Chapter 9. What Is There When Little Words Are Not There?:
Possible Implications for Evolutionary Studies

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What Is There When Little Words Are Not There?

Possible Implications for Evolutionary Studies

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THE GOAL OF THIS CHAPTER is to provide a theoretical argument, using the tools of the syntactic framework of minimalism (e.g., Chomsky 1995), that certain small clauses (syntactic objects with no or few “little words”), which can be found in root contexts as well as in other unexpected uses, may represent “living fossils” from a root small-clause stage in language evolution (see Jackendoff 2002 for the idea of syntactic fossils). In addition to the root small-clause stage, the clausal development may also have gone through a protocoordination stage, on its way to developing specific functional categories. These claims are consistent with (a) a syntactic analysis of what counts as an increase in complexity, (b) well-known grammaticalization processes, (c) “living fossil” evidence, and (d) stages in language acquisition. Not only does this approach help situate syntax in an evolutionary framework, but it also sheds light on some crucial aspects of syntax itself, as will be shown.

Grammar without Little Words: Root Small Clauses
Consider the following utterances with no (or almost no) little words [(1), (3), and (5)], rarely discussed in the syntactic literature, and compare them with full finite counterparts [(2), (4), and (6)]. (In this chapter I only consider small clauses with one argument, in order to abstract away from the factor of transitivity, which involves an additional layer of morphosyntactic structure.)

Mad Magazine/incredulity clauses

(1) a) Him retire!?  b) John worry?!  c) Her happy?!
Cf. (2) a) He is going to retire.  b) John worries.  c) She is happy.

“Irrealis” clauses expressing wishes/commands

(3) Me first!/Family first!/Everybody out!
Cf. (4) I am first./Family should be first./Everybody must go out.

Clauses anchored in a context (e.g., here-and-now, photograph, etc.)
(5)  Class in session./Problem solved./Case closed./Me in Rome.
Cf. (6)  The class is in session./The problem is solved./The case is closed./I am in Rome.

In contrast to the corresponding finite sentences, the clauses in (1), (3), and (5) show no evidence of tense or nominative case checking: The verb is either entirely absent or surfaces in a nonfinite form, while the pronouns exhibit default (accusative) case in English (Akmajian 1984; see also Roeper 1999 and Schütze 2001 for default grammars/default case). In the spirit of the widely accepted analysis of embedded small clauses proposed by Stowell (1983), adopted in Chomsky (1995), and in the spirit of Barton’s (1990) approach to nonsententials in general, Progovac (2006) analyzes (1), (3), and (5) as tenseless root small clauses (RootSCs), where the semantic consequence of no tense is argued to be the prevalence of nonindicative/irrealis interpretations among such clauses [(1), (3)].

This approach explains why RootSC subjects in (5) occur without articles, which are obligatory in full sentential counterparts (6): The absence of articles in this case signals the absence of a determiner phrase (DP), reinforcing the idea that RootSCs do not check structural case. In current syntactic theory DP is required for structural case checking (e.g., Longobardi 1994). In other words, the realizations of RootSC syntax illustrated earlier are shorter by at least two categories of little words, in comparison to their full sentential counterparts: tense bearers (including copulas and finite auxiliary verbs) and articles.

Moreover, small clauses with default case subjects cannot embed (are not recursive), providing a challenge for the hypothesis put forth in, for example, Chomsky (2005) and Hauser, Chomsky, and Fitch (2002) that Merge alone can account for all the recursive power of language (see Pinker and Jackendoff 2005 for a reply).

(7) a) *Him worry [me first]?!/b) *I consider [case closed]/c) *I want [problem solved].

Notice that the embedded clauses in (7b) and (7c) would become grammatical if an article were used, suggesting that they check structural case, the so-called exceptional case marking (ECM). Appropriate functional categories/projections/relations need to be available in order to license embedding of any kind, whether an ECM mechanism for small clauses, or complementizer phrase (CP) for finite subordination (see Progovac 2007b for elaboration; also Deutscher 2000 and references cited there; Progovac et al. 2006). I return to this issue later in the chapter.

In sum, small clauses are found both as embedded ECM complements, with structurally case-marked subjects, and as RootSCs, whose subjects carry default case (no case). The next section speculates on the reasons for the existence of small clauses in general, and of RootSCs in particular.

Evolutionary Perspective
It is often assumed that syntax is all or nothing, the stand summarized in the following quote from Berwick (1998, 338–39; see also Bickerton 1998): “In this sense, there is no possibility of an ‘intermediate’ syntax between a non-combinatorial one and full
natural language—one either has Merge in all its generative glory, or one has no combinatorial syntax at all.” However, if my analysis of RootSCs is correct, then a coherent grammar with much less syntactic complexity than full sentential grammar is not only possible but also is still in relatively productive use (see Progovac 2007a on how syntactic complexity can be measured and how it can evolve). Indeed, the existence of RootSCs opens up a possibility to consider the evolution of syntax in a gradualist fashion, in the spirit of Pinker and Bloom (1990).

In this perspective, one can see RootSCs as “living fossils” from an evolutionary stage of syntax dominated by RootSCs (see Jackendoff 2002 for the idea of a syntactic fossil). Ridley (1993, 525) defines “living fossils” as species that have changed little from their fossil ancestors in the distant past, such as lungfish, and that have continued to coexist with more complex species. What I consider here to be preserved is the RootSC syntax, and our ability to tap into it, rather than particular details of modern-day realizations of such syntax. For example, while the absence of structural case is the defining property of this grammar, the particular realizations of non-case-marked subjects will vary across languages.

Initial plausibility for a RootSC evolutionary stage comes exactly from the existence of these living fossils found in modern-day languages (more realizations of such fossilized syntax will be discussed in the following sections). Further corroborating evidence comes from language acquisition. The so-called two-word stage in first language (L1) acquisition abounds in subject–predicate utterances that can be analyzed as RootSCs, as well as by probable absence of Move(ment) (see, e.g., Lebeaux 1989; Ouhalla 1993; Platzak 1990; Potts and Roeper 2006; Radford 1990). Lock and Peters (1996) conclude that recent views on the relationship between ontogeny and phylogeny permit using ontogeny to corroborate evolutionary inferences.

Furthermore, the emergence of tense/tense phrase (TP) in children parallels the historical development (grammaticalization) of tense/indicative from injunctive in pre–Indo-European (Progovac 2006). According to Kiparsky (1968), the unmarked tense/mood form, injunctive, was initially able to express both indicative and non-indicative meanings, but once tense and indicative emerged in pre-IE, injunctive specialized only for nonindicative/irrealis readings. This indicates not only that it is possible to proceed from a pre-TP stage to a TP stage but also that this developmental scenario can lead to the division of labor in mood expression that is attested today in adult speech between RootSCs and their finite counterparts.

Suppose now that functional projections (e.g., aspect, light verb phrase (vP) shell for transitivity, tense) started to be added over the layer of the small-clause core, perhaps in order to make precise the hierarchy of thematic roles through case relations, as well as to render the expression of time and truth automatic and precise. In this sense, the layers of more recently emerged functional projections were superimposed over the layers of more ancient structures, letting the latter survive but in marginalized roles. Similar stratification accounts have been proposed for brain development, as well as for the development of complexity in general, where newly emerged patterns become dominant and “rework” older patterns into conformity with them (see Rolfe's [1996] “recency dominance”; also Vygotsky 1981). This idea of evolutionary layering of syntax is explored further in Progovac (2007a). The next two
sections extend the evolutionary perspective to shed light on the existence of small clauses elsewhere.

**Why Every Sentence Begins as a Small Clause**

It is a remarkable discovery on the part of linguists, and a recent one, too, that every sentence in its underlying representation is in fact a small clause, which gets transformed into a sentence only upon subsequent merger of tense and/or other comparable functional projections (see, e.g., Burzio 1981; Chomsky 1995; Kitagawa 1986; Koopman and Sportiche 1991; Stowell 1981). For example, the sentence with a copular verb such as “John is tall” derives from the underlying small clause “John tall,” where the subject “John” moves from the subject position of the small clause to the specifier position of the sentence (TP):

\[(8) \begin{align*}
& \text{TP is [}_\text{SC} \text{ John tall]} \quad \rightarrow \quad \text{TP John [}_\text{T'} \text{ is [}_\text{SC} \text{ t tall]}]
\end{align*}\]

Similarly, as illustrated in (9), the sentence/TP “He will worry” starts out as a small clause “He worry,” which gets transformed into a full sentence (TP) only upon the merger of Tense (“will”) and upon the subsequent Move of “he” into the specifier of TP to check nominative case:

\[(9) \begin{align*}
& \text{TP will [}_\text{SC} \text{ he worry]} \quad \rightarrow \quad \text{TP he [}_\text{T'} \text{ will [}_\text{SC} \text{ t worry]}]
\end{align*}\]

Notice that the verb *worry* is selected without any tense or case features here.

Parker (2006, 285) raises the question of why one should have Move in the syntactic theory, in addition to Merge, given that even in the minimalist framework Move is considered to be more costly than Merge. This question can be related to that of why every sentence should begin as a small clause in the first place. But if the small clause core of the sentence can be seen as a vestige of the evolutionary tinkering with building sentential structure, then Move can be seen as a force that connects different layers of sentential derivation, as determined by such evolutionary tinkering. In other words, the building of the sentence bottom up, from small clause to TP, may be seen, metaphorically, as retracing the steps of the evolutionary development of the sentence. Neither bottom-up sentence building, nor small-clausal beginnings of the sentence, nor Move would then need to be considered as conceptual necessities.

**Why There Are Bare Small Clauses in Parataxis/Adjunction and Coordination**

In addition to the root contexts, bare small clauses (i.e., small clauses whose subjects are not structurally case marked, in contrast to ECM small clauses) are also found with parataxis/adjunction and with coordination, exhibiting similar morphosyntactic properties as RootSCs, including the lack of tense and the lack of structural case on subjects.

Even though, as pointed out in the first section, bare small clauses do not embed within each other, they can participate in loose, typically binary paratactic combinations, usually found in proverbs or wisdoms:

\[(10) \begin{align*}
& \text{Nothing ventured, nothing gained./Easy come, easy go.}
\end{align*}\]
When two small clauses combine paratactically in this fashion, they appear to be on an “equal footing” with respect to each other, and their relationship is then interpreted as one of temporal ordering and/or causation, expressed iconically by the relative ordering of the two clauses. On the other hand, when a bare small clause attaches paratactically to a finite sentence/TP, such a small clause is perceived as an adverbial/adjunct, which again usually receives temporal/causal interpretation, as in (11) and (12) (these are discussed in Jackendoff [2002] to suggest a possible pre-TP stage in the evolution of human language):

(11) [Us having left], he reverted to his old ways.

(12) [Him having gone to Rome], I can now focus on my work.

However, the interpretation in this case is no longer determined by the relative ordering of the two clauses but is at least partly determined by their grammatical status: The finite clause is the main clause regardless of the order.

Bare small clauses also occur coordinated with full finite clauses, again in positions in which their subjects have no way of receiving structural case (example from Jespersen 1954):

(13) I am not going to have any woman rummaging about my house, and [me in bed].

Examples such as these would be characterized as involving “unlike coordination,” violating the coordination of likes constraint (CLC), the principle that allows only phrases/clauses of the same type to coordinate (see, e.g., Chomsky 1957). It may well be that this unexpected coordination possibility is yet another example of vestigial treatment of small clauses as root clausal objects. The following section discusses possible stages in the evolutionary development of clauses, which include not only paratactic RootSC stage but also a protocoordination stage.

Possible Stages in the Evolution of Clauses:
Multiple Breakthroughs
The grammaticalization of finite subordination typically takes parataxis as a starting point and proceeds through a(n intermediate) coordination stage (see, e.g., Deutscher 2000; Traugott and Heine 1991, and references cited there). Here I tentatively suggest that predication/clause may also have gone through a similar sequence of stages in its evolutionary development: RootSC stage, protocoordination stage, and then a specific functional category stage, as illustrated below. This sequence constitutes a progression from least syntactically integrated (parataxis), to more integrated (coordination), to most integrated (specialized functional categories/projections).

Parataxis with Intonation/Prosody: Suprasegmental Glue
If the presyntax stage of language (protolanguage, in the sense of Bickerton [1998]) utilized only single-word utterances, then the first syntactic stage may have combined two such utterances into a meaningful two-word utterance (see, e.g., Deutscher 2005; Jackendoff 2002). Such initial combinations may not have 5 distinguished from a sequence of one-word utterances by much more than prosody. Nonetheless this ability
to Merge would have marked a great breakthrough in the evolution of language—it would have made possible a more precise expression of relationships between words/concepts.

(14) Presyntax: *John. Happy./Me. First. Syntax: John happy./Me first!*

According to Burling (2005, 170), intonation/prosody likely served as the first type of glue to hold two words together in a single utterance. Interrogatives in English can still be expressed either solely by prosody [rising intonation (15a)] or by both rising intonation and “rising syntax” [the raising to C, in (15b)], resulting in substantial redundancy:³

(15) a. Mary is already at home?  
    b. Is Mary already at home?

There are reasons to believe that intonation and prosody were available before syntax. Piattelli-Palmarini and Uriagereka (2004, 354) mention that intonation, prosody, and emphasis, which are modulated analogically rather than discretely, have nonnegligible analogs in other species (see also Burling 2005; Deacon 1997; Pulvermüller 2002, and references cited there). Moreover, while lesions in certain left-hemispheric areas of the brain cause severe language impairments, right-hemispheric lesions usually lead to more subtle language-related difficulties affecting prosodic and pragmatic processing (Joanette, Goulet, and Hannequin 1990, 40).

Deacon (1997, 234) points out that vocal communication has inherited many features of a partly automatic, partly controllable motor system, so that most speech sounds involve both muscle systems: automatic and controlled. Most tonal variation plays a paralinguistic role in speech prosody, and most of this occurs subconsciously and automatically with the corresponding shifts in affect. “It is as though we haven’t so much shifted control from visceral to voluntary means but superimposed one upon the other” (Deacon 1997, 244, emphasis added). This situation in phonology is reminiscent of the idea of the layering of grammar, where the layer of TP gets superimposed upon a layer of small clause, a more primary structure.

Note in this respect that irrealis small clauses in (1) and (3) are characterized by exaggerated intonation.

**Coordination: All-Purpose Segmental Glue**

Here, I tentatively explore the possibility that, just as seems to be the case with finite subordination, predication may have gone through a coordination stage, that is, a stage in which the subject and the predicate were connected with more than just suprasegmental glue (prosody). Suppose that Merge was so advantageous to language users that it was beneficial to signal it redundantly and robustly, not only by relatively transient prosodic cues but also by a segment dedicated solely to that purpose, a proto-coordinator. It could have been only much later that this all-purpose glue got differentiated into specific functional categories and projections, such as tense, aspect, and so on (see next section).

In fact, in some languages one still finds vestiges (“living fossils”) of coordinators in predicative functions. For example, the incredulity clauses in German can optionally feature a conjunction (Potts and Roeper 2006; see also Progovac et al. 2006):
Next, Deutscher (2000, 33–34) argued that Akkadian (Semitic language spoken between c. 2500 to 500 BC) used the coordinative particle *ma* in predicative functions (17). There was no verbal copula in Akkadian, which may imply the use of root small clauses.

(17) *Napištiti māt-im eql-um-*ma

   soul.of land-GEN field-NOM-MA

   “The soul of the land is the field.”

Thus both German and Akkadian can use a coordinator to connect the subject with the predicate.

Moreover, Bowers (1993) analyzes English *as* as a realization of the head of Pr(edication) P(hrase), which is used in embedded small clauses (18):

(18) *She regards [Mary as a fool]./She regards [Mary as crazy].*

   English *as* (as well as Akkadian *ma*) can serve not only to cement predication (interclausally) (18) but also as coordinator connecting clauses (19):

(19) *Peter will come to the party, as will John./As she was approaching, the door opened.*

   The emergence of this kind of protocoordinator would have provided another crucial breakthrough in the development of the clause: a little word without much meaning of its own but that would have performed an important function in solidifying the advantages of the first major syntactic breakthrough—Merge.

   Some corroborating evidence for a protocoordination stage may come from language acquisition, but much further research is needed to substantiate the plausibility of this idea. It is frequently reported in acquisition literature that some children use “fillers” in places where one would expect functional categories. While researchers sometimes attribute the presence of these fillers to the presence of specific functional categories, a more conservative approach may be that these are just all-purpose connectors (protocoordinators), serving to connect words into utterances (see, e.g., Peters and Menn 1993; Veneziano and Sinclair 2000, and references cited there). According to these researchers, the fillers are vocalizations that do not correspond to particular words/morphemes and that initially seem to range over various kinds of functional categories/positions. It is only later that they differentiate and specialize, starting to occur in specific positions. Such fillers are often a syllabic nasal *[m]* or an *[ə]*, as the following example illustrates (Peters and Menn 1993):

(20) *[m]* pick *[ə]* flowers. (English learning boy, age 1;6)

**Specific Functional Category Stage**

Finally, such protocoordinators (such as *ma* or *as*) could have then differentiated/grammaticalized into specific functional categories, such as predication head, tense head,
aspect head, and so on. This would have constituted another syntactic breakthrough
and the beginning of modern syntax, which can now not only use little words as all-
purpose glue to connect words/clauses but also use them to build specialized func-
tional projections, introducing a variety of specialized grammatical meanings.

According to Chomsky (2005) and Hauser et al. (2002), the principle of Merge
was the only important evolutionary breakthrough for syntax: Once Merge was in-
troduced, it was able to apply recursively and to account for all recursion, including
subordination. My proposal here is that additional breakthroughs (and intermediate
stages) were necessary to lead to modern syntax, including possibly the one that pro-
vided all-purpose segmental glue (protocoordination) and the one that provided spe-
cialized functional glue with which to build specialized functional projections. One
such specialized functional breakthrough would have been the development of finite
subordination, the emergence of the CP layer, yet another layer of structure over the
TP domain.

There are (at least) two reasons to consider such gradual emergence of syntax
in evolution: well-defined stages in language acquisition and living fossils, as dis-
cussed in this chapter, which in fact are not subject to syntactic subordination (see
Progovac 2007a, 2007b for additional reasons).

Concluding Remarks

This evolutionary approach, which sees small clauses as vestiges/“living fossils” of
the evolutionary development of syntax, not only makes it possible to situate syntax
in a gradualist evolutionary framework (in the spirit of Pinker and Bloom 1990) but
also begins to shed light on the very nature of syntax. First of all, it can explain why
bare small clauses (small clauses with default case subjects) are found in root con-
texts, as well as with coordination and parataxis/adjunction. This approach also pro-
vides some rationale for the otherwise unexpected finding in theoretical syntax that
every sentence is built upon a layer of small clause. Decomposing/unpacking syntax
into simpler (evolutionary) stages/layers may also derive some subjacency effects, as
I argue elsewhere (Progovac 2007b).

In this approach, it was the little words, or more precisely their gradual gram-
maticalization, that enabled humans to avail themselves of complex syntax, rather than
the other way around.

NOTES

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Harves, and Ken Safir. All errors are mine.

2. For references and discussion of alternative views, see, e.g., Guasti (2002).
3. Also, focus and topic/comment in English are rarely signaled by syntactic movement but typically
   solely by prosody.
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