秋　田　大　学
教養基礎教育研究年報
59 - 67　(2012)

A Polyglot Savant: Issues on Competence and Performance[1]

Hiroto Hoshi

Akita University

1. Introduction

By studying a polyglot savant, Smith and Tsimpli (1995) attempt to reveal the nature of language, communication and the human mind, and argue for Chomsky's (1965) dichotomy between language competence and performance (cf. Fodor 1983). In this paper, I show how Smith and Tsimpli analyze the nature of the savant's knowledge of English, and I try to point out potential problems for their processing-based analysis. Furthermore, I endeavor to suggest alternative ways to look at his linguistic knowledge, exploring their consequences.

To attain the above mentioned aim, in section 2, I introduce to the reader the polyglot savant, Christopher. In section 3, I present English data that Smith and Tsimpli (1995) elicited from Christopher. I show Smith and Tsimpli's analysis of Chrisopher's English in section 4, and in section 5, I attempt to point out some potential problems for their analysis, and suggest possible alternatives. Section 6 concludes the discussion of this paper.

2. Christopher (Smith and Tsimpli 1995, Smith 2002, Smith et al. 2011)

Christopher was born in Britain in January, 1962, and was diagnosed as brain damaged at age six weeks. He was late in walking and talking. Christopher is now institutionalized, because he has difficulty with everyday tasks that most people take for granted, and he is unable to look after himself. It is difficult for him to find his way around; he has poor hand-eye coordination; noughts and crosses are beyond him; he cannot pass the Piagetian number conservation tasks. Furthermore, Christopher has some autistic characteristics (see section 5.4 for more discussion on this issue). He cannot pass the 'Sally-Anne' test, which implies that Christopher may not understand that other people have minds, being unable to impute a false belief to others (see Frith 1989/2003), whereas he can sometimes pass the 'Smarties' test. Significantly, however, Christopher has exceptional linguistic abilities. Christopher can read, write, speak, understand and translate in any of fifteen to twenty languages. He is a polyglot savant, who has an island of remarkable linguistic talent in a sea of disability.

Smith and Tsimpli (1995) examine in detail the nature of Christopher's knowledge of his mother tongue, British English, and his numerous second languages. Given their findings, Smith and Tsimpli argue that Christopher has essentially perfect knowledge of English, but that he shows a sharp contrast between different kinds of knowledge in his second languages. In those second languages, Christopher has a good knowledge of lexical and morphological material. That is, he has a large vocabulary in his second languages such as Hindi, Polish, Turkish, and Modern Greek; he acquired morphological paradigms in such languages

1 This paper is based on my lectures at Akita University and Kyushu University in 2011. I am very grateful to Mikako Kusano and all the students in the courses for their comments, suggestions and questions. Needless to say, all the shortcomings are strictly my own.

quickly with ease. In syntax, however, all his second languages appear to necessarily filter through English, showing a number of 'transfer' effects. In their books, Smith and Tsimpli thus raise a number of intriguing questions as to the nature of language, first and second language acquisition, communication, autism, a 'Theory of Mind' module, etc., based on their discoveries.

In the following sections of this paper, I focus on discussing the properties of Christopher's British English. To do so, first, I show in the next section Smith and Tsimpli's data concerning Christopher's English.

3. Christopher's Knowledge of English (Smith and Tsimpli 1995)

Keeping Fodor's (1983) modularity hypothesis in their mind, Smith and Tsimpli (1995) subject Christopher to innumerable tests, and attempt to reveal the nature of his knowledge of his native language, British English. In this research project, Smith and Tsimpli are very cautious to identify the properties of Christopher's English, because they recognize fully that Christopher's grammaticality judgments should inevitably reflect not only his linguistic knowledge per se, but also the effect of processing strategies, performance limitations, etc. (cf. Chomsky 1965). On the basis of their careful investigation where they examine several thousands of Christopher's grammaticality judgments, they thus draw the conclusion with care that Christopher's knowledge of English is essentially perfect, and is entirely comparable to that of native speakers.

The conclusion with respect to Christopher's knowledge of English is based on his performance on the properties of a number of English data. I consider below some of Smith and Tsimpli's (1995) core data: ([OK] is given when Christopher accepts certain structures, while [R] is provided when he rejects such constructions. Christopher's specific contributions are shown in inverted commas.)

As seen in (1) and (1'),

(1) My shoes is dirty. [R]
(1') 'My shoes are dirty.'

Christopher understands that the verb has to agree with the subject in number in English.

As shown below,

(2) Remember Susan to feed the dog. [R]
(2') 'Tell Susan to feed the dog.'

he knows that the verb, *remember*, cannot select NP + to infinitive, while *tell* can do so.

The examples in (3) and (3') indicate that Christopher recognizes that *put* subcategorizes for NP + $[_{PP}$ in ...] rather than NP + $[_{PP}$ to ...].

(3) He put the car to the garage. [R]
(3') 'He put the car in the garage.'

The following data includes passives, interrogatives, negation, indirect questions, *tough* constructions, reciprocals, tag questions, and reflexives, and they all imply that Christopher's knowledge of English is analogous to that of normal native speakers.

(4) A book was given John by Peter. [R]
(4') 'A book was given to John by Peter.'

(5) Which you thought was an interesting idea? [R]
(5') 'Which have you thought was an interesting idea?'

(6) John wants no apples. [OK]
(7) John wants not apples. [R]

(8) I wonder that Mary was so upset. [R]
(8') 'I wonder why Mary was so upset.'

(9) It is easy to make John laugh. [OK]
(10) John is easy to make Peter laugh. [R]

(11) John and Susan often write to each other. [OK]

(12) I'm sure that Peter will remember what to say in the interview. [OK]

(13) The weather today is beautiful, is it? [R]
(13') 'The weather today is beautiful, isn't it?'

(14) Himself believes John to be happy. [R]
(14') 'He believes John to be happy.'

Similarly, the data in (15), (16), (17), (17'), (18) and (19) suggests that Christopher's English seems to be flawless with respect to the use of negative inversion, present participle, double object constructions, and negation.

(15) Never before have I seen such a scene. [OK]

(16) Landing planes are very dangerous. [OK]

(17) John gave a gift Susan. [R]
(17') 'John gave a gift to Susan.'

(18) Anybody can go in this room. [OK]
(19) Anybody can't go in this room. [R]

The following data including more complex structures examines Christopher's performance on relative clauses, resumptive pronouns, control constructions, island constructions, complex NPs, negative inversion, that-trace effects, preposition stranding, and pied-piping.

(20) The lady, I saw, who bought a present for Bill. [R]
(20') 'The lady I saw bought a present for Bill.'

(21) This is the girl that I saw her with John at the cinema. [R]
(21') 'This is the girl that I saw with John at the cinema.'

(22) John tried Peter to escape from prison but he didn't succeed. [R]
(23') 'John tried with Peter to escape from the prison but he didn't succeed.'

(23) What did Susan buy clothes and? [R]
(24') 'What clothes did Susan buy?'

(24) Mary believes the claim which John is a very intelligent man. [R]
(25') 'Mary believes the claim that John is a very intelligent man.'

(25) Scarcely had Bill arrived when he burst into tears. [OK]

(26) Which student do you think that could solve the problem? [R]
(27') 'Which student do you think could solve the problem?'

(27) What time is the shop open until? [OK]

(28) This is the doll which the silly clown danced last night. [R]
(29') 'This is the doll which the silly clown danced with last night.'

(29) Which buildings are the tourists looking at now? [OK]

(30) At which pictures were the children laughing this morning? [OK]

The data above appears to reinforce the claim that Christopher's responses are as accurate and as sophisticated as native speakers'.

Importantly, however, Smith and Tsimpli (1995) discover that Christopher's grammaticality judgments deviate sharply from native speakers' in the following constructions:

(31) Susan, I met her yesterday. [R]
(31') 'I met Susan yesterday.'

(32) Me, I don't like football. [R]
(32') 'I don't like football.'

Both (31) and (32) are instances of well-formed left dislocation construction in English. Christopher, however, makes unnecessary corrections as shown in (31') and (32'), and his contributions there appear to entail that Christopher does understand the basic meaning of (31) and (32). It should be noted here that to facilitate his understanding, Smith and Tsimpli present example (32) to Christopher with much discourse information as illustrated below:

(33) Steven invited Peter to his place to watch the match together. Steven asked his neighbor, Bill, to come around too. He didn't know that his neighbor didn't like football at all so Steven was very surprised when Bill told him very angrily: 'Me, I don't like football.'

Likewise, topicalization example (34) is rejected by Christopher, and he makes apparently unnecessary correction again as in (34').

(34) Steven, they saw during the break. [R]
(34') 'They saw Steven during the break.'

To help Christopher understand topicalization (34), the example in (34) is also given to him in the following rich context:

(35) John, Steven and Peter decided to go to the theatre last Thursday. They were supposed to meet in front of the tube station which was very close to the street where the theatre was. The performance started at 7 o'clock so they agreed to meet at 6:30. John and Peter were on time but Steven wasn't. John and Peter waited for 15 minutes and then they started walking towards the theatre. They had a drink and then they went inside to find their seats. Steven, they saw during the break. He was late because his car had broken down.

Christopher rejects the example in (36) as well, and his correction is given in (36').

(36) The Greek ones, Mary got. [R]
(36') 'Mary got the Greek ones.'

Example (36) is also given to him with apparently sufficient discourse information as follows:

(37) Peter and Mary collect stamps. One day they were given 10 very old stamps both English and Greek. Peter took the English stamps and added them to his collection. The Greek ones, Mary got. She spent a long time trying to understand what was written on them.

As illustrated below, Christopher's reactions to dislocation and topicalization in English are as consistent as above.

(38) I met her yesterday, Mary. [R]
(38') 'I met Mary yesterday.'

(39) John, I like very much. [R]
(39') 'I like John very much.'

(40) Mary, I met her in the cinema. [R]
(40') 'I met Mary in the cinema.'

(41) Susan, I left her at home. [R]
(41') 'I left Susan at home.'

(42) I sent it to Mary, the book about the Greek islands. [R]
(42') 'I sent the book about the Greek islands to Mary.'

(43) Mary, she returned to Greece yesterday. [R]
(43') 'Mary returned to Greece yesterday.'

(44) He stayed at Mary's house, Steven. [R]
(44') 'Steven stayed at Mary's house.'

Furthermore, Christopher reacts to a subset of extraposition constructions in a similar fashion, as

shown below:

(45) I resent it that you eat biscuits. [R]
(45') 'I resent that you eat biscuits.'
(46) I didn't suspect it for a moment that you would fall. [R]
(46') 'I didn't suspect that you would fall.'

(45) and (46) are both grammatical extraposition constructions in English, but Christopher makes unnecessary corrections again as in (45') and (46').

By contrast, given cleft constructions such as (47), (48), and (49), which often require adequate discourse information like dislocation and topicalization, Christopher has no problem to accept them exactly in the same way as native speakers.

(47) It is reading newspapers that I like the most. [OK]
(48) It is for this reason that only Mary believes Peter was angry. [OK]
(49) It is only John that I like. [OK]

Cleft clonstructions thus stand in sharp contrast with topicalization, dislocation and a subset of extraposition constructions, and an important question immediately arises as to why Christopher's knowledge of English appears to be entirely comparable to that of native speakers in a number of English constructions except dislocation, topicalization and a subset of extraposition. In section 4, I show a parsing-based analysis that Smith and Tsimpli (1995) suggest to answer this question.

4. Smith & Tsimpli's (1995) Analysis

To account for Christopher's performance on a wide range of data above, Smith and Tsimpli claim that Christopher's knowledge of English, his English syntax, is completely analogous to that of normal native speakers. By this suggestion, they attempt to explain Christopher's native-like responses to a number of constructions in English above. On the other hand, to account for Christopher's non-native-like reactions to dislocation, topicalization and a subset of extraposition constructions, Smith and Tsimpli suggest that all these constructions are indeed special, in that they require a special mental operation beyond syntactic representations, i.e. at the level of post-LF, which is too much extra processing burden to Christopher. For this very reason, Christopher eliminates topicalized or dislocated phrases consistently, reducing his mental processing load at post-LF, while maintaining the basic meaning of topicalization, dislocation and extraposition constructions.

To be more precise, Smith and Tsimpli propose that Christopher's syntax is flawless, and thus, he does not have any problem to accept operator-variable structures such as wh/OP-movement. This is illustrated below:

(50) [What time]$_i$ is the shop open until t_i? [OK] (= 27)
(51) [Which buildings]$_i$ are the tourists looking at t_i now? [OK] (= 29)
(52) [At which pictures]$_i$ were the children laughing t_i this morning? [OK] (= 30)
(53) It is only John [OP$_i$ that I like t_i]. [OK] (= 49)

According to Smith and Tsimpli, however, dislocation, extraposition, topicalization structures like (54) must concern not only syntactic levels, but also a further level, namely, post-LF, which is relevant to coreference.

(54) Steven, they saw during the break. (= 34)

At post-LF, under Smith and Tsimpli's analysis, structure (55a) for (54) must be converted into (55b) by means of the additional computation, a copying operation, which presupposes that the topic *Steven* and the rest of the sentence [*they saw pro during the break*] holds a predication relationship.

(55) a. [Steven], [they saw pro during the break].
↑_____↑
predication relation

(syntax & LF) ==>

b. [Steven], [they saw Steven during the break].
|_____↑
copying

(post-LF)

The copying operation at post-LF is, however, beyond Christopher's ability due to his central deficit. He thus deletes the topicalized phrase *Steven* in (55a), replacing pro with *Steven*, eliminating the extra processing at post-LF, and keeping the basic interpretation of (54). This is exactly the correction Christopher makes consistently for dislocation and topicalization structures like (54), as shown below:

(56) They saw Steven during the break. (= 34')

To summarize, Smith and Tsimpli (1995) claim that Christopher's rejection of topicalization, dislocation and a subset of extraposition could be attributed to his central rather than a modular deficit associated with the unavailability of post-LF, i.e. a level of representation beyond the syntax proper. To put it differently, on Smith and Tsimpli's analysis, Christopher's modular, linguistic faculty is identical to that of any other native speaker of English. Christopher, however, rejects topicalization, dislocation and extraposition due to his processing deficit at post-LF level in his central system. Consequently, Christopher makes apparently unnecessary corrections consistently for such constructions in order to reduce the processing load, while keeping the basic interpretations of such constructions.

Smith and Tsimpli's processing-based analysis above appears to yield a number of pleasing consequences. For example, Christopher accepts (57), whereas he rejects the corresponding center embedding configuration (58).

(57) He [put down] [the child that had sat down]. [OK]

(58) He [put [the child that sat down] down]. [R]

On Smith and Tsimpli's analysis, Christopher's contrast between (57) and (58) could be due to the increased processing load involved in center embedding structure (58), where the object [*the child that sat down*] is embedded inside the phrasal verb, [*put down*]. Needless to say, (57) and (58) are both acceptable to native speakers.

Notice also that Christopher rejects garden-path sentences such as (59) and (60), which are both well-formed (cf. Gorell 1995).

(59) While Mary was mending the sock fell on the floor. [R]

(60) The horse raced past the barn fell. [R]

Smith and Tsimpli's parsing-based analysis could provide a way to account for the data in (59) and (60). Namely, under their analysis, it can be considered that because of his deficit in processing in the central cognitive system, Christopher might not help assigning the following ill-formed representations to (59) and (60), respectively.

(61) *[While Mary was mending the sock,] fell on the floor.

(62) *[The horse raced past the barn] fell.

The following data seems to lead us to the same conclusion. (63) is grammatical, and is ambiguous, as illustrated in (64a-b).

(63) Fred told the man that he hired a story. [OK]

(64) a. #Fred told [the man] [that he hired a story].
b. Fred told [the man [that he hired]] [a story].

Christopher accepts (63) like native speakers, but as his Greek translation of (63) below suggests, his interpretation is semantically anomalous.

(63') 'O Friderikos ipe ston anthropo oti proselave mia istoria'
Fred told the man [that he hired a story]

Apparently, as Smith and Tsimpli's analysis implies, Christopher's central deficit forces him to analyze (63) as in (64a), rejecting center embedding configuration (64b), which causes too much processing to him. (Smith and Tsimpli (1995) present to the reader by far more data to support their processing-based analysis. The reader is referred to their original work for the whole of their valuable data.)

Given all these data, Smith and Tsimpli (1995) thus argue that processing sentences of the degree of complexity in (58), (59), (60) and (63) is beyond Christopher's capability, and that the root of Christopher's non-native-like responses should be due to his performance limitations rather than the language module itself. Smith and Tsimpli (1995, p. 79) thus conclude that Christopher's problematic responses are not due to a deficit in his grammar, but rather that they arise from processing difficulties which involve the interaction of his modular, linguistic faculty with central system operations.

5. Potential Problems and Altenatives

As I have shown in the previous sections, Smith and Tsimpli (1995) studied the polyglot savant, Christopher, in depth from very broad perspectives. I firmly believe that their study is a significant one, and it certainly casts some light on the nature of language, communication and the human mind. What is the most important is their elegant conclusion that the language faculty and the central cognitive system are dissociated. That is, Christopher has perfect English syntax, but he has some deficit in processing in his central cognitive system. Hence, Christopher accepts a number of grammatical expressions in English because his English grammar is flawless. Christopher, however, rejects some grammatical constructions such as topicalization, since he is forced to have certain additional processing load for such constructions.

I believe, however, that there are still some potential problems for Smith and Tsimpli's analysis, based on which we might be able to deepen our understanding of language and mind further. In this section, I therefore attempt to point out such potential problems for Smith and Tsimpli (1995). Where possible, I try to suggest alternative ways to look at the nature of Christopher's first language, exploring their consequences.

5.1 Dissociation: Competence vs. Performance

Smith and Tsimpli's (1995) analysis of Christopher's mother tongue, British English, is intriguing, particularly because if their proposal is correct, Christopher's case seems to provide substantial support for Chomsky's (1965) dichotomoy between competence and performance (contra. Kempson et al. 2001, Cann et al. 2004, etc). According to Smith and Tsimpli, Christopher must have perfect English competence, but he has problematic performance due to a deficit in his central system. This conclusion drawn by Smith and Tsimpli is intriguing, and given their detailed study of Christopher's cognitive abilities, it seems to me to be the best analysis of Christopher's native language. This is so, because given Christopher's performance on center embedding structures, garden-path structures, etc., it appears obvious that Christopher has some difficulty with processing. However, Smith and Tsimpli's processing-based post-LF analysis of Christopher's English must be treated with much care for the following reasons:

Kempson et al. (2001) and Cann et al. (2004), for example, reject Chomsky's language competence and performance, and propose Dynamic Syntax, which is a grammar formalism that directly reflects the dynamics of on-line processing. Under Dynamic Syntax, the language faculty might thus be part of our central cognitive system. Given this, a question immediately arises as to if Dynamic Syntax could provide an adequate analysis of Christopher's British English, while denying the dichotomy between competence and performance. I believe that it is not impossible for

dynamic syntacticians to formulate such an analysis, because they should be able to claim that topicalization, dislocation, extraposition, center embedding, and garden-path structures could involve certain processing mechanisms which Christopher is unable to utilize. This type of analysis, however, has to explain why Christopher has a deficit only in such domains of the language faculty.

Smith and Tsimpli's analysis appears to be able to avoid having this kind of problem. This is because they propose that the language faculty is dissociated from the central cognitive system (cf. Fodor 1983), and thus, they can claim quite naturally that Christopher's language faculty is essentially perfect, but he has a deficit only in processing in the central system.

5.2 Processing in the Central System

Smith and Tsimpli suggest that the copying operation is necessary for topicalization, dislocation and a subset of extraposition constructions at the level of post-LF, and it is this copying beyond syntactic levels that yields too much processing burden to Christopher. Similarly, Smith and Tsimpli claim that center embedding structures and garden-path structures give Christopher excessive processing load. If this is indeed the case, a number of important questions arise as to exactly what the post-LF level is, whether there is indeed any processing property in common among topicalization, dislocation, extraposition, center embedding, garden-path structures, etc. To strengthen Smith and Tsimpli's theory, it should be desirable for us to attempt to reveal the nature of post-LF level and the properties of processing mechanisms involved in structures such as dislocation, topizalization, garden-path structures, etc.

Furthermore, given examples such as (27'), there arises a question as to how Christopher, who has perfect English syntax but has a deficit in his cognitive system, parses examples such as (27'), which involve complex structures, and why Christopher accepts complex structures like (27'), rejecting apparently quite simple topicalization structures like (34). Given (13'), (47), (48), and (49), a question also arises as to how Christopher parses and generates cleft constructions such as (47), and tag questions such as (13'), both of which require adequate discourse information like topicalization, while he has difficulty in processing in his central cognitive system.

The discussion in this subsection thus indicates that to maintain Smith and Tsimpli's analysis, it is essential for us to try to uncover the properties of post-LF level and processing operations in the central cognitive systems in depth in our future research.

5.3 A Purely Syntactic Analysis

Although Smith and Tsimpli's processing-based post-LF analysis of English topicalization is an interesting one, crucially, we do not yet understand fully the nature of post-LF and the copying operation for dislocation, topicalization, etc. at the level beyond syntax. Hence, some might be tempted to propose a purely syntactic account for Christopher's knowledge of English, rejecting Smith and Tsimpli's post-LF-based analysis completely. That is, they might wish to claim that Christopher's English syntax is, in fact, not perfect at all, because he cannot parse or generate adequately dislocation, topicalization and a subset of extraposition constructions (cf. Kempson et al. 2001, Cann et al. 2004). This approach is also a very interesting one, but a question arises as to why Christopher's English syntax is defective only with respect to those constructions. Furthermore, those who adopt this type of purely syntactic analysis without appealing to Christopher's processing deficit must attempt to explain why Christopher has problems for center embedding structures, garden-path configurations, meta negation, rhetorical questions as well, as discussed in great detail in Smith and Tsimpli (1995).

5.4 Autistic Characteristics

As I have briefly mentioned in section 2, Christopher has some autistic characteristics. The

'Sally-Anne' test and the 'Smarties' test are both well-known tests for the autistic (Frith 1989, 2003, Smith and Tsimpli 1995, Smith 2002, Smith et al. 2011, etc). Importantly, Christopher cannot pass the Sally-Anne test, but he can sometimes pass the Smarties test. This fact implies that he is not totally autistic, but has some autistic characteristics, i.e. a deficit in his 'Theory of Mind.' Thereby, Christopher cannot understand that other people have minds, and thus, he cannot ascribe a false belief to another mind. Moreover, it could hint at the possibility that Christopher's rejection of dislocation, topicalization and extraposition structures may not have anything to do with the copying operation at post-LF (Smith and Tsimpli 1995), but something to do with his autistic characteristics. That is, there could be a possibility that his rejection of such constructions might have much to do with his defective 'Theory of Mind' module (Frith 1989/2003, among others). Consequently, this possibility suggests that through a detailed study of autism (Frith 1989/2003, among others), we might be able to find a way to characterize the nature of Christopher's knowledge of his mother tongue even more adequately than now.

These are my speculations at this moment, based on which I am intending to carry out further research to deepen our understanding of the nature of language, communication and the human mind.

6. Conclusion

In this paper, I have attempted to show how Smith and Tsimpli (1995) analyze the nature of the polyglot savant's knowledge of British English. To the extent that Smith and Tsimpli's (1995, p. xv) assumption is correct 'that all humans are in essence the same and that insight gained from the study of one will be relevant to the species,' it seems to be reasonable to conclude that the language faculty is dissociated from the central cognitive system in the human mind, given their careful study of Christopher's cognitive abilities. This could also provide further support for Chomsky's (1965) dichotomy between language competence and performance.

As I have pointed out in section 5, Smith and Tsimpli's analysis of Christopher's knowledge of English is an elegant one. However, their analysis is not entirely free from problems, and there still remain some potential problems for this proposal. To see whether Smith and Tsimpli's theory is indeed correct or not, it seems that we still have to keep carrying out our research to reveal further the nature of post-LF beyond syntactic levels, central processing operations, autism, a Theory of Mind module, etc. from broad perspectives.

References

Cann, R., R. Kempson, and L. Marten (2004) *The Dynamics of Language: An Introduction*, Elsevier, Academic Press.

Chomsky, N. (1965) *Aspects of the Theory of Syntax*, MIT Press.

Fodor, J. (1983) *The Modularity of Mind*, MIT Press.

Frith, U. (1989/2004) *Autism: Explaining the Enigma*, Blackwell Publishers.

Gorell, P. (1995) *Syntax and Parsing*, Cambridge University Press.

Kempson, R. W. Meyer-Viol, and D. Gabbay (2001) *Dynamic Syntax: The Flow of Language Understanding*, Blackwell Publishers.

Smith, N. (2002) *Language, Bananas, & Bonobos: Linguistic Problems, Puzzles, and Polemics*, Blackwell Publishing.

Smith, N. and I.-M. Tsimpli (1995) *The Mind of a Savant: Language Learning and Modularity*, Blackwell Publishers.

Smith, N., I. Tsimpli, G. Morgan, and B. Woll (2011) *The Signs of a Savant: Language Against the Odds*, Cambridge University Press.