

# On the Interpretability Hypothesis<sup>1</sup>

## (解釈可能性仮説の考察)

奉 鉉 京 (Hyunkyung BONG)

Keywords : Feature Reconstruction Hypothesis, Interpretability Hypothesis, L1 transfer, uninterpretable features, semi lexical/functional category of preposition

### 1. Introduction

The current article discusses the validity of ‘the Interpretability Hypothesis’ proposed in Tsimpli & Dimitrakopoulou (2007), addressing the issues of ‘divergence’ and ‘L1 transfer’ in second language (L2) acquisition. It also discusses theoretical implications of some empirical studies on the acquisition of semi lexical/functional categories in the light of different acquisitional approaches. On the one hand, advantages of the ‘lexicon-contact’ view, namely the Feature Reconstruction Hypothesis (Bong 2003, 2005, 2006a, 2009a, 2009b) are addressed.<sup>2</sup> On the other hand, the validity of the Interpretability Hypothesis (Tsimpli 2003, Tsimpli & Dimitrakopoulou 2007, Tsimpli & Mastropavlou 2008) is discussed, focusing on its theoretical underpinnings, and some data used to support the hypothesis. I elucidate where and how the Interpretability Hypothesis fails and succeeds in account of interlanguage systems, and to what degree it is incapable of accounting both acquisition data related to uninterpretable features and to ‘semi lexical/functional categories’(namely some prepositions). I, then, suggest that the Feature Reconstruction Hypothesis, driven from the weak deterministic model of language acquisition, namely ‘the economical parameter-setting model proposed in Bong (2005), should be more descriptive and explanatory than the Interpretability Hypothesis.<sup>3</sup>

This paper begins with a brief description of how ‘the issues of ‘divergence’ in L2 acquisition has been discussed, focusing on where the Interpretability Hypothesis can be classified, and what the main claims of the hypothesis are. In what follows, the representative study, Tsimpli & Dimitrakopoulou (2007), in which the Interpretability Hypothesis is clearly refined in the minimalist term, will be examined with its main claims, and the data used for supporting their claims. Lastly, re-examining the data, I discuss the Interpretability Hypothesis is not only insufficient to accommodate important aspects of L2 acquisition, but also incapable of accounting for normal developments in L2 acquisition (Bong 2005) which range over the scope of both interpretable features and uninterpretable features which are crucial to L2

acquisition.

## **2. Background: The Inaccessibility Hypothesis**

One of the most interesting and important aspects of second language (L2) acquisition that has been discussed in the L2 literature is the issue of ‘divergence’ (cf. variability) of interlanguage systems from the L2 input: that is, non-native speakers’ interlanguage systems diverge from native speakers’ language systems, although the relevant triggering data in the input may have been accessed by both speakers. Currently, this debate on divergence in L2 acquisition has been drawing on the question whether these divergence problems reflect representational deficits or not (the unavailable or available part of the feature inventory provided by Universal Grammar) (see Bong 2005, 2009a).

Following the line of reasoning that the functional module (functional elements/categories) becomes inaccessible in adult L2 acquisition (Tsimpli & Smith 1991; Smith & Tsimpli 1995),<sup>4</sup> Representational Deficit Hypothesis is illustrated by the Failed Functional Features Hypothesis (Hawkins & Chan 1997),<sup>5</sup> which assumes that divergence problems reflect representational deficits and the deficit lies in the functional module and the deficit is permanent. Pointing out where and how this hypothesis fails in account of interlanguage systems, Bong (2009d) argued that it is not the absence (representational deficit) of the functional features that cause divergence in L2 acquisition, and that it is possible for L2 learners to acquire those functional features that are supposedly absent in the L1. It is then suggested that alternative accounts such as ‘lexicon-contact view’ should be incorporated instead of ‘permanent representational deficit’ view (See Bong 2005, 2009a for a further detailed discussion).

More recently, following the reasoning that those functional features that are not instantiated in the learner’s first language (L1) are inaccessible owing the permanent representational deficit, the Interpretability Hypothesis (Tsimpli & Dimitrakopoulou 2007, Tsimpli & Mastropavlou 2008) has narrowed down the range of permanent representational deficits of the functional module to those ‘uninterpretable features’ that are not instantiated in the L1 so that they are not accessible for L2 learners beyond the critical period. The Interpretability Hypothesis (Tsimpli & Dimitrakopoulou 2007, Tsimpli & Mastropavlou 2008) is formulated in the minimalist framework, relying heavily on the distinction between interpretable and uninterpretable features. Arguing that a minimalist approach to L2 acquisition can be implemented to specify the status of the features that are least accessible to resetting in the L2 acquisition process, Tsimpli & Dimitrakopoulou (2007), in minimalist terms, reformulate the L2 acquisition theory, namely the ‘no parameter-resetting hypothesis’, suggested by Tsimpli and Roussou (1991). Tsimpli & Dimitrakopoulou (2007) states their claims and assumptions as follows:

“Tsimpli (2003) and Tsimpli & Mastropavlou (2007) claim that operations, such as Merge or Agree, in the narrow syntax are available in L2 grammars, but capitalize on the distinction between features which are visible at the LF-interface because of their semantic import, i.e. LF-interpretable features, and those whose role is restricted to syntactic derivations and possibly have PF-realization but no role at LF, i.e. *the uninterpretable features*. Specifically, the claim is that interpretable features are accessible to the L2 learners whereas *uninterpretable features* are difficult to identify and analyze in the L2 input due to persistent, maturationally-based, L1 effects on adult L2 grammars.” (Tsimpli & Dimitrakopoulou 2007: 217. Emphasis added)

As seen above, Tsimpli & Dimitrakopoulou (2007) attempt to articulate the Interpretability Hypothesis as a L2 acquisition theory, addressing the distinction between LF-interpretable features and LF-uninterpretable features within the minimalist framework. According to the view, beyond the critical period, it is impossible for L2 learners to modify the system (the functional module). This view is in effect in accordance of the claim that the representational deficit is permanent, in the same way as the ‘Failed Functional Features Hypothesis claims. Let us now examine the most recent representative L2 study that advocates the Interpretability Hypothesis.

### 3. A Study for the Interpretability Hypothesis: Tsimpli & Dimitrakopoulou (2007)

Tsimpli & Dimitrakopoulou (2007) clearly articulate their assumptions of the Interpretability Hypothesis as follow: “The Interpretability Hypothesis adopts assumptions regarding the critical period hypothesis for language acquisition (Johnson and Newport 1989, Smith and Tsimpli 1995, Meisel 1997). In particular, it maintains that uninterpretable features are subject to critical period constraints and, as such, they are inaccessible to L2 learners. In other words, L1 parametric values associated with these features resist re-setting in L2 acquisition.” (Tsimpli & Dimitrakopoulou 2007:224).

The linguistic assumptions for the Interpretability Hypothesis are that in L1 Greek, a cluster of uninterpretable features related to agreement and case is realized as ‘resumption’, while L2 English disallows resumption and leaves gaps instead. Modern Greek is a null subject (pro-drop) language that allows subject extraction out of a complement clause in the presence of the lexical/overt complementizer *oti* (‘that’), as illustrated in (1a). As English is not a null subject language, English exhibits that-trace effects in the same context as in (1b).

(1) That-trace effects (Rizzi 1986, 1990)

a. Greek    Pji                    ipe        oti    efighan?

Who<sub>NOM-PL</sub> said<sub>3SG</sub> that left<sub>3PL</sub>

‘Who did he say that left? (→literal translation)

b. English \*Who did he say that , left?

(2) Who did you say (that) you saw?

With respect to object extraction out of embedded clauses, English allows object wh-phrases to be extracted out of embedded clauses whether the complementizer is phonetically overt or null as shown in (2). In addition, the difference between English and Greek that is crucial to the authors’ discussion is the use of resumptive pronouns in the properties of wh-interrogatives. In Greek, subject wh-phrases are extracted from embedded clauses, a resumptive clitic pronoun coindexed with the extracted wh-phrase is allowed to be phonologically overt as shown in (3).

(3) a. Pjon ipes oti (ton) prosevalan xoris logho?

Whom said<sub>2SG</sub> that (him)-insulted<sub>3PL</sub> without reason

‘Who did you say that they insulted (\*him) without a reason?’

b. Pjon fititi ipes oti (ton) aperipsan sti sinedefksi?

Which student said<sub>2SG</sub> that (him)-rejected<sub>3PL</sub> at-the interview

‘Which student did you say that they rejected at the interview?’

In addition to the resumptive pronouns and gap strategy in L2 English subject and object interrogatives, Tsimpli & Dimitrakopoulou (2007) study possible effects of animacy and d(discourse)-linking on the acceptability of pronouns as illustrated in Table 1.

Table 1 Variables tested in the paced acceptability task

Interrogatives	Complementizer (overt/null)		Animacy		D-linking	
	+that	-that	+animate	-animate	Wh-NP	Wh-word
Subject	+that	-that	+animate	-animate	Wh-NP	Wh-word
Object	+that		+animate	-animate	Wh-NP	Wh-word

In sum, the difference between Greek and English wh-interrogatives is attributed to the null subject (pro-drop) parameter<sup>6</sup> and the availability of a resumptive strategy in Greek that involves the spell-out of uninterpretable agreement features on non-nominal functional heads such as agreement on *v* or Infl (see Chomsky 1995),<sup>7</sup> but not in English. Note that the resumptive strategy involves overt resumptive pronouns viewed as an overt realization of ‘agreement features’ on *T* (as of resumptive subject-verb agreement) and light *v* (as of object clitics), which are uninterpretable at LF, and interpretable at PF. In addition, Animacy is represented in wh- and personal pronouns in English, distinguishing between [+/- animate] as in *who* vs. *what* and *he, she* vs. *it* while Greek mark gender contrasts only, but not animacy on

both wh- and personal pronouns (clitic and strong forms). As for D(discourse)-linked wh-phrases, English uses a distinct wh-word for the wh-specifier (*which*), whereas Greek uses the same wh-word as in non-d-linked wh-interrogative (Tsimpli & Dimitrakopoulou 2007).

Let us now examine the experimental results presented in Tsimpli & Dimitrakopoulou (2007). They present the data obtained from two groups of 48 Greek-speaking learners of English as a second language: 21 with intermediate and 27 with advanced English proficiency. They tested the degree of acceptability of resumptive pronouns in embedded interrogatives as in (4) and (5) through an acceptability task.

- (4) Grammatical and ungrammatical object extraction
  - a. *Which student/who* do you think that Jane likes *ec/\*him*?
  - b. *Which book/What* do you remember that Peter read *ec/\*it* carefully?
- (5) Grammatical and ungrammatical subject extraction (+/- *that*)
  - a. *Which politician/Who* have you suggested *ec/\*he/\*that-he* should not resign?
  - b. *Which party/what* does John think *ec/\*it/\*that-it* was very boring?

The results from the judgments of the two learners groups and one native control group over the grammatical and ungrammatical subject and object wh-interrogatives, reported in Tsimpli & Dimitrakopoulou (2007), are summarized as in Table 2 and Table 3 (percentages, with *n* (number) in parentheses):

Table 2: Performance in ungrammatical subject-object interrogatives

	Subject (-that)		Subject (+that)		Object	
	Target	Non-target	Target	Non-target	Target	Non-target
Intermediate	63.9(69/108)	36.1(39/108)	59.6(65/109)	40.4(44/109)	59.5(69/116)	40.5(47/116)
Advanced	68.4(104/152)	31.6(48/152)	66.5(101/152)	33.5(51/152)	78.6(122/154)	21.4(33/154)
Native	96.7(148/153)	3.3(5/153)	95.5(149/156)	4.5(7/156)	96.7(148/153)	3.3(5/153)

Table 3: Performance in grammatical subject-object interrogatives

	Subject		Object	
	Target	Non-Target	Target	Non-Target
Intermediate	67.9(74/109)	32.1(35/109)	85.1(91/107)	14.9(16/107)
Advanced	73.8(107/145)	26.2(38/145)	88.4(129/146)	11.6(17/146)
Native	97.4(148/152)	2.6(4/152)	92.2(130/141)	7.8(11/141)

First, the overall results in Table 2 and 3 indicate concerning the overall results of the both grammatical and ungrammatical sentences suggest that the two groups of learners (intermediate and advanced proficiency of English) performed less successfully than the NS

(native speakers). Note that if we examine the overall results objectively without any presumed predictions or expectation, a suggested trend for the Greek speaking learners is a certain gradual, 'normal', development: the lower the proficiency the lower the accuracy; and the higher the proficiency the higher the accuracy. The authors, however, interpret this gradual and normal development pattern as supporting their claim of 'the learnability problems due to uninterpretable features which are realized as 'resumptive pronouns' in ungrammatical sentences.

Secondly, the authors interpret the mis-performance on ungrammatical sentences with illicit resumptive pronouns which renders the significant difference between two learners groups and the control group of English native speakers as evidence of the 'problems' caused by the L1 instantiated LF uninterpretable features realized as 'resumptive pronouns'. Note that the authors do not clearly indicate how the specific LF-uninterpretable features that are interpretable at PF are problematic to the learners. However, they conjecture possible connection between the mis-performance on ungrammatical realization of resumptive pronouns as a cue, or as a sign of the role of LF-uninterpretable/PF-interpretable features that are instantiated in the L1.

Thirdly, the results show the difference between the performance on subject interrogatives and that on object interrogatives: that is, the higher acceptability rate of resumptive pronouns in subject position; the higher percentage of incorrect judgments in grammatical subject interrogatives. This data is interpreted by the authors as supporting their claim of L1 transfer that the abstract properties of subject-verb agreement in Greek are transferred to English L2. Therefore, the authors regard subject pronouns as functioning resumptively in the Greek/English interlanguage.

Fourthly, the results indicate the lack of a significant developmental change in both ungrammatical and grammatical subject extraction cases. The authors interpret this data as again supporting their L1 transfer claim in that transfer of the L1 properties of subject agreement to L2 subject wh-extraction necessitates a misanalysis of English pronouns as 'weak' pronouns, since subject agreement is absent from English verb forms. Note that the L2 learners are Greek-speaking and that Greek properties of subject agreement is transferred to L2 subject wh-extraction. This will be compared with the data presented in Bong (2005) obtained from Japanese speaking learners of English (see below).

Fifthly, the authors present data that appear to show animacy effects on the acceptability of resumptive pronouns in L2 interrogatives. They present a generalization on animacy effects that inanimate resumptive pronouns are significantly favoured more than animate ones. They further argue that the observed animacy effects should account for 'variability' or for 'improvement' in the use of resumptive pronouns in the position of the gap in subject or object wh-questions. According to the authors, L2 learners can/or will acquire the interpretable feature of animacy [+/-animate], realized on L2 but not on L1 pronouns from early stages of

development, and that interpretable feature will constrain resumptive uses of L2 pronouns. This analysis by the authors leads to the implication that the interpretable feature of animacy make it possible to improve L2 performance, but this does not mean that L2 learners acquire the relevant uninterpretable features which are realized as ‘resumptive pronouns’. Note that in the case of Greek speaking learners, it is not clear whether de-learning of the uninterpretable features of their L1 is possible only through those interpretable feature of animacy, or the properties of L2 that ‘empty category’ (gap in the authors’ term) is to be ‘covert’, namely [-PF], meaning that no LF- uninterpretable features is spelled out to PF in English. Simply, no specific LF-uninterpretable features, and PF-interpretable features are involved (see below).

Lastly, similar to animacy effects discussed above, the authors interpret ‘D linking’ as evidence for ‘improvement’ cues/signs in L2 acquisition. According to the authors, the judgments of the advanced group indicate that an overt complementiser in subject interrogatives interacts with animacy and d-linking. Resumptive pronouns, thus, are favoured in [-animate, + d-linked] contexts with an overt complementizer, while animate resumptive pronouns in subject position are favoured by the advanced group when the complementizer is null. This d-linking effect is again interpreted as ‘motivators’ or ‘triggers’ for the improvement of L2, which then guide learners to approximate their interlanguage to the target language superficially, although their underlying feature construction system of interlanguage would differ from that of the target language. In short, the authors explain the improvement in the use of resumptive pronouns by means of the learners’ reliance on interpretable features related to animacy and d-linking.

#### **4. Discussion of the Study on the Interpretability Hypothesis**

The study by Tsimpli & Dimitrakopoulou (2007) addresses two issues. One is the learnability problems posed by uninterpretable features in the form of resumptive pronouns, and the other is the compensatory role of the interpretable features of animacy and d-linking in reducing and constraining L1 effects of the resumptive strategy.

##### *4.1 On the Learnability Problems of Uninterpretable Features*

First recall the result of the grammatical and ungrammatical wh-interrogatives, and of the account of the learnability problems posed by uninterpretable features in the form of resumptive pronouns. Tsimpli & Dimitrakopoulou (2007) discuss the phenomenon that concerns the use of the resumptive strategy in wh-subject and object extraction by intermediate and advanced Greek learners of English, and challenge the claim by Bong (2005, 2009a) that uninterpretable features are not problematic in advanced L2 grammars. Furthermore, they allegedly argue that the use of resumptive pronouns in L2 English serves as evidence for the role of uninterpretable features in L2 grammars, and conclude that

uninterpretable features remain problematic for their Greek speaking learners of English. Indeed, it is possible to interpret the result as indicating that the Greek speaking learners initially have troubled with judging ungrammatical English wh-interrogatives with overt realization of apparent resumptive pronouns.

However, the question is whether the low acceptability is the evidence for ‘the learnability problems’ caused by uninterpretable features that are not instantiated in the L1. To be precise, the uninterpretable features employed in their study do not appear to be good examples for arguing for the unavailability or inaccessibility, since they are assumed to be instantiated in the L1, Greek, in their study.<sup>8</sup> This data in fact can be amenablely exploited to argue for L2 acquisition problems of ‘de-learning’ of L1 properties proposed by White (2003). That is, the process of changing from [+PF] to [-PF], or LF-uninterpretable feature to null feature status is supposed to be ‘easy’ or ‘easier’ than vice versa. If we rephrase this argument using the term ‘markedness,’ acquiring an unmarked L2 system is in general regarded as ‘easier’ when learners’ L1 is marked than the other way around (see Platzack 1996 for this distinction of ‘markedness’).

Alternatively, we can easily interpret this data as indicating a function of the effects of causal factors such as facilitating and misleading cues from ‘Lexicon-Contact’ between L1 and L2, ambiguous and obscure properties of the input, and the effects of ‘economy evaluation matrix’, proposed in Bong (2005). What the Greek speaking learners of English have to do with learning the English properties of the ‘gaps’ from where wh-phrases are extracted is to figure out its [-PF] property (phonologically null). Note that the learners do not have to access to any LF-uninterpretable features that are interpretable at PF that are not instantiated in the L1, but they need to access other features such as interpretable [+/- animate] or [d-linking] as discussed in the study at stake. Indeed, the L2 learners need to figure out the difference between their L1 properties of pronouns and the L2 properties of pronouns, as well as the difference between the existence of clitics in the L1 and non-existence of them in the L2, in order to form a L2 lexicon or to construct lexical items of L2. It is plausible to argue that the developmental pattern shown in the results presented by Tsimpli & Dimitrakopoulou (2007) can be interpreted as a gradual and normal development of L2 with some problems of ‘feature reconstruction’ for lexical items of L2 in forming a L2 lexicon, owing to ‘lexicon-contact’ between L1 and L2 feature inventories.

In sum, this line of arguments and interpretations of the data discussed in effect opposes to the learnability-claim made by the Interpretability Hypothesis advocated by Tsimpli & Dimitrakopoulou (2007). Their argument for the Interpretability Hypothesis is more to do with properties of DPs such as pronouns and clitics that are constructed with a bundle of interpretable features. Crucially, their data tells nothing about accessibility to any LF-uninterpretable features that are interpretable at PF that are not instantiated in the L1, but a lot about accessibility to other features such as interpretable [+/- animate] or [d-linking] as



discussed in the study at stake. They in fact argue for the learnability problems caused by the L1 instantiated uninterpretable features, which are against our general assumptions in L2 study that the L1 instantiated properties facilitate L2 acquisition.

#### 4.2 On the L2 Transfer Claim

Recall the results that show the difference between the performance on subject wh-interrogatives and that on object wh-interrogatives. The result of the L2 learners' incorrect judgments in grammatical subject interrogatives (e.g. *Which politician/Who have suggested ec should not resign?*) was interpreted as supporting their L1 transfer claim that the abstract properties of subject-verb agreement in Greek are transferred to L2 English. Disagreeably, L2 data of this kind have been reported in the L2 literature, but not used for L1 transfer claim, but for other claims (e.g. Bong 2003). Bong (2003, 2005) reports that Japanese-speaking learners of English performed better on grammatical object wh-interrogatives than on grammatical subject wh-interrogatives (e.g. *Who did you think ec cleaned the living room?*). The data reported in Bong (2003, 2005) do not support the L1 transfer claim by Tsimpli & Dimitrakopoulou (2007) that the abstract properties of subject-verb agreement of L1, since subject agreement is absent from English verb forms. Interestingly, the L1, Japanese, does not have subject-verb agreement in the same way as English, and thus the results from the both studies cannot be interpreted as effects of L1 transfer.

Moreover, this line of argument also casts doubt on the interpretation by Tsimpli & Dimitrakopoulou (2007) of the result of the lack of a significant developmental change in both ungrammatical and grammatical subject extraction cases as supporting their L1 transfer claim that transfer of the L1 properties of subject agreement to L2 subject wh-extraction necessitates a misanalysis of English pronouns as 'weak' pronouns. According to Bong (2003, 2005), Japanese speaking learners whose L1 does not have such properties of subject-verb agreement performed in a similar way to those Greek speaking learners of English in the study of Tsimpli & Dimitrakopoulou (2007). This raises question of why the two sample groups of L2 learners behave similarly in the performance on ungrammatical and grammatical subject extraction cases although their L1 differs with respect to the properties of subject-verb agreement. This contrast between the two sample groups cast doubt on the L1 transfer claim by T Tsimpli & Dimitrakopoulou (2007).

Instead, I suggest that this finding should be attributed to processing difficulties in the case of subject extraction and, to possible garden-path effects. As Tsimpli & Dimitrakopoulou (2007) themselves report, White and Juffs (1998) also found a similar subject-object asymmetry both in the acceptability of grammatical wh-questions with a null complementizer (similar to the finding reported in Bong 2003, 2005) and in the response times for grammatical sentence. The argument and interpretation by White and Juffs (1998) that the asymmetry observed might be due to 'processing difficulties and not to a syntactic deficit is more

plausible than the L1 transfer claim which needs ad-hoc explanations for Bong's (2003, 2005) study. In conclusion, the syntactic representational deficit is not clearly supported by the study of Tsimpli & Dimitrakopoulou (2007).

#### *4.3 On L1 Effects of Interpretable Features*

Recall an account of 'variability' or of 'improvement' in the use of resumptive pronouns in the position of the gap in subject or object wh-questions, namely 'resumptive use of pronouns' observed in the interlanguage system of L1 Greek-speaking learners of English. Tsimpli & Dimitrakopoulou (2007) explain improvement in the use of resumptive pronouns by means of the learners' reliance on interpretable features related to animacy and d-linking. With respect to the account that interpretable features trigger improvement of or change in interlanguage system toward target-like system, Tsimpli & Dimitrakopoulou (2007) seem to be on the right track.

However, the question arises whether L2 learners can improve their interlanguage systems only because of accessing L1 instantiated interpretable features or because of accessing their feature inventory provided by UG. This is an fowl argument like 'which came first, the egg or the chicken?' We might be able to test the hypothesis about L1 transfer, by pursuing the research question of whether L2 learners are accessing directly to the UG inventory based on the L2 input, or accessing their L1 feature inventory, or accessing partly to L1 uninterpretable features and partly to the L1 interpretable features and to the interpretable feature inventory of UG. To make this test possible, we need to stretch out to studies that include L2 acquisition of some grammatical elements that embody both [lexical] and [functional] properties, which is known as 'semi lexical/functional category' – some English prepositions: namely acquisition of prepositions would be one of the best candidates for testing the accessibility/availability hypothesis, such as the Interpretability Hypothesis or the Feature Reconstruction Hypothesis (Bong 2005). Bong (2008b) conducted a pilot study on the acquisition of English prepositions by Japanese speaking learners, and report the results which support recent works by Bong (2003, 2005, 2009a) on 'Lexicon-Contact' view in terms of the difficulties in the process of 'Feature Reconstruction' that L2 learners face due to their L1 interference as well as their economical preference mechanism which are innate.

Suggestively, L2 acquisition of English prepositions which render both lexical and functional properties by Japanese speaking learners may provide a plausible measure for justification of whether L2 learners access lexical as well as functional elements of UG inventory directly, and of whether L2 learners face difficulty in functional elements or lexical elements. Recent studies concerned with children's behaviour on Ps (prepositions or postpositions) <sup>9</sup> have paid much attention to the Reinskijk's (1990) notion, 'semi-lexical/functional', 'semi-functional' prepositions, and classification of Ps, decomposed to [+/- lexical, +/- functional], shown below.

## (6) English

- a. Adverb : *put down the mug* [ +lexical, - functional]
- b. Particles: *She ate it up.* [ - lexical, - functional]
- c. **Semi-lexical/functional prepositions: He ran to the store** [ +lexical, +functional]
- d. Functional prepositions : *Destruction of the city* [-lexical, +functional]

In English the combination of these two properties (+/- lexical, +/- functional) has been taken as a mean of determining the order of acquisition of a number of prepositional elements (e.g. Littlefield 2006). However, in the field of acquisition study, not much attention has been paid to the sub-classes of prepositions or postpositions. Needless to say, there are not many empirical studies of language acquisition concerned with the sub-classes of Ps. This line of argument necessitate further L2 research on the status of English Prepositions in Japanese speaking learners of English as a second/additional language, in order to clarify the accessibility of UG inventory: or lexical or functional features. L2 studies of this kind would provide us with some adequate measures to test the Feature Reassembly Hypothesis by Lardiere (2008, 2009), the Interpretability Hypothesis (Tsimpli 2003, Tsimpli & Dimitrakopoulou 2007, Tsimpli & Mastropavlou 2008), and the Feature Reconstruction Hypothesis by Bong (2005, 2009b).

## 5. Conclusion

Evidence adduced for the Interpretability Hypothesis by the Study of Tsimpli & Dimitrakopoulou (2007) is sufficient neither to the claim that L2 learners are inaccessible to those functional/uninterpretable features that are not instantiated in the L1, nor to the account for divergence of interlanguage systems from the input system of a target language. In addition, their claim of L1 transfer was not very well supported either with their own data or with L2 data reported in the literature. The analysis of their L2 data in the way that interlanguage systems are represented is limited to the extent that only the L1 uninterpretable feature inventory can be manipulated in the process of L2 acquisition encounters various problems. Their own data, in fact do not support their claim that uninterpretable features that are not instantiated in L1 are not accessible or have representational deficit so that they cannot be accessed/activated or used in the process of L2 acquisition.

In addition, their claim of L1 transfer was not very well supported either with their own data or with L2 data reported in the literature, although the study shed some light on the possible roles of interpretable features in L2 acquisition, and on future L2 studies to be done, for example, L2 studies on the categories which embody both lexical and functional properties such as English prepositions. Importantly, various divergences observable in L2 acquisition

seem to require further investigation (See Bong 2005, 2009b for a detailed discussion and the L2 data that show various divergences in L2 acquisition; and see Bong (2008b) for a study on L2 acquisition of English prepositions by Japanese-speaking learners).

In conclusion, the claims of the Interpretability Hypothesis have been shown to be deficient to accommodate important aspects of L2 acquisition, such as the divergence with a characteristic developmental pattern, and the learnability of uninterpretable features that are not instantiated in L1. In addition, the claim of L1 transfer by Tsimpli & Dimitrakopoulou (2007) was supported neither by other existing L2 data, nor by their own data which rather require an ad-hoc explanation or a further study.<sup>10</sup>

---

### Notes

<sup>1</sup>There are many people who helped and supported the pilot study conducted in 2008 (Bong 2008b), which has been the motivation for writing up this paper. I would like to thank my friends, many students from Shinshu University. At the stages of writing drafts, to Nick Green I am greatly indebted, not only for reading drafts and commenting on them with valuable advice, but also discussing many issues related to the topic. No blame for deficiencies accrues to anyone but the author.

<sup>2</sup> One might view the Feature Reconstruction Hypothesis as a more explanatory version of the Feature Reassembly Approach (Lardiere 2008, 2009).

<sup>3</sup> See Bong (2005), which thoroughly discusses various problems of the failed functional feature hypothesis (Hawkins & Chan 1997), and of the no parameter resetting hypothesis (Tsimpli & Roussou (1991).

<sup>4</sup> See Bong (2009c) for a thorough discussion on the functional module inaccessibility view advocated by Tsimplie and Roussou (1991).

<sup>5</sup> See Bong (2009d) for a further detailed discussion on the failed functional features hypothesis proposed in Hawkins & Chan (1997).

<sup>6</sup> See Bong (2009c) for a presentation of ‘the pro-Drop Parameter’ between Greek and English. It is re-presented here for convenience.

	Greek	English
a. Apparent violation of that-trace effects	-	+
b. Null subjects	+	-
c. Postverbal subjects	+	-

<sup>7</sup> See Chomsky (1995) for definitions of these categories and features.

<sup>8</sup> Unfortunately, Tsimpli & Dimitrakopoulou do not present any data that would show a correlation between the proficiency and the acceptability of the learners and of the control group. Presumably, there must be some difference between the native speakers and the advanced learners in the performance of Oxford Placement Test (Allan 1992) as well as in the performance of the acceptability test.

<sup>9</sup> Note that traditionally prepositions in English, for example, have long been categorized as a single category P (pre/post-position, and generally accepted and regarded as one of the four typical or major ‘lexical categories’ , along with verbs (V), nouns (N), and adjectives (A) since Jackendoff (1973). This apparently unified approach to prepositions is not always free from problems. Not only in the field of theoretical studies in linguistics including language change, but also in the area of empirical studies including first and second language acquisition, the question has been addressed whether all the prepositions are ‘lexical’ or not. In effect, various problems primarily posed by classifying prepositions/postpositions into a unified lexical category have been pointed out in various studies, in which classifying them into functional vs. lexical dimension has been put forward (van Riemsdijk 1990, 1998, den Dikken 2003, Botwinik-Rotem 2004, Svenonius 2006).

<sup>10</sup> See Bong (2008b) for a pilot study.

---

## Reference

- Allan, D. 1992. *The Oxford Placement Test*. Oxford: Oxford University Press.
- Bong, H. K. 2003. 'Learnability of Uninterpretable Features.' Manuscript presented in LAGB (Linguistic Association in Great Britain) Autumn Meeting 2003 at University of Oxford.
- Bong, H. K. 2005. *Economical Parameter-Setting in Second Language Acquisition: Japanese-Speaking Learners of English*. Doctoral Dissertation. University of Cambridge.
- Bong, H. K. 2006. 'Assessment of the Full Transfer Account.' *Journal of Language, Culture and Communication* 8 (2): 15-27.
- Bong, H. K. 2008a. 'L2 acquisition of English *Have/Be* Auxiliaries.' *JALT 33 International Conference Proceedings*.
- Bong, H. K. 2008b. 'Acquisition of English Preposition.' Manuscript presented at an International Conference of English Linguistic Association in Japan.
- Bong, H. K. 2008c. 'Inquiry into the L1 initial transfer view: Evaluation of the Minimal Trees hypothesis.' *Shinshu University Journal of Humanities and Social Science*.
- Bong, H. K. 2009a. *A Minimalist Model of Language Acquisition: Economical Parameter-Setting in Second Language Acquisition*. Verlag: VDM Verlag Dr. Muller Aktiengesellschaft & Co. KG.
- Bong, H. K. 2009b. 'UG Parameters in Second Language Acquisition.' In T. Tanaka. (ed) *IVY Never Sere: The Fiftieth Anniversary Publication of the Society of English Literature and Linguistics*. Nagoya University.
- Bong, H. K. 2009c. 'On the Functional Module Inaccessibility View.' *Shinshu University Journal of Humanities and Social Science*.
- Bong, H. K. 2009d. 'On the Failed Functional Features Hypothesis.' *Studies in English: The Regional Branches Combined Issues*. Japan English Literature Society.
- Botwinik-Rotem, I. 2004. *The Category P. Features, Projections, Interpretation*. Ph.D. Dissertation. University of Tel-Aviv.
- Den Dikken, M. 2003. 'On the syntax of locative and directional adpositional phrases.' Ms., CUNY Graduate Centre.
- Hawkins, R & Y-H.C. Chan (1997) 'The partial availability of Universal Grammar in second language acquisition: the 'failed functional features hypothesis.' *Second language Research* 13:187-226.
- Jackendoff, R. 1973. 'The base rules for prepositional phrases.' In S. R. Anderson & P. Kiparsky (eds). *A Festschrift for Morris Halle*. NY: Holt, Rinehart & Winston, 345-366.
- Lardiere, D. 2008. 'Feature assembly in second language acquisition.' In Liceras, J. H. Zob & H. Goodluck (eds.), *The Role of Formal Features in Second Language Acquisition*. New York: Lawrence Erlbaum. 107-140.
- Lardiere, D. 2009. 'Some thoughts on the contrastive analysis of features in second language acquisition.' *Second Language Research* 25: 173-227.
- Littlefield, H. 2006. *Syntax and Acquisition in the Prepositional Domain: Evidence from English for*

---

*Fine-Grained Syntactic Categories*. Ph.D. Dissertation, Boston University.

- Platzack, C. 1996. 'The Initial Hypothesis of Syntax: A minimalist perspective on language acquisition and attrition.' In Clahsen, H. (ed): *Generative Perspective on Language Acquisition*, 369-414. Amsterdam: John Benjamins.
- Smith, N. & Tsimpli, I. M. 1995. *The Mind of a Savant: Language Learning and Modularity*. Oxford: Blackwell.
- Svenonius, P. 2006. 'Adpositions, Particles, and the Arguments they introduce.' In E. Reuland, T. Bhattacharya & G. Spathas (eds.). John Benjamins.
- Tsimpli, I. M. 2003. 'Interrogatives in the Greek/English interlanguage: a minimalist account.' In Mela-Athanasopoulou, E., (ed.) *Selected Papers on Theoretical and Applied Linguistics*. Thessaloniki: Aristotle University, 214-25.
- Tsimpli, I.-M. & M. Dimitrakopoulou. 2007. 'The Interpretability Hypothesis: Evidence from wh-interrogatives in second language acquisition.' *Second Language Research* 23:215-242.
- Tsimpli, I.-M. & M. Mastropavlou. 2008. 'Feature interpretability in L2 acquisition and SLI: Greek clitics and determiners.' In Licerias, J. H. Zob & H. Goodluck (eds.), *The Role of Formal Features in Second Language Acquisition*. New York: Lawrence Erlbaum. 143-183.
- Tsimpli, I.-M. and A. Roussou. (1991). 'Parameter resetting in L2?' *UCL Working Papers in Linguistics* 3: 149-69.
- Tsimpli, I.-M. and N. Smith. (1991). 'Second language learning: evidence from a polyglot savant.' *UCL Working Papers in Linguistics* 3: 171-184.
- Van Riemsdijk, H. 1990. 'Functional Prepositions.' In H. Pinkster & I. Genee (eds.). *Unity in Diversity*. Dordrecht: Foris.
- Van Riemsdijk, H. 1998. 'Categorial Feature Magnetism: The Endocentricity and Distribution of Projections.' *Journal of Comparative Germanic Linguistics* 2:1-48.
- White, L. 2003. *Second Language Acquisition and Universal Grammar*. Cambridge: Cambridge University Press.
- White, L., & Juffs, A. 1998. 'Constraints on wh-movement in two different contexts of non-native language acquisition: competence and processing.' In Flynn, S., Martohardjono, G. And O'Neil, W., (eds.) *The Generative Study of Second Language Acquisition*. Mahwah, NJ: Lawrence Erlbaum, 111-29.

(Associate Professor, School of General Education, Shinshu University)

15/ Feb. / 2010 Received 22/ Feb. / 2010 Accepted