12</sup> 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.

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.<sup>13</sup>

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

<sup>12</sup> It seems likely that few cognitive scientists know much about the work done in comparative syntax over the past 30+ 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).

<sup>13</sup> Especially by Dryer (1992) and in other work of his.

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’.<sup>14</sup> 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,<sup>15</sup> extrapolating from which it is evident that an 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.<sup>16</sup> And various regional syntactic differences within the United States or within the United Kingdom are well known.<sup>17</sup> 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 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,<sup>18</sup> 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.<sup>19</sup>

<sup>14</sup> Nor is the distinction made sufficiently clear by Boeckx (2010).

<sup>15</sup> Cf. Benincà (1994) and Poletto (2000).

<sup>16</sup> Cf., for example, Zandvoort (1965, 343), Merat (1974), Johansson (1979) and Trudgill and Hannah (1994, 56-82).

<sup>17</sup> Cf., for example, Klima (1964), Trudgill and Chambers (1991); also Henry (1995).

<sup>18</sup> 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.

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

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 (2005, 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 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*.<sup>20</sup> 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 for an exact match for French *en* would seem to be (even though there is no visible *of* in (16)):

<sup>20</sup> 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 scepticism 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 scepticism 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 sub-word structure as falling under the LCA.

(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.<sup>21</sup>

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,<sup>22</sup> 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.<sup>23</sup>

In comparative syntax, as in syntax in general, one can and must also 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,<sup>24</sup> 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*.<sup>25</sup>

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.<sup>26</sup>

<sup>21</sup> Setting aside differences in past participle agreement between French and Italian - see Kayne (1985; 1989a).

<sup>22</sup> Cf. Kayne (1991, note 69), Benincà (1994, 7) and Kayne (1996).

<sup>23</sup> 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 (2011). 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).

<sup>24</sup> Or in broader terms - cf. Chomsky (2004).

<sup>25</sup> 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?

<sup>26</sup> 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.<sup>27</sup> 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.

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’, i.e. 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.

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,<sup>28</sup> 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).<sup>29</sup> 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 postverbal 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).<sup>30</sup>

<sup>27</sup> 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).

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

<sup>29</sup> 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).

<sup>30</sup> 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.<sup>31</sup> 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, i.e. restrictives and non-restrictives act alike in the relevant respect:<sup>32</sup>

(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<sup>33</sup>) characterization of the range of human languages.)

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,<sup>34</sup> precisely because it disallows null subjects (of finite sentences) to a greater extent than other Romance languages. The phenomenon at issue is seen in the following examples:

(30) Jean veut la photographier. (‘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.

<sup>31</sup> Cf. Baker’s (1996, 35n) point about the difficulty of deciding how to (numerically) count the effects of a given parameter.

<sup>32</sup> Though not in all respects. For further details, see Kayne (1976) and Cinque (1982).

<sup>33</sup> In the sense of ‘beautiful’ or ‘inevitable’ as discussed by Weinberg (1992, chap. VI).

<sup>34</sup> The differential character of clitic climbing across Romance is not taken into account by Newmeyer (2005).

French.<sup>35</sup> 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 discovered, insofar as  $n$  independent binary-valued parameters can cover a space of  $2^n$  languages/dialects (e.g. only 8 such parameters could cover  $2^8 = 256$  languages/dialects, etc.).<sup>36</sup>

4.

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:<sup>37</sup>

(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.<sup>38</sup>

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 (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:

<sup>35</sup> See, for example, Renzi and Vanelli (1983) and Poletto (2000).

<sup>36</sup> 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 comes into being.

<sup>37</sup> For relevant discussion, see Zanuttini (1997).

<sup>38</sup> 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).

(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,<sup>39</sup> 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 (2005b, Index, *silence*.)

5.

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)

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

<sup>39</sup> 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.

will be sufficient to think of sentences like (41) and (42) in the following somewhat oversimplified way.<sup>40</sup>

Object clitics in Romance languages end up in a position that is constant across the various Romance languages/dialects. Verb-clitic order results when 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).<sup>41</sup> 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 will be more central in this section than in the previous one. What will be at issue are English sentences like:

(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

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

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

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 than 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:<sup>42</sup>

(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 where that infinitive would otherwise not be able to have one (as shown by (54) and (55)). As far as I know, no other Germanic language and no Romance language has a prepositional complementizer with exactly this property.<sup>43</sup> 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*.<sup>44</sup>) 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),<sup>45</sup> namely:

(58) You are meant to return before midnight.

<sup>42</sup> 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.

<sup>43</sup> 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.

<sup>44</sup> 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 (1981, 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 (2006).

<sup>45</sup> 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.

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

(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<sup>46</sup> and simultaneously accounts for the modal-like interpretation of (51).<sup>47</sup>

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:<sup>48</sup>

(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).

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).<sup>49</sup>

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).<sup>50</sup> 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.

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

<sup>46</sup> 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.

<sup>47</sup> 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.

<sup>48</sup> See note 46.

<sup>49</sup> 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 (2006)).

<sup>50</sup> The importance of such comparative data is underappreciated by Goldberg and van der Auwera (to appear).

(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.

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,<sup>51</sup> 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.<sup>52</sup> This class of sentences will be less directly 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:

<sup>51</sup> 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).

<sup>52</sup> A transitive (French) example, with reflexive clitic *s'*, is:

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

(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, e.g.:

(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<sup>53</sup> 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 anticausative, in opposition to the causative character of (83).

Some anticausative sentences in French and Italian contain a reflexive clitic and therefore show auxiliary *be* in both languages. Of more central interest here are anticausatives 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:<sup>54</sup>

(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 anticausatives 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 anticausatives holds as follows:

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

<sup>53</sup> Cf. Hall (1965), Perlmutter (1989), Burzio (1986).

<sup>54</sup> Cf. Kayne (2009) and references cited there.



Periphrastic causatives are sentences like (73) above that contain an overt causative verb, e.g.:

(90) The storm made the boat sink.

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

(91) L'orage a fait couler le bateau. (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, i.e. 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, i.e. why should there be any link at all between auxiliary selection with what look like simple anticausatives and past participle agreement with complex periphrastic causatives? Part of the answer can hardly fail to be that anticausative sentences like (85)-(88) are, despite appearances, biclausal,<sup>55</sup> 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

with CAUSED the silent causative verb and SOMETHING the silent causer.<sup>56</sup> 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.

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:

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

<sup>56</sup> For further details, v. Kayne (2009).

(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)

When a French superlative is postnominal, as in (105), a second definite article is obligatory.<sup>57</sup> 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)

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:

<sup>57</sup> In a way that in part recalls Greek multiple Ds - see Alexiadou and Wilder (1998).

(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.<sup>58</sup> 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).<sup>59</sup>

9.

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.<sup>60</sup> 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.<sup>61</sup>) Comparative syntax in all its range can be seen as a window on the language faculty that is just beginning to bear fruit.

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<sup>58</sup> As suggested by Gross (1968, 30).

<sup>59</sup> 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*.

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).

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

<sup>61</sup> 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; 2003; 2011) - also Kayne (2008b) on deriving the existence of the verb-noun distinction - on which, cf. Aldridge (2009) and Koch and Matthewson (2009).

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