'Critical' aspects of language: complex syntax and morphology

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1. Introduction

Meisel adheres to the Critical Period Hypothesis (CPH) but reformulates it in two ways. First, that there may be different *sensitive* periods for language development affecting different domains and second, that one of these early sensitive periods for syntactic development must be around age 4, individual differences aside. With respect to second language acquisition, Meisel wishes to maintain the FDH (Fundamental Difference Hypothesis) on the grounds that the inaccessibility of functional categories or features, in particular uninterpretable features, is responsible for L2 development through compensatory strategies. These involve the implementation of interpretable features − assumed not to be subject to CP constraints − and/or the use of 'central' cognition in language learning. In this respect, an important assumption in Meisel's proposal is that "every surface property of the target system is potentially learnable." (section 3.1., paragraph 5). Therefore, target-like L2 performance does not necessarily imply native-like representations in the second language but very efficient compensatory strategies.

Let me begin by saying that I subscribe to the CPH and to the suggestion that compensatory strategies are at work in any aspect of perceptual and cognitive development in childhood, including language, when learning circumstances are *atypical*. Atypicality includes both internal factors, such as poor perception, delayed or deviant input analysis, and external factors, such as insufficient input in quantitative or qualitative terms. Concentrating on language development, the case of the monolingual child learner is unique: vocabulary items map onto (or define) concepts, abstract morphological features map onto (or define) syntactic heads and structures, and syntactic representations map onto (or define) syntax-semantics and syntax-discourse interface phenomena. The question becomes more complex in child bilingualism; none of the above

correspondences are *uniquely* mapped onto (or defined).[1] Thus, one of the test cases for the CPH is the distinction between successive and simultaneous bilinguals. Meisel suggests that it is not just the outcome that needs to be evaluated but also the developmental path followed in each case. He discusses types of errors in successive bilinguals which, he argues, are not attested in (2)L1 acquisition and involve a lack of correlation between inflectional morphology and syntactic development. The idea is that maturation affects not only uninterpretable features but also discovery mechanisms which are specific to language. However, it is important to explicitly distinguish between maturation of formal features and learning principles since in many cases you don't need to assume that both are involved. For example, if a feature is grammaticalised in L1 and L2 but its value is different in each case as is the case with inflectional features licensing null subjects, then we can assume that identifying the triggering data which will lead to the re-valuation (parameter-resetting) cannot be based on the same learning principles because they are subject to maturation. In contrast, if a feature is not grammaticalized in L1 (e.g. V2) perhaps it cannot be grammaticalized in L2 if functional categories are subject to maturation. Thus, the learner will need to approximate the feature by searching for the nearest interpretable one.

My response concentrates on the following issues:

a. the predictions regarding the low 'turning point' (around age 4) for CPH in view of later syntactic development, i. e. structures which are acquired after the age of 4 or 5, in monolingual children;
b. the claim that general cognition is operative in L2 data analysis and grammar-building, and,
c. the *dual* status of inflectional morphology in language knowledge and use.

2. What about 'complex syntax'?

Transitivity alternations are usually associated with children older than age 4, although cross-linguistic differences are also relevant. By transitiv-

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1. Needless to say that adult second language learners are also expected to be different from child language learners, either monolingual or bilingual. Nevertheless, I don't think that adult L2 acquisition is a promising test case for the CPH since it is not just linguistic abilities (meaning both UG and language-specific learning mechanisms) that are different from the child language learner but also all aspects of cognition some of which are directly or indirectly related to language, such as memory, parsing, meta-linguistic awareness, meta-representations in the belief systems etc.

ity alternations I mean changes in the syntactic realization of arguments which can be sensitive to inflectional features such as Voice, but not necessarily so; causatives, reflexives, passives, unaccusatives are relevant cases. Examples (1a) and (1b) illustrate a active/passive alternation and a causative/ergative alternation, respectively:

(1)   a.   John kissed Mary. / Mary was kissed by John.
        b.   John closed the door. / The door closed.

Most past and recent studies on L1 acquisition of English suggest that the acquisition of passives is relatively delayed (Bever 1970, Strohner & Nelson 1974, Wasow 1977, de Villiers 1985, Maratsos et al. 1985, Borer & Wexler 1987). Cross-linguistic differences have also been found; Demuth (1989) shows that acquisition of passives in Sesotho is rather early (2;8) whereas German (Mills 1985) and Hebrew (Berman 1993) passives are acquired later (around age 5).

More recently, Borer (2004) has argued on the basis of Hebrew L1 acquisition data that transitivity alternations are, in fact, acquired early. Two stages in L1 development are identified; the first, a morpho-phonological stage where syntactic event structure is in place but morphological production is constrained by morpho-phonology alone. The second stage is the morpho-syntactic stage in which morphology maps onto syntax but the limitations in item selection are not limited by vocabulary knowledge available to the adult. Borer's analysis of child language crucially involves the suggestion that verb forms produced by children roughly up to the age of 6;0 are computed 'on-line' on the basis of syntactic rules, rather than retrieved from the lexicon.

Along similar lines, Tsimpli (2006) argues for the early acquisition of ergative, reflexive and passive structures in Greek. The claim is that (non-active) Voice morphology in Greek, unlike English, is underspecified with respect to whether the thematic feature it saturates is external or internal. Thus, a transitive verb with two DP arguments can participate in a reflexive or passive structure provided it is marked for non-active Voice morphology and the surface subject is animate. Greek children show the relevant ambiguity from age 3;0, suggesting that the syntax is in place but the constraints regulated by semantic verb classes or pragmatics are not yet in place. The latter appear to constrain the child's performance as late as age 6. By this age, L1 learners converge with adult controls. On the other hand, Turkish children born in Greece but systematically exposed to Greek at school only, i. e. from age 6, tested after 3−5 years of exposure to the second language, show similar performance with Greek pre-school children in terms of the ambiguous representation of verbs with non-active Voice morphology. However, they

do not seem to converge with monolingual adult Greek controls even after 9−11 years of exposure, i.e. by the end of secondary school. The data is argued to show that these child L2 learners have acquired the morpho-syntactic properties of Voice but their lexical knowledge is not rich or stable enough to constrain the grammatical options available.

Going back to L1 acquisition, Bowerman (1988) reports overgeneralizations in transitivity alternations (causatives, passives, dative-shift) in L1 English children for a period of three to four years, from 5 to 8 or 9 years old (cf. Snyder & Stromswold 1997). Similarly, *tough*-movement and other 'null operator' structures show some delay in L1 acquisition in that, although they are unambiguous in the adult grammar, L1 learners consider them ambiguous between the adult interpretation and an additional one which does not involve a representation including a null operator (Anderson 2005).

In all, it looks like there are syntactic structures which are acquired later than finiteness and the constraints associated with it (verb-placement, negation, questions). It is possible that these 'late' acquisitions are delayed for reasons outside the computational capacity of syntax in early child grammars: incomplete acquisition of lexical constraints requiring more input to stabilize, an undeveloped language-specific learning mechanism responsible for building lexical classes, or an undeveloped ability to integrate semantic and syntactic properties in representations with non-local dependencies. Whatever the reason for the delay, the acquisition of these structures depends partly on the earlier successful acquisition of inflectional categories (finiteness), their parametric settings and values.

Meisel's suggestion about the early offset of the CP for syntax should take into account such 'late' (for monolinguals) structures and their learnability status by successive bilinguals exposed to the second language from age 4 onwards.

3. Cognition-general resources vs. interpretable features

One of the assumptions of the Fundamental Difference Hypothesis (FDH) adopted by Meisel concerns the cognitive resources that could be accessed in second language learning and which are not language-specific but cognition-general. As an example of the use of general inductive learning strategies in L2 grammars, Meisel presents the production of subject-verb inversion structures in the L2 German of an adult Italian speaker, Franco, who had been exposed to the language at the time of data-collection for ten years already. The idea is that Franco produces subject-verb inversion structures by moving the subject to clause final position rather than by raising the verb. Thus, the output word-order

does not conform neither with the target L2 nor with his native Italian. The underlying assumption is that Franco has arrived at this output by analyzing input order linearly, i. e. he has observed that subject-verb inversion is required in case a non-subject element is in initial position and attempts to arrive at this order by moving the subject to the right.

There are many questions that arise, however, and these are related to whether the notion of 'word-order' has a well-defined status in the grammar of the native or the non-native speaker. Consider the V2 parameter or the V-to-I parameter; both give rise to changes in word-order which are visible only sometimes, e.g. when a non-subject element is in first position or when a VP-adverb or negation is present, respectively. Furthermore, the motivation for this type of movement is usually taken to be related to some formal feature of the target position. Crucially, such parameters require obligatory verb-raising in all the relevant contexts (e.g. root clauses for V2).

Changes in word-order, however, can also be related to what appears to be 'optional' movement. Thus, syntactic focus, topicalisation, or CLLD (clitic-left-dislocation) are associated with changes in word-order motivated by discourse-related features assumed to reside in the left periphery (cf. Rizzi 1997). New information focus on the subject, in some languages, has also been associated with a specific postverbal position (Belletti 2004). We could thus suggest that word-order variation motivated by information structure has different properties (motivation, interpretative effects) than word-order variation related to formal features insensitive to the syntax-discourse interface, such as the V2 effect.

The question is what the learner is expected to perceive as a learning cue in each case. If we assume that L2 acquisition compensates for problems with uninterpretable features through interpretable ones (cf. Tsimpli & Dimitrakopoulou 2007, Tsimpli & Mastropavlou 2008), an assumption that Meisel accepts as a possibility, we expect the L2 learner to be sensitive to information structure and discourse-related features, but not to uninterpretable features of the V2 type. Nevertheless, given the saliency of the V2 phenomenon based on its obligatory status, the L2 learner will be able to produce target outputs by placing the finite verb in second position with a restricted class of first-position lexical items (for example subjects and some adverbs) or by using discourse-related features such as topic or focus when the first-position element is a non-subject argument or a focalized adjunct. If this line of reasoning is correct, then Franco's non-target productions with the subject at clause-final position may be due to assigning some non-target information-structure to the German sentence, using subject-inversion, which is possible in his L1, Italian, in combination with V2, a feature he has acquired from German input, even if not in a native-like manner.

Although this is highly speculative, it is, in my view, a matter of principle whether you gain or lose more, in terms of theoretical power, if you allow cognition-general resources to play a compensatory role in L2 development. This is primarily because it is hard to predict the syntactic contexts in which the L2 learner will have to abandon compensation through interpretable features in favour of inductive learning strategies and vice versa. Moreover, on the assumption that L2 learners operate on linguistic categories, features and units, it should be rather costly for them to invoke non-linguistic segmentation and analysis of the input (e.g. in terms of surface ordering). In this respect, the assumption that UG is operative in L2 acquisition implies that every stage of L2 development should make use of fundamental properties of language, i. e. grammatical features and hierarchical representations of sentences.

4. The 'dual' status of Morphology

In traditional generative grammar, the status of inflectional morphology has always been given special importance due to its relation with syntax. In minimalism (Chomsky 1995), all features and values are abstract: their mapping onto their overt expressions is a matter of a morphological component which interfaces with phonology too. A native speaker of a language has the perfect mapping between the abstract and the spell-out properties of each feature, or each feature-cluster. This is the result of a relatively unproblematic process in early stages of L1 acquisition. In section 1, I described L1 acquisition of the monolingual child as being unique in that, among other properties, abstract morphological features map onto syntactic heads in a uniquely defined way. Moreover, when this mapping is acquired, the morphological component spells-out the relevant features in a rather straightforward fashion.

Thus, in most L1 acquisition studies morphological evidence is taken to reflect syntactic knowledge (cf. Borer & Rohrbacher 2002).

It has been suggested, however, that in many other cases of language development, e.g. in L2 acquisition, SLI (Specific Language Impairment) and in the case of the polyglot-*savant* Christopher (Smith & Tsimpli 1995), morphology and syntax dissociate (Lardiere 1998). In other words, use or omission of morphemes does not necessarily reflect presence or absence of the abstract features encoded by these morphemes in the syntactic representation. This dissociation has been attributed to problems in the underlying representation of the abstract features (Smith & Tsimpli 1995, Hawkins & Chan 1997, Tsimpli & Dimitrakopoulou 2007) or interface mapping problems (Lardiere 1998, Goad & White 2004). These possibilities are not mutually exclusive: L2 grammars

may show problems both at the representation of features and at their spell-out properties.

The dissociation between syntax and overt morphology implies that the error attested in L2 German data, namely the raising of a non-finite verb to second position, may not necessarily reveal an underlying syntactic problem or a non-UG-based learning mechanism. Instead, it may be associated with a rather loose mapping between abstract representation of finiteness features on the verb and its spell-out characteristics. The fact that this type of error is not attested in child L1 data indicates that the mapping problem is the result of *atypical* development, as this is defined above. Thus, the L2 learner has already established mappings between features, their values and overt morphemes in the L1 and the L2 input needs to be accommodated within the same cognitive domain, namely the Language Faculty.

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