

THE OXFORD HANDBOOK OF

# COMPARATIVE SYNTAX

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OXFORD  
UNIVERSITY PRESS

2005

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## CHAPTER 3

COMPARATIVE SYNTAX  
AND LANGUAGE  
DISORDERS

ARHONTO TERZI

## 1 INTRODUCTION

It seems to me that for the framework of generative linguistics, within which this volume is situated, the importance of the study of language disorders—although not usually made explicit—is inescapably implicated. The fact that the study of generative grammar shifted attention from the study of language regarded as an externalized system to the study of the system attained and represented in the mind, and ultimately in the brain,<sup>1</sup> where the cause of several language disorders is also found, is a fundamental reason for this implication. Taking this a step further, and considering the theoretical constructs that have been proposed by linguists to stand for the principles and procedures guiding the system of language to also be represented in some physical configurations in the brain, we are in a position to see the relevance of (some) language disorders for syntactic theory in particular. The fact that these configurations, or physical mechanisms, may not be currently known does not imply that the corresponding principles and procedures are less credible or the quest for them less worth pursuing. Such a conviction is apparently expressed in the following passage from Chomsky (1989: 6), in which the parallelism between linguistic theory and “hard sciences” is drawn:

This is a familiar story in the physical sciences. Thus, nineteenth century chemistry was concerned with the properties of the chemical elements and provided models of compounds (for example, the benzene ring). It developed such notions as valence, molecule, and the periodic table of elements. All of this proceeded at a level that was highly abstract. How all of this might relate to more fundamental physical mechanisms was unknown, and there was in fact much debate over whether these notions had any “physical reality” or were just convenient myths devised to help organize experience. This abstract inquiry set problems for the physicist: to discover physical mechanisms that exhibit these properties. The remarkable success of twentieth-century physics have provided increasingly more sophisticated and compelling solutions for these problems in a quest that some feel may be approaching a kind of “ultimate and complete answer.”

It is not clear whether neuroscience has reached the stage of twentieth- (or twenty-first-) century physics in terms of discovering the physical mechanisms that underlie the properties of the theoretical constructs proposed by linguists since this passage was written—or whether linguists have been particularly concerned with providing neuroscience the relevant input for such discoveries. It seems perfectly clear to me, however, that for a language research program along these lines the study of the structural properties of impaired language, regardless of whether it has received the deserved attention until now, is certainly welcome on conceptual grounds.<sup>2</sup>

Two reasons (at least) render research on language disorders of interest for contemporary linguistics: the first derives from the need to identify detailed physical mechanisms of the brain that correspond to the various domains of grammar and its structure, and this is especially pertinent to the disorders known as aphasia. The core idea is that if a certain (and known) part of the brain is damaged by some lesion that has resulted in aphasia and it is observed that a number of language forms or structures begin to function unlike what is expected by linguistic theory, and unlike how they were functioning before the lesion occurred, it must be the case that these structures are stored in this particular part of the brain.<sup>3</sup>

The second reason is more pertinent to linguistic theory *per se*, confined to syntactic theory in this essay:<sup>4</sup> the behavior of impaired language (with respect to various syntactic concepts and proposals) may be able to provide independent evidence of the concepts and their interaction and thereby contribute to current developments of syntactic theory. Just as it has become obvious and established in studies of language acquisition, research on language disorders can serve as a terrain within which syntactic proposals may be tested and evaluated.<sup>5</sup>

As suggested by its title, this chapter falls more within the second type of inquiry into the properties of human language; hence, it aims at demonstrating ways in which research on impaired language interacts with syntactic theory. And it does so, at least in the beginning, in an even more modest and indirect manner

than the studies mentioned in passing in note 5 do. That is, I am committed here to demonstrating how the study of impaired language interacts with comparative syntax in particular, a research program which aims at understanding human language by comparing and contrasting the behavior (or properties) of several languages with respect to certain syntactic structures or (types of) phenomena.

I approach the aforementioned interaction from two directions, which will also determine the structure of this chapter: in section 2, I examine ways in which the study of language disorders contributes to and influences research in comparative syntax. Subsequently, in section 3, I turn to the contribution that comparative syntax has to make to the study and understanding of language disorders. It will become evident that, although I try to detect and pinpoint direct contributions from one research area to the other and vice versa, the whole enterprise should rather be thought of as a continuous interaction between research areas whose borders are becoming less rigidly defined and whose discoveries feed each other's research program. In section 4, I outline the relevance of language therapy for the issues discussed. Although a number of syntactic structures are used to illustrate the points at stake, the empirical bulk is drawn from the domain of clitic placement, and the language most often discussed is Greek.

## 2 THE CONTRIBUTION OF IMPAIRED LANGUAGE(S) TO COMPARATIVE SYNTAX

The various types of language disorders, or conditions that affect language, are standardly grouped into two major categories, depending on the time in the individual's life that the impairment occurred—that is, before or after birth. Accordingly, they are distinguished as developmental and acquired. Here, I focus primarily on Specific Language Impairment (SLI) a disorder falling into the first category. I also often refer to Broca's aphasia, however—an acquired condition that results from lesions in Broca's area, giving rise to the linguistic behavior known as "agrammatism." These two disorders are chosen because their occurrence is manifested in the morphosyntactic domain of language and, presumably as a result of this, they have attracted and continue to attract the attention of syntacticians.

In both SLI and Broca's aphasia minimal (although a precise definition of what is "minimal" is rather difficult, and, most probably, uninteresting) deviations from the corresponding normal language are observed, examples of which will follow throughout the article. They make one wonder at first glance, therefore,

whether these differences are important for microparametric syntax, since this is a line of research within which the behavior of closely related linguistic varieties (or languages that differ in all but a few factors) is studied. If impaired language were comparable to a "variety" (or dialect) of normal language, its study would be of potential value for microparametric syntax in the same manner that comparisons and contrasts between closely related varieties have been instrumental in understanding a number of syntactic phenomena.<sup>6</sup>

One notices immediately, however, that a crucial difference between "impaired varieties" and the dialects of a normal language employed in comparative syntax is that the former may not constitute real language, in the sense that their behavior and properties do not necessarily reflect properties of UG, but deviations from it. Therefore, comparisons of the impaired variant with the normal or standard pattern may not be telling of several other things, a number of which I will soon discuss). It seems to me at first inspection that the various manifestations of impaired language(s) cannot be employed in the manner dialects are employed by comparative syntax, despite the fact that they may also differ in few and crucial factors from a (normal) language and the languages and dialects that are related to it.

Conclusions along these lines follow even from those views that consider (some) impaired varieties as close to the normal language as possible, in the sense of attributing them an intact syntactic domain. An example of the sort is Avrutin's (2000) work on the comprehension of wh-questions by Broca's aphasics. Avrutin found that the behavior of Broca's aphasics in comprehension tasks of wh-questions contradicts expectations deriving from claims of contemporary syntactic theory (the latter based on normal language, obviously). More precisely, he found that while the Broca's aphasics of his study did well at non-D-linked wh-questions such as in (1), they did not perform equally well on D-linked wh-questions, (2), and this is a surprising behavior in light of the fact that extraction of D-linked questions is more easily acceptable in normal language—(4) versus (3)—for principled reasons. Contrasts such as in (3) and (4) have been the focus of extensive research in the syntactic literature (see Cinque 1990), hence, the behavior manifested by Broca's aphasics with respect to sentences such as (1) and (2) raise questions as to what is responsible for the picture they present but also as to what may be the relevance of such examples for syntactic theory:

- (1) Who did the tiger chase?
- (2) Which lion did the tiger chase?
- (3) \*Mary wants to know what who read.
- (4) Mary wants to know which of the books which man read.

Rather than concluding that Broca's aphasics do badly at sentences such as (2) because their syntax is somehow impaired, Avrutin proposes that they have problems incorporating world knowledge in their syntactic structures, a process involved in D-linked questions only. Assuming that incorporation of world knowledge in the grammar requires more "energy" than that involved in non-D-linked wh-questions (which rely on the syntax of the sentence solely), D-linked wh-questions are rendered more "costly" and therefore problematic for aphasics. Hence, the claims of syntactic theory concerning wh-questions are not challenged by the behavior of the aphasics just described. At the same time, however, interesting contrasts as in (1) and (2) do not contribute much as they stand to claims of syntactic theory revolving around these issues.

Put in other words: while studies such as the one reported are important for the understanding of impaired language, they do not necessarily contribute to the understanding of the nature of normal grammar. Had a normal population exhibited the behavior of the paradigm in (1)–(2), the theoretical claims around A-movement and binding would probably have to be reexamined. Unlike normal microparametric variations, however, impaired "microparametric deviations" cannot initiate such an inquiry for the syntactic structure of normal language.

Similar considerations follow from those studies on Specific Language Impairment which consider SLI to be as close to normal language as possible, in the sense of considering it to be delayed language (Wexler 1996).<sup>7</sup> That is, just as in the case of agrammatical language, the study of language manifesting SLI may not necessarily reveal a great deal about the properties of normal language *per se* or add to its understanding, in the way a related dialect would within the research paradigm of comparative syntax. This is not a statement meant to downplay the importance of such studies but to set the record straight from the outset.

Studying the syntax of SLI in particular is important for several other reasons. First, in order to establish that SLI is indeed delayed language in the descriptive sense of patterning the corresponding early language in all domains of grammar (since there are still unexplored areas within which the two language "varieties"—namely, early and SLI—language—may be found to differ).<sup>8</sup> The second reason depends on the first in the sense that it is fed by its data but is more of a conceptual type: it has to do with the need to express in syntactic terms (a legitimate means since the impairment affects the morphosyntactic domain) the factor(s) that underlie or are responsible for SLI. According to Wexler (2000), the impairment is best characterized in terms of an extended period during which the individual's grammar is restricted by the Unique Checking Constraint (UCC). According to the UCC, which was originally proposed for early language (Wexler 1998), a DP can check only one D feature on functional categories as a result of which Tense or Agr are forced to be omitted—hence, there is a period in the individual's grammar during which Tense is used optionally. The direct manifestation of the constraint is an extended period during which nonfinite and finite

forms are produced interchangeably in root contexts, and this is known as the Extended Optional Infinitive stage.<sup>9</sup> Needless to say that this, or any other, theoretical claim is much more credible if it has explanatory power over all domains in which SLI differs from normal language, as well as across several languages—hence, the importance of collecting evidence from various aspects of syntax, as well as from various languages manifesting SLI.

These we see in this context as the basic issues to be pursued and the questions to be posed at the present stage of research in language disorders—that is, to cover empirically the various domains of impaired language and to express in syntactic terms the nature of the impairment. In the time required for addressing these issues, a number of discoveries will emerge and answers to further questions concerning the properties of both impaired and normal language will be offered. Precise formulation of these questions will be taking place along the way.

In addition to these issues we can see two more as pertinent to this discussion. The first concerns one particular aspect of (non)resemblance between SLI and early language. The second addresses the new "reality" and possibilities that emerge as a consequence of the ongoing research on impaired language(s), regardless of its precise objectives. With respect to the resemblance between SLI and early language, the question to be asked is of methodological nature and may sound somehow provocative. If SLI is indeed delayed language, is it justified to pose a distinct research area for its study, especially if one considers the extent to which research on early language has progressed? Provocative as this question may sound, I think it is still worth taking a bit of time to answer it. A distinct field for the study of SLI is justified first because the issue of whether SLI is different from early language is not entirely settled (see Tsimpli 2001; Stavrakaki 2001a, 2001b). Furthermore, at least one factor behaves differently in SLI than in early language in ways that can benefit the study of both; this is the "factor" of time. The very simple fact that a language stage lasts much longer in SLI than in early normal language results in easier exposure of the phenomenon to more careful observation.

By bringing the second issue into the discussion, I intend to moderate and qualify the statement that impaired varieties may not be able to contribute much to the study of normal language in the narrow sense of comparative syntax. While this may be so, for the reasons explained—that is, by virtue of the fact that impaired varieties are qualitatively different from dialects and therefore cannot be compared with them—the various studies on language disorders, even if conducted for the sake of understanding the disorder *per se*, are in fact able to contribute to proposals concerning normal language in an alternative manner. This is how I see this contribution to take place in the immediate future: if a certain phenomenon has been offered a similar account cross-linguistically for normal language, one expects that its impaired, let's say SLI, variant, should manifest similar behavior as well across the same languages. If not, the account offered

on the basis of normal adult language may have to be reexamined. The cross-linguistic evidence from (the various types of) impaired language(s) that continues to accumulate offers this opportunity and will inevitably provide further input and stir research into the syntax of normal language in this entirely novel way, it seems to me. In the remainder of this section, the above two points are confirmed empirically through the relatively detailed presentation of work we recently conducted on the position of clitics in early and SLI Cypriot Greek (Petinou and Terzi 2002).

## 2.1 SLI and Early Normal Language

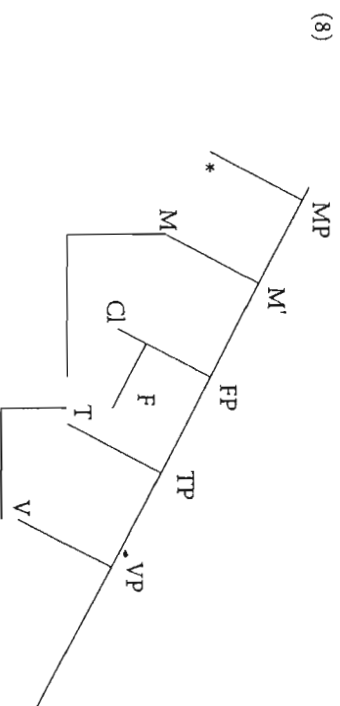
In adult (normal) Cypriot Greek, pronominal clitics are often found to follow the verb in finite contexts (5a). This ordering does not hold when some functional head precedes the verb, in which case clitics must precede (and be immediately adjacent to) the finite verb, as in (5a) and (7a). The relevant functional heads in these examples are the subjunctive and negative particles, respectively (and see Terzi 1999b for more environments):

- (5) a. (I Maria) edhkiavasen to.  
(Maria) read-3s it-cl  
          b. \*(I Maria) to edhkiavasen.  
(Maria) it-cl read-3s  
              'Mary read it.'  
(6) a. Thelo na dho tin.  
      want-1s M her-cl see-1s  
      b. \*Thelo na dho tin.  
          want-1s M see-1s her  
          'I want to see her.'

- (7) a. En ton iksero.  
      neg him-cl know-1s  
      b. \*En iksero ton.  
          neg know-1s him-cl  
          'I don't know him.'

The clitic positioning pattern of Cypriot Greek is not unfamiliar. Similar ordering facts hold for Western Romance languages (with Portuguese and Galician

as the best-known representatives) in which pronominal clitics are also often found to follow the finite verb (Uriagereka 1995, Martins 1994).<sup>10</sup> In Terzi (1999a) finite enclisis was attributed to movement of the verb to a position past Agr/T and past the clitics. This position is taken to be M (the head of Mood Phrase) and is considered to host various Infl elements, including negation. The movement of the finite verb to M is attributed to properties of M (clearly not present in the M of Standard Greek, from which comparable verb movement and finite enclisis are absent). Very briefly, the distinct properties of the Cypriot clausal structure which are crucially attributed to the MP projection (and to which I return at a later point in this chapter) is the absence of a number of auxiliaries, such as of the future particle *tha* and the perfective *have/had*, hence the lack of compound tenses. The view according to which finite enclisis is the result of verb movement to a position higher than Agr/T and past the clitics is comparable to proposals for Portuguese and Galician (Martins 1994, Uriagereka 1995, among others), and is illustrated in (8) for the Cypriot Greek clausal structure.



With the structure of Cypriot in mind, let us now shift our attention to the early and SLI language. It has been known about Cypriot Greek that children do not comply to the pattern of clitic placement just outlined and produce finite enclisis even in contexts in which it is not allowed by adult grammar—namely, they produce sentences such as (6b) and (7b). Similar considerations hold for children diagnosed with SLI, from which the following examples have been taken:

- (9) A kolisume ta tetadio mu. (Normal adult: Na ta kolisume sto tetradio mou.)  
M stick-1p them-cl (on the) notebook mine  
      'To stick them on my notebook.'

- (10) E telo *tin*. (Normal adult: En *tin* thelo.)  
neg want-1s her-cl  
'I don't want her.'

- (11) Oi fori *ta* touta. (Normal adult: Oi, en *ta* fori touta. / En *ta* fori touta.)  
no wear-3s them-cl these  
'He doesn't wear these.'

The picture presented by these (and other similar examples) is striking, especially in light of the fact that clitics have not been encountered in nonadult position cross-linguistically, although they may often be omitted from contexts in which their presence is obligatory in adult grammar (Jakubowicz et al. 1998, Marinis 2000). Therefore, this phenomenon, which I earlier called Clitic Misplacement (a rather misleading term, as it will turn out), raises several questions concerning its rareness and the factors responsible for it.

To obtain an understanding of the phenomenon, we collected data from both early and SLI Cypriot Greek-speaking populations, which we subsequently analyzed and compared in terms of the position of clitics with respect to the finite verb in the sentence. We collected spontaneous speech data from five normal children, aged 2;8 to 3;0 (years:months), with whom we met every two months and recorded for 45 minutes each time. These were matched with five children of the same language level (in terms of Mean Length of Utterance in Words—MLU/W), gender and socioeconomic status who had been diagnosed with SLI. The diagnosis of the impairment was based on criteria other than the position of clitics. I do not present here the actual numbers that resulted from the study, but the reader may refer to Peinou and Terzi (2002) for details.

We found that the pattern of clitic placement was invariant in the SLI population, in the sense that children always produced clitics in nonadult position in the relevant contexts—that is, in contexts involving either the subjunctive particle or a negative particle, or both. For early language, the percentage of misplaced clitics varied in all three stages tested; most relevant is that clitics were not encountered in nonadult position across the board in any of the three stages. Moreover, Clitic Misplacement disappeared when children reached age 3, in contrast with the SLI children of the study who continued to produce misplaced clitics as the only pattern until at least age 5. Thus, while the normal children of the study were already placing all their clitics in adult position by age 3, the SLI children were placing all their clitics in nonadult position even at age 5.

In Peinou and Terzi (2002) the persistence of finite enclisis was attributed to the fact that children continue to perform verb movement to M, even in contexts in which this is not allowed by adults. This finding attributes the existence of misplaced clitics to a prolonged stage of verb movement to M, whose result was

that clitics surfaced in postverbal position even when this was not allowed in adult grammar.<sup>11</sup>

Once this proposal was made, the next step was to look for independent evidence to support it, with two candidate domains emerging: properties of the finite verb that moves to M or properties of M to which the finite verb moves. We were not able to identify some exceptional property of the finite verb, conceivably responsible for its persistent (and illicit) movement to M. I believe, however, that we found evidence showing that something about the M position itself rendered it problematic in early language: a consequence of the nonadult nature of M was that children performed movement of the finite verb to M even when this position was apparently occupied by some Infl particle that bans finite verb movement and the enclisis in the adult language that is associated with it.

In particular, we discovered that the SLI language sample of our study manifested both misuse of the negative particle and significant omission of the subjunctive particle. Examples of the first type are sentences such as (11), repeated below, and of the second sentences such as (12):

- (11) Oi fori *ta* touta. (Normal adult: Oi, en *ta* fori touta. / En *ta* fori touta.)  
no wear-3s them-cl these  
'He doesn't wear these.'

- (12) (Th)elo (zogr)afso to. (Normal adult: Thelo na tozografso.)  
want-1s (M) paint-1s it-cl  
'I want to paint it.'

The most telling error was the type of substitution SLI children performed when they erroneously employed the negative particle: crucially, they consistently employed the XP-type of negative marker instead of the X<sup>o</sup> type, but not vice versa. This error, matched with the omission of the subjunctive marker (M), led to a more precise formulation of the problem with the M domain associated with children's illicit verb movement to M, and, consequently, with their illicit (for adult grammar) enclisis.<sup>12</sup>

When we looked at the data we collected from early language, we did not find similar types of errors; that is, no omission of the subjunctive particle or misuse of the negative particle was detected in my early language data. This "discrepancy" was alarming at first as it made us think that perhaps something else was going on in early normal language that could conceivably argue for a qualitatively different pattern. The first move was to look for younger children with normal language development to see whether similar errors in the M domain were associated with stages at which children misplaced clitics across the board. No stage of across-the-board illicit enclisis was identified for normal children speakers of Cypriot Greek, however.

Subsequently, we turned to the CHILDES data base. We found that errors such as the omission of *M* and the nonadult choice of negative particle (in the direction of the collected data) are typical of early Greek. This amounts to saying that there is in normal language as well a stage during which the behavior of *Infl* particles is similar to that of the SLI children's we studied. Hence, the normal data of our study did not differ from the SLI data qualitatively, and it was probably an accident of our small sample that we did not encounter in the early language data the types of errors that were found in the SLI language data.

The point I hope I have made via the relatively detailed presentation of this study is that even if it is true that SLI language is qualitatively similar to early language, precisely because of its extremely slow rates of development, it is able to assist in making observations at given points of language growth that are not always easy to make via the study of early language because of the pace at which its development proceeds. In other words, SLI performs the role of a magnifying glass in time, in the sense of making observations and correlations easier to see than in early language. In the particular study on clitic placement I described, it is doubtful that we would have arrived at the conclusions we did regarding the status of the *Infl* particles in early and SLI language (and the associated proposal concerning illicit enclisis) on the basis of the data from early language alone, since none of the *Infl* related errors were present in the data collected. The crucial errors came from the SLI data, which I then confirmed via search in larger samples of data based early language. Research in other domains of early language may be benefited by research on SLI language in a comparable manner.<sup>13</sup>

## 2.2 Cross-Linguistic Studies on Impaired Language

It is well known, and I mentioned it already in passing, that Cypriot Greek is not the only language in which clitics are banned from certain positions, the sentence-initial position being one, and the most relevant for the issues to be brought up immediately afterward. Similar positioning restrictions are present in Portuguese and Galician and make their clitic placement pattern look quite unlike that of the nearby Romance languages, in a contrast similar to that manifested by Cypriot versus Standard Greek. The following examples from Galician are from Uriagereka (1995) and demonstrate that unless some functional head precedes the finite verb, (14), clitics cannot be preverbal, hence sentence-initial, either (13).

- (13) OUVIMO-lo.  
hear-2s it-cl  
'We hear it.'

- (14) Non o ten ouvido.  
not it-cl has heard  
'She/He hasn't heard it.'

Recent work on Berber discusses comparable positioning properties of clitics (Ouhalla, chapter 14 in this volume, and references therein). Ouhalla states explicitly that "CL cannot be the 'first word' in the clause that includes it"; hence, the following examples:

- (15) T-sqad as tfruxt tabrat.  
3fs-send<sub>PRO</sub> him-cl girl letter  
'The girl (has) sent him the letter.'

- (16) Ur tn 'lix.  
neg them-cl see-1s  
'I have not seen them.'

In addition to Portuguese and Berber, the entire group of Slavic languages, with Serbo-Croatian as its much-discussed representative, are also known for a ban on first position of clitics (Bošković 2001, and many references therein). The situation in Serbo-Croatian is (even at first glance) different, however, since there seems to be a designated position—the "second position"—for clitics to be placed (which, moreover, in contrast to the previous languages, is not limited to pronominal clitics). The following examples are from Stjepanović (1998):

- (17) Tu su mi knjigu dali.  
that are me-DAT book-ACC given  
'They gave that book to me.'
- (18) \*Mi Marijinoj prijateljici smo ga dali.  
we Marija's friend-DAT are it-ACC given  
'We gave it to Mary's friend.'

Insufficient research has been conducted on the SLI (and early) "varieties" of these languages with respect to the positioning of clitics so far. Nevertheless, one would tend to think that if it turns out that the counterpart impaired varieties of each of these languages manifest similar behavior, the behavior of clitic placement in the normal languages would have to be the manifestation of the same phenomenon—hence, follow from the same account.

That such data may constitute valuable empirical support to the proper characterization of the phenomenon of clitic placement (and, by extension, of any other phenomenon) becomes clear when faced with facts from normal language which somehow blur the picture. For instance, while only Serbo-Croatian is considered a typical clitic second language, in all (but one) of the examples I have lined up until now—from Cypriot Greek, Portuguese, and Berber and from many other examples in the literature—the position of clitics in the sentence appears to also be the second. A context in which clitics appear in other than the second position is in the presence of an overt preverbal subject, an instance in which clitics surface third in matrix sentences. In Cypriot, such a case appeared in (5) and is repeated here, while the examples from Portuguese, (19), and Galician, (20), also demonstrate enclisis in the presence of an overt subject, thus, the clitic occupies the third position in the clause.

- (5) a. (I Maria) edhkiavasen to.  
(Maria) read-3s it-cl  
b. \*(I Maria) to edhkiavasen.  
(Maria) it-cl read-3s  
'Mary read it.'

- (19) Ele viu-a.  
He saw her. (Duarte and Matos 2000)

- (20) Xan Rodriguez veuno / \*o ven  
Xan Rodriguez saw-it / it saw (Uriagereka 1995: 83)

With Berber subjects being postverbal, such a context disappears; hence, it is difficult to encounter clitics in other than the second position, a fact which can create the impression that Berber is a second-position cliticization language, in the fashion of Serbo-Croatian.<sup>14</sup>

With the previous discussion in mind, it is interesting to note that it has been reported for early Portuguese that clitics appear after the finite verb in contexts in which this is not allowed by adults; hence, a sentence such as (21) was produced by a child age 2;9 (Duarte and Matos 2000):

- (21) Não chama-se nada.  
not calls-refl nothing  
'That's not his name at all.'

The situation is very similar to that of Cypriot Greek, not only in terms of the type of early clitic (mis)placement (that is, enclisis where it should be proclisis)

but also in terms of clitics attaining adult position at the same age (namely, before age 3, in both Cypriot and Portuguese). This resemblance indicates in a novel way, it seems to me, that the same phenomenon takes place in both languages. Consequently, it also offers empirical support, of an entirely different type, to accounts that attribute finite enclisis to similar factors in both languages. Certainly, the behavior of SLI Portuguese on the same phenomenon would contribute toward a complete account of it.

With respect to Serbo-Croatian, D. Kudra-Stojanović (pers. comm.) informs me that she has not noticed phenomena of nonadult positioning of clitics in the Serbo-Croatian early language on which her research has focused.<sup>15</sup> Therefore, although the overall empirical contribution of the above early and SLI languages is admittedly limited, and several details concerning the precise syntactic analyses of the related structures may need to be further elaborated, some good first evidence is provided to support the different stands usually taken with respect to the treatment of clitic positioning in Serbo-Croatian versus Portuguese and Cypriot. No comparable evidence is available yet for early or SLI Berber (J. Ouhalla, pers. comm.).

In face of the limited SLI (and early) data from the reported languages, it is premature to predict whether when more of this evidence becomes available it will also be able to contribute toward the formulation and evaluation of an even more precise account of clitic placement in normal language, and how exactly. One could certainly envision contributions along these lines, however. Moreover, "misplaced clitics" are found in languages such as Cypriot and Portuguese, while the phenomenon is not attested in other instances (and languages) in which enclisis and proclisis alternate within the same language. The case in mind is the proclisis versus enclisis alternation associated with finiteness in the majority of Romance languages. It is known, at least for Italian, that this alternation does not create confusion to children (Guasti 1993–94) and the same holds for SLI Italian as well (Bortari et al. 2000). The question of why clitics do not appear misplaced across the finite versus nonfinite distinction of most Romance languages is addressed briefly in Petinou and Terzi (2002). The relevant point here is that claims which attribute enclisis of Italian infinitives, gerunds, and imperatives and of Portuguese finite contexts to similar factors (Rizzi 2000) have to be reevaluated in view of the different behavior of early and SLI clitic placement in the above two syntactic contexts. These questions have come up as a result of recent research in early and SLI language, but there is no doubt that answers to them will constitute important contributions to the study of normal language as well.<sup>16</sup>

To conclude, by focusing in this section on a particular domain of grammar, the position of clitics in the sentential structure, I demonstrated how the study of impaired varieties is able to offer insights into the syntactic structure of normal language. The presentation was somehow tentative and sketchy, primarily a result of the insufficient cross-linguistic research in early and SLI language surrounding

this phenomenon. I believe I have demonstrated, however, that with the rate at which research on impaired "varieties" proceeds, its contribution to the study of the properties of normal language will be difficult to ignore in the near future, and it may prove crucial for the understanding of a number of phenomena, in a manner that was inconceivable until recently. I hope I have indicated how such empirical evidence will be employed and directions toward which the related outcomes will evolve.

### 3 COMPARATIVE SYNTAX CONTRIBUTING TO LANGUAGE DISORDERS

Certainly, more research has been conducted on the syntax of normal language than on its various disordered variants cross-linguistically. One is tempted to conclude, therefore, that the overall results of research in comparative syntax, or on the syntax of normal language in general, are in a better position to contribute to the study of (the syntax of) impaired language than vice versa. One is also able to speculate as to why this is so and conceive of ways in which this contribution takes place. Syntactic theory provides the theoretical apparatus to characterize deviations and the ability associated with more advanced fields to offer insights as to how to look for patterns and characteristics in less explored or unusually behaving domains.

When it comes to impaired language, however, understanding its syntactic structure is often not the only issue at stake. Equally important (or more important, perhaps) is to be able to intervene on it in an efficient manner. The very first step in the process of intervention is diagnosis: the ability to detect accurately whether and how a language that gives the impression of being impaired can be (best) characterized for a certain impairment. With respect to SLI in particular, the related issue at stake is that of *clinical markers*. The concept is rather new in the manner used here, since it refers to a particular linguistic form (rather than to various, usually unrelated, characteristics of impaired language), which varies to a certain extent cross-linguistically and which has many chances of identifying the grammar of the individual as being SLI. Identifying such a form has undoubtedly practical value since it amounts to quickly detecting preschool children with the impairment, for instance, so that the child may be referred for further evaluation and language rehabilitation if necessary. However, identifying a clinical marker is also of importance for theoretical considerations, since pinning down a persisting (nonadult) property of impaired language is essentially a step closer to understanding the nature of the impairment.

In what follows I approach the general issue of how research in comparative syntax is able to contribute to the study of language disorders by focusing on just this particular aspect of the latter—namely, the identification of clinical markers. Since the term has been employed with reference to SLI so far, I will limit the discussion to this disorder. I demonstrate the relevant points by speculating on how claims that have been made on the basis of English (and other, similarly behaving languages) can extend to Greek, for which the issue of identifying a clinical marker has not been raised; hence, potential clinical markers have not been evaluated, either, until now. As a result, and given the novelty of the concept, apart from reviewing the relatively limited literature on clinical markers, the section that follows also serves as an exercise in suggesting as to how future research on the topic may proceed.

#### 3.1 Clinical Markers in SLI

It had long been held about SLI, that there is no unique linguistic characteristic for it (Leonard 1987). Accordingly, and in the absence of hearing or cognitive deficits, the diagnosis of the condition by the speech-language pathologist usually takes place via examining a set of characteristics of the language through the utilization of standard tests or tests and methods created by the speech-language pathologist, when assessing languages for which standard tests are not available. Peinou and Terzi (2002) refer to several characteristics that lead the speech-language pathologist to the diagnosis of the children of the study as SLI.<sup>17</sup> For theoretical linguists, and for syntacticians in particular, the criteria used often seem vague and informal, an impression which is not accidental or unjustified. When it comes to English, for example, the set of morphemes that have constituted the basis of normal language development—hence, deviation(s) from them have been considered to signal impairment—are those of Brown (1973). Brown identified 15 such morphemes for investigation, whose use has been instrumental in diagnosis since then but whose choice was clearly atheoretic.<sup>18</sup> This is not the case with clinical markers—hence the important role they are able to play in understanding the nature of the impairment, in addition to just detecting it.

In their pioneering work, Rice et al. (1995) and Rice and Wexler (1996) establish the existence of such a clinical marker for English, proposing that this is the Optional Infinitive in its delayed use—namely, the Extended Optional Infinitive (EOI). The idea is that if the optional omission of Tense persists until after a certain age (approximately the age of 5), as a result of which children produce sentences such as (22) and (23), there is some serious indication that their language is SLI:

- (22) She like me.  
 (23) She not go.

The identification of such a linguistic form<sup>19</sup> finds a syntactic explanation in what Wexler (1998) calls Unique Checking Constraint (UCC), a constraint that also operates in early normal language. As mentioned, the UCC amounts to the inability of DPs to check more than one D feature on the sentential functional heads, as a consequence of which Tense is often dropped in matrix contexts. An overt manifestation of it is that sentences such as (22) and (23) are produced by children with normal language development until around age 3;04, and by SLI children until much older ages.

It follows from the proposed constraint that we should not be able to find the counterpart of (E)OI in null subject languages, since the D feature of Tense is checked by the verb (Taraldsen 1978, Alexiadou and Anagnostopoulou 1998); consequently, the DP checks one D feature only, in accordance with the UCC.<sup>20</sup> In short, this view of SLI attributes the impairment to the persistence of the UCC, while it proposes that the Extended Optional Infinitive can be considered a clinical marker. Manifestations of the latter are sentences such as (22) and (23), omission of Tense morphemes at a higher rate than other morphemes in the language of the same child, or omission of the same (Tense) morphemes at higher rates when compared with the language of normal children at the same age (see Rice and Wexler 1996). With this information in mind, but also with what is known about the syntactic structure of the Greek sentence from research in comparative syntax, we can explore the predictions made for potential clinical markers in the language and how these are supported empirically by the evidence available so far.<sup>21</sup>

The discovery of a clinical marker such as the EOI in English and structurally related languages, and its concurrent theoretical basis, the UCC, do not seem to predict much about a language such as Greek directly, for a number of reasons. First, Greek does not have infinitives (for details, see Terzi 1997, and references therein); hence, one not only does not expect to find the counterpart structures of English early and SLI language but it is not even obvious what to expect as the corresponding forms. Second, Greek is a null subject language; hence, a stage during which infinitival forms of the verb are used optionally in finite contexts is not expected on the basis of this property of adult language either. At this point a further option emerges, however, one mentioned in passing in Wexler (1998: 73): Wexler predicts the counterpart of the OI stage in null subject languages, which seems to be supported by preliminary data from early Italian. On the basis of the clausal structure of Italian, according to which auxiliaries head a distinct projection (see Belletti 1990), and under the crucial assumption that auxiliaries also have a D feature, the UCC predicts a substantial proportion of auxiliary

omission in early language. This prediction seems to be borne out via first inspection of data from Italian (Lyons 1997, as reported in Wexler 1998).

It is interesting that available (albeit, indirect) evidence from Greek indicates that things may operate in a similar manner in Greek as well, offering support to these views concerning the manifestation of (E)OI in null subject languages, but also insights as to what may be an adequate clinical marker for SLI in the language. I refer to the available evidence as "indirect" because it comes from early language (which is also the case for Italian, as just mentioned). It is essential, therefore, to adopt—for the time being at least—the assumption that SLI is structurally parallel to early language, in order to pursue the reasoning that follows.

In a study by Varlokosta, et al. (1998) it is reported that at early stages, child native speakers of Standard Greek erroneously use a form of the verb that is identical to the third-person singular, but also to the participle of adult language.

- (24) Tuto sel-i. (Normal adult: tuto thel-o.)  
 this want-3s  
 'I want this.'

- (25) Fa-i. (Normal adult: Tha fa-o.)  
 eat-3s  
 'I will eat.'

Varlokosta et al. (1998) claim that rather than being third-person singular, the early form they discover corresponds to the past participle. Hence, they conclude, forms such as (24) and (25) constitute an interesting counterpart of the English Optional Infinitive stage and of structures such as in (22) and (23) in the sense that the form of the verb employed by Greek children is also the form minimally inflected for Tense/Agr in the adult language.<sup>22</sup>

The interest of these findings lies in the fact that sentences such as (25) may be interpreted in an alternative manner (not incompatible with the claims in Varlokosta et al.). One can conceivably propose that what is actually happening in examples such as (25) is auxiliary omission rather than use of the participle. Providing that Greek SLI is indeed delayed language—hence is structurally similar to early language—and that the idea of auxiliary omission is on the right track, I may have been able to identify a clinical marker for SLI in Standard Greek.

Of course, numerous details must be elaborated on both conceptual and empirical grounds for such a proposal to be credible. It is not clear, for instance, that auxiliary omission and not the extensive use of third-person singular *per se*

is an accurate clinical marker for Greek, and this issue is pending empirical confirmation. If the latter is indeed the case, how does it compare to the findings from Italian, which is also a null subject language, but in which infinitives are available? Moreover, whether the auxiliary omission of Italian (reported in Wexler 1998) is in some way related with the agreement that the past participle following *essere* exhibits with the subject (entirely absent from Greek) is another issue to be examined. All these are possibilities to be considered and issues that have to be addressed and settled. It seems to me, however, that the domains I have pinpointed are precisely those that will offer the answers to the questions posed and that the knowledge obtained via research in comparative syntax will guide the formulation of the optimal hypothesis for evaluating the existing empirical evidence, as well as the search for additional empirical support in case this is necessary.

Regardless of whether I have been successful in identifying and proposing a satisfactory clinical marker for Standard Greek, however, I can proceed with an attempt to identify a clinical marker for Cypriot Greek. The latter is also a null subject language without infinitives, therefore, no Extended Optional Infinitive stage comparable to that of English is to be expected. But, in contrast to Standard Greek, Cypriot Greek also lacks auxiliaries.<sup>23</sup> This is an important difference between the two dialects for our purposes, since, if auxiliary omission turns out to be the appropriate clinical marker for SLI in (at least some) null subject languages, it cannot be of use in Cypriot. It is precisely in this context that the study of nonadult Cypriot clitic placement in Petrou and Terzi (2002) may prove useful. It was hinted there that the across-the-board misplacement of pronominal clitics in the SLI children's language—namely, the fact that clitics were placed after the verb in all contexts where they should be preverbal—has serious chances of serving as a clinical marker. In light of the discussion in this section, and in the absence of auxiliaries from Cypriot, this hint deserves further consideration.<sup>24</sup>

To conclude: this section discussed ways in which research in comparative syntax is able to contribute to current studies on impaired language, and I approached the topic by focusing on one specific domain associated with the latter—the identification of clinical markers.<sup>25</sup> By extending proposals that have been made on the basis of languages other than Greek, I demonstrated how well-established knowledge concerning the syntactic structure of it, along with the structure of other languages, is able to guide research in this domain. In a similar fashion, work on other aspects of impaired language can be benefited and inspired by research in comparative syntax and the knowledge concerning properties of language that has emerged from it.

#### 4 LANGUAGE THERAPY

In this final section I address an area of language disorders that interacts with linguistic theory and research in (comparative) syntax in a particularly bilateral manner and, moreover, in a manner considerably different from what syntacticians have been used to but also from what researchers (and even most practitioners) in language disorders are familiar with. This is the area of (syntactic) theory-motivated therapy, a relatively recent way of practicing language therapy. With the term *theory-motivated therapy* I refer to language therapy that relies crucially on theoretical concepts and proposals of generative syntax. It has been employed primarily with Broca's aphasics so far, and it has demonstrated clearly, it seems to me, that various well-established claims of syntactic theory are able to render therapy more efficient, at least in terms of making it less time- and effort-consuming, as far as I can see.<sup>26</sup> Subsequently, the outcomes of this type of therapy are able to contribute to syntactic theory in an entirely new mode. In the remainder of the chapter, I present existing work in this domain, leaving to the reader most of the task of judging the importance and ramifications of it.

In Thompson (1997) (and a series of earlier references therein) the enterprise of applying therapy to syntactic structures involving movement in English Broca's aphasics is presented, and the various results of it are discussed and evaluated. Assuming the statistics to be on the right track, these results are gratifying for the eyes of a syntactician, not only because of their efficiency in therapy but also because they seem to offer full support to fundamental claims of syntactic theory. In the aforementioned study, for instance, language therapy focused on two types of movement structures, A and A'—the first consisting of passive and raising sentences, and the second of wh-questions and object clefts. One structure from each type was targeted for therapy each time, and the result was that the targeted structure, along with the other structure of the same type, improved simultaneously. This amounts to saying that when only the raising constructions of agrammatics were treated, the performance of the treated individuals on passive sentences also improved while their performance on wh-questions and object clefts was not affected. Comparable results were obtained when object clefts were trained: wh-questions then improved, while performance on passive and raising sentences remained unaffected. In other words, it emerged that a fundamental distinction of syntactic theory was supported empirically by means of an entirely new source. Notice that the empirical support for these two types of movement structures comes from sources different even from those discussed by Grodzinsky and Finkel (1998), and by Avrutin (2000), offering an idea of the wide spectrum of empirical evidence that can be contributed by studies on impaired language.

Since I am also concerned with the other direction of the relationship, however,—that is, with the contribution of syntactic theory to language disorders—

we should keep in mind that, if by targeting one structure from a related group, the rest of the structures of the group are also affected simultaneously, there are some serious time- and effort-saving benefits to be obtained. It is probably the case that such benefits are not easy to trace in other types of language therapy.

More recently, Friedmann et al. (2000) report that they applied therapy of wh-questions to Hebrew Broca's aphasics in a similar manner.<sup>27</sup> The results revealed that once higher nodes or parts of the syntactic tree were trained (wh-questions; hence, the C domain), lower parts of the sentential structure (Agr/Tense inflection; hence, the I domain) also improved simultaneously, while no evidence for the opposite direction was offered. The results from that study are rather preliminary, as they come out of only one patient; nevertheless, they can at least serve as a starting point for a number of issues to be further investigated.<sup>28</sup> The psychological reality of the syntactic tree (Friedmann 2001), the direction to which impairment occurs (higher toward lower nodes, but not vice versa), and also ways in which language therapy can contribute toward evaluating alternative syntactic theories (while benefiting the patient at the same time) are some of these issues.

Thus, despite the novelty of the above-mentioned studies—hence, the need for finer-grained research in order to establish the validity of their results and the associated claims—there is no doubt, it seems to me, that these studies contribute not only to both the understanding of the representation of language in the brain and the nature of the various impairments but also toward a more restrictive syntactic theory (which will have to take the relevant findings into consideration). Of course, the manner and efficiency with which all this can be achieved will depend on the depth and the precision of the studies.

## 5 CONCLUSION

This chapter has discussed various ways in which research in comparative syntax interacts with research in language disorders that affect the morphosyntactic domain of grammar. By focusing on SLI and Broca's aphasia I held that, although their manifestation in language seems to offer an additional array of "dialects" to be studied by syntacticians, their usefulness is limited if they involve deviations from UG. Their contribution is important in alternative ways, however: for SLI in particular I showed that by being essentially a slowly developing language it offers the opportunity to approach certain syntactic phenomena and correlations between them in ways that are not always feasible when studying early normal language because of the quick rate at which it develops. Furthermore, I pointed

out that the available data from both SLI and agrammatism accumulate so fast that we will soon be able to improve our understanding of certain syntactic phenomena by being able to compare how they are manifested in their impaired variants cross-linguistically. It is in this sense, I believe, that the study of language disorders can contribute the most, and in the most ingenious manner, to current syntactic theory and its claims regarding the nature of normal adult language.

In addressing the other direction of the relationship—namely, what and how comparative syntax is able to contribute to research in language disorders—I discussed the identification of clinical markers and the insights that syntactic theory can offer toward an efficient (theory-motivated) therapy. The results of the latter, in turn, can provide new feedback and an entirely novel terrain within which claims of syntactic theory can be reevaluated and further develop.

Finally, the goal of this chapter is to demonstrate that research in these two areas, if communicated properly, is of enormous potential for providing complete answers to fundamental questions regarding the nature and properties of the human language faculty.

## NOTES

Several of the ideas expressed in this chapter grew out of discussions and interaction during the semester of my sabbatical (spring 2000) at the department of brain and cognitive sciences of MIT. Many thanks to Ken Wexler for facilitating my stay at the department and for the time he often took in discussing various related issues with me. I would also like to thank him, along with Danny Fox, Phoivos Panagiotidis, and Melita Stavrou, for reading an earlier version of the chapter and commenting on it. This is also the place to express my appreciation to the Greek Ministry of Education for its wise policy of (partially) funding sabbaticals abroad and to the Technological Educational Institute of Patras for having implemented this policy.

1. As Chomsky (1989: 3) puts it: "The shift of focus was from behavior or the products of behavior to states of the mind/brain that enter into behavior. . . . The three basic questions that arise, then, are these:

- (i) What constitutes knowledge of language?
- (ii) How is knowledge of language acquired?
- (iii) How is knowledge of language put to use?"

2. More recently, this is stated as, "to show how a particular choice of parameter values, and lexicon enters into fixing a language L—and to proceed beyond, to the study of use, acquisition, pathology, cellular mechanisms, and a wide range of other questions having to do with the place of language in the biological and social worlds" (Chomsky 2000: 92).

3. The proposals in Grodzinsky (2000) with respect to the localization of a subpart of syntactic abilities, those associated with movement operations, are representative of this type of research.

4. See Levy and Kavé (1999) for the relevance of research on language disorders for other areas of linguistic theory and for cognition.

5. Representative of this type of contribution is the work reported in Grodzinsky and Finkel (1998), according to whom agrammatics demonstrate different behavior in XP than in X<sup>0</sup> movement structures, arguing (in ways that follow from Grodzinsky's earlier work) that the latter type of movement does not create chains, a finding in accordance with Chomsky (2001). As for Specific Language Impairment, Tsimpli (2001) identifies problems that SLI children have with uninterpretable features of lexical items, supporting the distinction between interpretable and uninterpretable features introduced in Chomsky (1995); see also Clahsen (1989) and Clahsen et al. (1997), for claims along similar lines. Finally, Peinou and Terzi (2002) observe that, despite a number of problems that the SLI children of their study have with respect to Inflectional elements, they seem to obey the requirement on right adjunction that follows from Kayne's (1994) antisymmetry proposals.

6. As Kayne (1991, note 69) states it: "It is advantageous to work with a set of closely related languages, much as in any experiment one tries to keep the number of variables as low as possible." See Poletto (2000) for a typical case of detailed microparametric study of subject clitics in Northern Italian dialects. See also Terzi (1999a) for a study of the ordering of object clitics in minimally different varieties of Greek and subsequent extension of the claims to the standard Romance languages. The work of Ordóñez and Terzi (1999) on clitic ordering in dialects of Spanish falls within the same research paradigm.

7. I should note here that ascribing the status of "delayed" language to a linguistic condition does not necessarily exempt it from being impaired. For the case of Specific Language Impairment in particular, even if we accept that there are no wild cards among the deviant structures manifested by SLI—namely, that we are not to encounter structures which cannot be encountered in the (respective) early language—the mere fact that the deviation persists until a much older age and (unlike with early language) it may not go away entirely, is sufficient to characterize the language as impaired, it seems to me.

8. See Stavrakaki (2001a), for instance, in which the behavior of Greek SLI children with respect to a number of syntactic structures is tested from a psycholinguistic perspective, and it is claimed that the behavior of SLI is different from that of early language for several of them. See also Stavrakaki (2001b).

9. The UCC can capture (at least) one more phenomenon with interesting cross-linguistic variation: the fact that object clitics are omitted in some early and SLI languages (Italian) but not clearly so in others (Spanish) (Wexler 2000).

10. Another language which behaves in a similar manner, and to which we will return in more detail shortly, is Berber (Ouhalla, chapter 14 in this volume).

11. Hence, the term "Clitic Misplacement" used to describe the phenomenon was misleading, since it is not clitics per se that are misplaced but the illicit (for adults) verb movement that makes them look so.

12. In Peinou and Terzi (2002) we put forward a full proposal concerning what it is that children misperceive during the nonadult enclisis stage: we claim that functional

heads (which in adult normal language occupy the M<sup>0</sup> position and check the verb features of M) are perceived as phrasal by children. More precisely, the Infl particles either occupy the Spec(MP) position, or they are adjuncts; hence, they are unable to check verb-related features. Finite verb-movement to M takes place in order to check verb features of M, resulting in surface structures with finite enclisis that are illicit for adult grammar but presumably not for children since their Infl particles are not in M, but where the asterisk in (8) indicates.

13. One can conceivably raise a number of objections regarding the validity of the points just mentioned. They may want to argue, for instance, that we could have reached the same conclusions after looking at much larger samples of normal language from the very beginning. Or that a powerful syntactic theory, such as the one I employed for the phenomenon under investigation, would have urged me to look directly at the behavior of the Infl particles in the data base from early language. I do believe, however, that it is doubtful whether we would have arrived at the inferences we did, especially within the short time span this was achieved, had I not obtained the nontrivial and transparent "errors" regarding the behavior of the Infl particles from the SLI data I collected.

Some of the results of the Dutch-speaking children discussed in Wexler et al. (2004) constitute a case similar in nature: while predictions of Schütze and Wexler's (1996) Tense/Agr Omission Model do not seem to be borne out clearly by the linguistic behavior of the Dutch-speaking children discussed in Wexler et al. (in terms of the children's usage of present instead of past tense that the model predicts), the predictions are definitely borne out by SLI children.

14. One context in which clitics are found in third position, in Tarifit Berber, is in the presence of the past Tense marker.

(i) *Lla tarrin-n t*  
PAST write<sub>MASC-F-3PL</sub> CL<sub>MASC</sub>

'They were writing it.' (Ouhalla, chapter 14 in this volume).

15. Furthermore, Wexler (2000) reports that, according to Moucka (1999), 92% of second-position clitics appear in second position in young Czech speech. One may want to be slightly cautious with respect to Czech, however, especially if Bošković (2001) is right in that Czech is losing its second-position clitichood properties. Comparable data from Serbo-Croatian would definitely assist in strengthening the point.

16. Within the same line of reasoning, if agrammatics have problems with verb movement in some languages (see also note 28), while it is generally accepted that they have only problems with XP movement, it may be the case, or is at least worth investigating it, that in these languages verb movement is an instance of remnant movement (see Kayne 1994 and subsequent work).

17. "Language samples were analyzed for mean length of utterances in words (MLU/W) and structural errors involving omission or incorrect use of morphological inflection, omission or incorrect use of function words (definite and indefinite articles, prepositions, pronouns) errors in word order, errors in subject-verb agreement for number and person, case and number."

18. These morphemes, in order of acquisition, are progressive *-ing*; the prepositions *in* and *on*; plural *-s*; past irregular, possessive *-s*, uncontractible copula, articles *a* and *the*, past regular *-ed*, third-person regular *-s*, third-person irregular, uncontractible auxiliary, contractible copula, and contractible auxiliary.

19. The term "linguistic form" in this particular case actually refers to a set of morphemes, those marking Tense in English—namely, -s, -ed, BE, and DO. Apart from the theoretical importance of setting apart these four morphemes, the practical value of having to measure the performance on four morphemes rather than the fourteen of the previous note, should not go unnoticed.
20. The prediction is borne out since the Optional Infinitive stage, in the sense of the adult infinitival forms of the verb employed optionally in root sentences, has been found in all Germanic languages and in French, Irish, Russian, and Czech, but not in Italian, Spanish, Catalan, Tamil, or Polish.
21. I refer to both Standard and Cypriot Greek, which essentially differ only in terms of clitic placement. An additional difference is the lack of auxiliaries from the latter, which, however, is a property most probably related to the placement of clitics (see note 23 and section 2).
22. A concrete example of the verbal paradigm is given in order to facilitate the discussion: *exo fai* (Have-1s eaten) 'I have eaten', *exis fai* (have-2s eaten) 'You have eaten', *exi fai* (have-3s eaten) 'S/he has eaten', and so on.
23. I mentioned in passing in section 2, that in Terzi (1999a, 1999b) the finite verb movement to M<sub>i</sub>, which results in enclisis in Cypriot, is triggered by properties of M. A fundamental property of the language associated with the M domain is the fact that Cypriot Greek has no compound tenses and therefore no auxiliaries to express them. Thus, the counterparts of Standard Greek forms such as *exis fai* (have-2s eaten) and *ixis fai* (had-2s eaten) are *efai(g)es* (are-2s). Furthermore, the future particle *tha*, which is typical of the future of the Balkan future, is also absent. Thus, the counterpart of *tha fas* (FUT eat-2s) is *en-na fas*, which is most probably to be glossed as (1s SUB eat-2s).
24. I am not implying here that the across-the-board enclisis of Cypriot follows from UCC, or that such an option can be excluded, however. All I intend to say at this stage is that, in the absence of those characteristics of the language (auxiliaries, in particular) that would follow from UCC as potential clitical markers, other possibilities must be investigated. The pattern of clitic positioning is a characteristic that emerges very clearly at this point and is worth investigating whether it can play this role. Whether it follows from UCC or not is a separate issue.
25. I have excluded from the discussion at least two other accounts of SLI that may be reminiscent of the notion of clitical marker, since, despite that fact that they do not employ the term explicitly, they are based on well-defined syntactic structures which are claimed to be characteristic of SLI language: I refer to van der Lely (1996, 1998) in particular, for whom SLI is identified as a disorder with problems in movement structures, and work of Clahsen (1989) and Clahsen et al. (1997), which are concerned with Agreement relationships primarily. Apart from reasons of space, another consideration was the fact that both accounts center around the understanding of the nature of the phenomenon primarily, rather than its manifestation in a way that can assist diagnosis.
26. Language therapy based on syntactic theory is also being employed currently on children with severely persistent SLI by Ebbels and van der Lely (2001).
27. As for the precise manner in which therapy was implemented, it is safer for the reader to refer to the original sources. Very briefly, emphasis was first given on clarifying the argument structure of the active sentences to the patients. Subsequently, the patients were given direct guidance regarding the movement operations.
28. In the context of this study, and taking into account problems Dutch Broca's

aphasics have with verbs and V-second, according to Bastiaanse (1995), it is tempting to want to find out, for instance, what the effect of training wh-questions is, with the hope to shed further light into the issue of whether V-second involves V-to-I or V-to-C movement, in Dutch at least. At the same time, one should not disregard the fact that contradicting experimental results should also be resolved in order for a number of such studies to constitute significant contributions. As we have seen already, it is not entirely clear that agrammatics have problems with X<sup>0</sup> movement (Grodzinsky and Finkel 1998) while V-second is standardly considered to be such a type of movement (see note 16).

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