e-scrita ISSN 2177-6288

V. 9 – 2018.3 – TOASSI, Pâmela Freitas Pereira

EVIDENCE OF INNATE MECHANISMS IN FIRST, SECOND AND SUBSEQUENT LANGUAGE ACQUISITION

Pâmela Freitas Pereira Toassi[1]

ABSTRACT: The rapid and effortless way that children acquire their first language is intriguing for researchers. Mainly because their grammatical achievement cannot be explained by the input received. For these reasons, the present paper argues in favor of innate mechanisms which govern language acquisition. The innatist view stands for explaining linguistic acquisition without sufficient instruction or input. Indications of innate mechanisms from the literature are brought into consideration in the present paper. Together with the data provided by the literature, some considerations from Seuren (2013) and Cook (2009) are also made to the traditional view of Universal Grammar. At last, it is claimed that these innate mechanisms are also present in late second and third language acquisition.

Keywords: innatism, Universal Grammar, third language acquisition.

EVIDÊNCIA DE MECANISMOS INATOS NA AQUISIÇÃO DE PRIMEIRA, SEGUNDA E TERCEIRA LÍNGUAS

RESUMO: A forma rápida e fácil com a qual as crianças adquirem a língua materna é intrigante para pesquisadores, principalmente porque o avanço gramatical que elas alcançam não pode ser explicado apenas pelo insumo recebido. Por estas razões, este artigo argumenta em favor da existência de mecanismos inatos que regem a aquisição da linguagem. A visão inatista explica a aquisição da linguagem sem que haja instrução ou insumo suficiente. Neste artigo, são apresentadas evidências da literatura que reiteram essa visão. Adicionalmente, são apresentadas algumas considerações de Seuren (2013) e Cook (2009) em relação à visão tradicional de Gramática Universal. Por fim, argumenta-se que esses mecanismos inatos para a aquisição da linguagem também estejam presentes na aquisição tardia de segunda e terceira língua.

Palavras-chave: inatismo; Gramática Universal; aquisição de terceira língua.

1. INTRODUCTION

Gomez and Gerken (2000, p. 178) state that "Language acquisition is one of the most complex learning tasks imaginable". Moreover, the facility and rapidity with which children

[1] Professora adjunta do Departamento de Estudos da Língua Inglesa, suas Literaturas e Tradução (DELILT) da Universidade Federal do Ceara (UFC). Professora do Programa de Pós-Graduação em Estudos da Tradução, com ênfase na linha de pesquisa tradução e cognição. Possui Doutorado em Inglês: Estudos Linguísticos pela Universidade Federal de Santa Catarina (2016). Coordena o grupo de pesquisa Processamento da Linguagem de Bilíngues e Multilíngues.

acquire language become "one of the mysteries of human cognition" (GOMEZ; GERKEN, 2000, p. 178). First language acquisition may be considered as a natural and effortless process. Nevertheless, the complexity of language acquisition is more evident when late second language acquisition is concerned. Liang (2009) claims that under normal circumstances, the comparison of first and second language acquisition may seem that first language acquisition is more natural and also more successful. Liang (2009) also claims that this facility with which first languages are acquired is illogical, since the input received by children is insufficient to explain their achievement. Along the same lines, O'Graddy (2001) posits that there might be a unique innate mechanism for our species which enable children to acquire the grammar of their language. The aim of the present paper is to argue for innate mechanisms for language acquisition, presenting evidence of these innate mechanisms not only for first language acquisition, but also for second and third language acquisition.

This paper is organized as follows: the first part of this paper consists of the present introduction. Next, a section is devoted to presenting some arguments for the existence of innate mechanisms for language acquisition are brought. In the third part, indications of innate mechanisms for first language acquisition are considered. The fourth part of this paper consists in explaining the innatist view of language acquisition. In the fifth part, the innate mechanisms manifested in second and third language acquisition are discussed. At last, the main ideas developed throughout this paper are summarized.

2. INNATENESS

Since the aim of this paper is to argue for the existence of innate mechanisms for language acquisition, it is important to begin with a definition for the concept of innateness, which will be adopted in the present paper in accordance with Seuren (2013, p. 91):

> In ethology, the notion 'innate' plays the role of what we call 'universal', and 'innate' is defined as covering all behavior that is not learned but springs up spontaneously, as part of an inbuilt drive, often despite counteracting environmental factors or even despite physical handicaps or restraints.

One of the main motivations for the notion of innate language acquisition is the fact that children acquire their first language with a certain easy: "…the speed, ease regularity and universal inevitability of infant language acquisition during the critical learning period, in face of fragmentary and contaminated linguistic input, strongly suggests such a programmatic

prewiring" (SEUREN, 2013, p. 118).

Following the same argument, Liang (2009) states that the input received by first language learners is insufficient to explain the knowledge that is acquired by them. An explanation for this would be the existence of innate mechanisms that govern language acquisition. Along the same lines, Crain and Pietroski (2001) claim that children acquire linguistic capacities in just a few years. According to the authors, one of the main questions of Linguistics is to investigate the differences in the rate of first language acquisition and late second language acquisition. Regarding first language acquisition, the authors claim that one intriguing question is that of the poverty of the stimulus, which means that some knowledge could not have been acquired by a child, since there was no input available. As a consequence, this knowledge could only be innate.

In short, it can be seen that the main reasons for arguing for innate mechanisms in language acquisition are the demonstrations of knowledge which could not have been acquired, either because there was no explicit teaching on the topic or because there was no sufficient input. These manifestations are more evident in children's acquisition of their native language, since it is claimed that they are not exposed to sufficient input that would justify their grammatical achievement. In order to explain this phenomenon, it is claimed for the existence of innate mechanisms as further discussed in the following section.

3. EVIDENCE OF INNATE MECHANISMS FOR FIRST LANGUAGE ACQUISITION

As already stated, one of the main motivations for the argument of innate mechanisms for language acquisition is the rapid and effortless acquisition of the first language by children. Petitto (2000) researched children who acquired both English and French spoken and sign languages, from the period of birth till the 48 months. More specifically, the research focused on one group of hearing infants with one parent that signs and the other that speaks and another group of hearing infants, with deaf parents, being only exposed to sign language. Petitto (2000) explains that the babies acquire both the sign language and the spoken language at the same maturational timetable. Moreover, the babies do not show a preference for the spoken language over the signed language. The author also explains that the hearing babies who received input only from signed language, produced manual babbling, first- signs, first- two signs and other milestones at the same time as other children, irrespectively of being deaf acquiring sign or

hearing acquiring speech.

Petitto (2000) also brings results from a study using PET (Positron Emission Tomography) to analyze the brain activation of hearing and deaf participants, which showed "…common brain activation sites in languages with and without sound" (PETITTO, 2000, p. 12). According to the author, these results together with the acquisition findings, "provide evidence that the brain may possess mechanisms dedicated to processing specific patterns unique to natural language – and not sound or speech" (PETITTO, 2000, p. 12). Petitto's (2000) findings are very important to corroborate the innatist view of natural language acquisition.

Within the innatist perspective, Crain and Pietroski (2001) have observed that children might exhibit some constructions which differ from the language which they are receiving input from, and this would be explained by a possible innate linguistic hypothesis created by children concerning language. Moreover, the authors highlight the fact that children use appropriately some properties of grammar very early which can only be explained by innatism, since they could not have learned them at this age. The authors claim that one of the strongest arguments for the existence of a universal grammar might be the theory-driven mismatches between the child and the adult language. More specifically, the authors exemplify the case of a child in an English speaking environment who exhibits some constructions that resemble German, Romance or East Asian languages. One such example would be from a study by Crain and Thornton (1998, as cited in CRAIN; PIETROSKI, 2001) and Thornton (1996, as cited in CRAIN; PIETROSKI, 2001) who collected sample sentences from English speaking children such as.: "What do you think what pigs eat?" (p. 176). This is an example of a child using wh – question words in the middle of a sentence, which are unusual sentence constructions in English. However, this is a common sentence construction in Irish, for instance. This example indicates that children make hypothesis about the grammar of their language based on innate mechanisms.

Another indication of innate mechanisms for language acquisition would be the inexistence of some grammatical errors by children. Gomez and Gerken (2000) posit that children never transform a sentence such as "The man who is tall is Sam", into "Is the man who tall is Sam?". The authors claim that an explanation for this would be that children do not consider rules based only in the linear order of sentences. The way children process this information is intriguing for researchers. The authors suggest that humans must have innate constraints in order to generalize the rules which apply to the language they are being exposed to.

4. THE INNATIST VIEW OF LANGUAGE ACQUISITION AND SOME CONSIDERATIONS REGARDING *UNIVERSAL GRAMMAR*

According to the previously stated, an explanation for first language acquisition would be the existence of innate mechanisms that constrain what is possible in human languages. Hawkins (2006) explains the concept of Universal Grammar (UG), which posits that the grammar of all human languages is built on the same pattern and that the variation between languages obeys the possibilities of this UG. Hawkins (2006) also explains that in the 1980s, UG was known as the principles and parameters, where principles were the invariant properties of grammar construction and parameters were the specifications of possible variation. Hawkins (2006) justifies the fact that the mechanisms which underlie grammar building are innate by claiming that syntactic knowledge is underdetermined by the input. The author claims that this is true both for first and second language acquisition.

On the other hand, Seuren (2013) offers a more suitable explanation for the innate mechanisms which govern language acquisition. Seuren (2013) states that the term Universal Grammar is inappropriate to cover the innate knowledge of the learner, since it suggests a single universal grammar for all humans. For these reasons, Seuren (2013) speaks of Universal Principles of Grammar or UPG. The UPG would be the principles that underlie all language-specific grammars.

Along the same lines, the concept of innatism is defined by Seuren (2013, p. 118):

> Innatism can be seen as an attempt at incorporating extrinsic universals into a theory of intrinsic universals, in that, with an innate language module, the species- specific mental make-up of humans will be such that it has all universal linguistic properties as necessary consequences.

Moreover, it has to be pointed out that the innate position does not disregard the role of input in language acquisition. Children will acquire the language(s) they are exposed to, becoming a monolingual or a bilingual depending on the language(s) spoken by the community (CRAIN; PIETROSKI, 2001). In other words, input matters, but it is not the only responsible for language acquisition.

Still on the matter of input, Cook (2009) explains that one of the starting elements for the existence of an innate mechanism which governs language acquisition is the fact that human children acquire language in very diverse situations. He explains that in some cultures, adults

do not speak to children, in others adults speak to their children in baby- talk, and there are even others who refuse to adapt in order to speak to the baby. Nevertheless, Cook (2009) argues that the mere existence of language input is sufficient to trigger language acquisition, irrespectively from the environment where the child lives. For the reasons stated, Cook (2009) claims that a theory of language acquisition has to account for the diversity of conditions that children might encounter when acquiring language, instead of being specific regarding the input received by children.

Nevertheless, Cook (2009) criticizes the position that research based on UG and SLA has taken regarding monolingualism as the norm. Instead, Cook (2009) claims for a UG based on a multilingual mind. One of the questions asked by the author is why a mind with two languages is taken as the exception instead as being seen as the rule? Cook (2009) argues for a multilingual UG, instead of the UG commonly known, which takes the monolingual speaker as its model.

In favor of this multilingual UG, Cook (2009) posits that children who are exposed to two or more languages acquire all of them, which shows that the mental device for language acquisition is capable of coping with two or more languages. Cook (2009) states that "monolingualism can be considered as a widespread form of language deprivation" (p. 57), since monolinguals speak only one language because this was the knowledge which they were exposed to. According to the author, this language deprivation has environmental causes and not linguistic causes. Moreover, the author states that language acquisition is constrained by input dependence. In other words, children are capable of acquiring two or more languages, depending on the input they receive. Along the same line of arguments, Cook (2009) states that the logical problem of language acquisition should not be how children acquire language from an input, but how children manage to separate input from different languages, when the input received is not tagged as Language A or Language B.

In order to account for the two languages of a bilingual person, Cook (2003, as cited in COOK, 2009) has proposed that the mental grammars of the two languages are integrated. More specifically, the author proposed that the two languages are in two poles, which makes it possible for them to be completely separated or completely integrated. According to this proposal, a bilingual has a complex system where the two languages are tied together, making it possible for one language to affect the other. Cook (2009) adds that: "If UG takes the single grammar as the norm, it cannot account for the composite system of multiple grammars, only for a default where the mind contains a single grammar." (p. 59).

Another argument brought by Cook (2009) for the multilingual UG, is that the number of multilinguals in the population of the world may outnumber monolinguals. In addition, Cook (2009) emphasizes the importance of UG accounting for the L2 user, mainly because of the great number of people who learn *lingua franca* – English, for professional reasons and also live in a country where this language has no official status (the case of English in Brazil). Cook (2009) states that the number of multilingual groups and L2 users makes up a massive number of people who constantly use a second language in their lives. Cook (2009) adds that: "Through its simplification to monolingual native speakers, Universal Grammar is ignoring the language knowledge in the minds of probably the majority of the human race." (p. 60).

Cook (2009) also criticizes the idealized monolingual native speaker who is the key figure in Universal Grammar. Mainly, Cook states that linguists have turned against discriminating language by race, class, and sex, but when it comes to non-native speakers, they are still analyzed taking the native speakers' group as the default one. Moreover, Cook (2009) claims that "UG theory is failing if, far from accepting L2 users as having one of the basic types of language knowledge, it dismisses their knowledge as a defective version of the monolingual's. Cook (2009) also points out some issues related to a possible multilingual UG. For instance, the author claims that the poverty of the stimulus argument would have to be reevaluated, and the most appropriate question would be how the child manages to set the parameters of UG when receiving multilingual input which is not labeled as Language A or B. Another question pointed by Cook (2009) regards the parameters setting for the multilingual mind: how two different parameter settings are available for the L2 user? Finally, Cook (2009) claims that multilingualism should be seen as the norm and not the exception.

5. INDICATIONS OF INNATE MECHANISMS IN SECOND AND THIRD LANGUAGE ACQUISITION

O' Graddy (2001) states that the same inborn mechanisms manifested for first language acquisition are also available for second language acquisition. In order to investigate if these innate mechanisms also apply to second language acquisition, White (2003, as cited in LIANG, 2009), explains that there must not be enough observable or instructed L2 input available concerning the phenomenon investigated. Moreover, the phenomenon under investigation must differ from the L2 learners' first language.

An indication of innate mechanisms in the acquisition of a second language is found in

the case of English speakers learning Mandarin as an L2. Liang (2009) explains that classifiers in Mandarin differ syntactically from English: "Mandarin classifiers differ from English measure words in that the former are obligatory in numeral phrases, incompatible with modification, modification marker suffixation and mass nouns" (LIANG, 2009, pp. 141-142). In the study reported by Liang (2009), 80 English speaking adults learners of Mandarin as a second language participated. These participants were divided into four groups, according to their proficiency level and there was also a control group constituted by 20 Mandarin native speakers.

Participants were submitted to an acceptability judgment task, which contained four sentence types: obligatory use of Mandarin classifiers in numeral phrases, incompatibility of classifiers with modification, incompatibility of classifiers with –de suffixation and incompatibility of classifiers with mass nouns. If these L2 learners can acquire the classifiers in English, it is evidence that it is caused by innate mechanisms of language acquisition. The study examined the acquisition of the classifiers, and the participants could successfully acquire this abstract knowledge in Mandarin, having no input available and also being not able to resort to their first language, English. The results of this study indicate the existence of innate mechanisms also for second language acquisition.

Along the same lines, Seuren (2013) brings an example of a Balinese speaker learner of English as a second language, who demonstrated knowledge of the second language, English, which can only be explained by innate mechanisms. This Balinese speaker was presented to the four following sentences:

(1) While John stood on the balcony, he watched the crowd.
(2) While he stood on the balcony, John watched the crowd.
(3) John watched the crowd, while he stood on the balcony.
(4) He watched the crowd, while John stood on the balcony.

In these sentences, the pronoun *he* is interpretable as coreferential with John (the antecedent) in sentences 1 to 3, but not in 4, where John is not a possible antecedent (SEUREN, 2013, p. 120). This case of internal anaphora is not taught to children when learning the first language. In the case exemplified it was not taught to the Balinese speaker either. However, he could see the difference between the sentences 1 to 3 and sentence 4, which, according to Seuren (2013), can only be explained if the internal definite anaphora principle comes with human

nature.

There are many studies which set out to investigate if the principles and parameters for language learning are set only at an early period, in this case, our learning of a second language would be only based on our L1 grammar. These studies also investigate if the different parameters of language can be set in the late second, third or further language acquisition. Flynn (2009) states that if these studies prove that all the language knowledge, not only the native language, can subsequently affect language acquisition, we would have relevant information concerning the innate principles of language and the specific properties of language concerning the development of language grammar. Flynn (2009) also states that the study of third language acquisition can bring relevant data regarding the process of language learning.

In order to investigate grammatical learning of a third language, Flynn (2009) conducted a study with L1 Kazakh and L2 Russian speakers, with focus on the acquisition of relative clauses in English as an L3. The author explains that Kazakh is a Turkish language, whose word order is primarily Subject-Verb Order (SVO), and head-final direction, left- branching structure, which means that Kazakh differs from English in these two syntactic properties. On the other hand, Russian is a Slavic language, with primary SVO order and head-initial, right-branching language, meaning that Russian does not match Kazakh but matches English, concerning these properties. In the study, participants performed an elicited imitation task, containing three types of relative clauses in English: lexically headed, specified; lexically headed, unspecified and free relative. The author states that the participants presented universal knowledge regarding the free relative, what is an indication of the presence of innate mechanisms also for third language acquisition. Moreover, it can be seen from the results of this study, that the principles of language grammar cannot be acquired only at an early period of life, since the participants of this study were all adults and could successfully acquire the specific grammatical knowledge of English. Jaensch (2009) brings a different perspective, and points out that L3 learners who have already experienced learning an L2 and have achieved a good proficiency level in this second language, may be more sensitive to the new features of this L3, which facilitates the parameters setting of the new language.

6. CONCLUSION

To sum up, it was seen in the present paper that, in order to explain the linguistic achievement of children, it can only be claimed for the existence of innate mechanisms which

are responsible for language acquisition. These mechanisms would explain the rapidity with which children successfully acquire their first language without being exposed to sufficient input. In addition, it has been shown that these innate mechanisms are also present in late second and third language acquisition, which also explains the knowledge manifested by L2 or L3 learners, who despite having not been provided with explicit instruction or sufficient input, as the case of the Balinese speaker exemplified by Seuren (2013), could successfully acquire some specific grammatical knowledge. In the present paper, some considerations to the traditional view of principles and parameters of Universal Grammar were brought, first by Seuren (2013) who proposes a more suitable explanation for the innate mechanisms of language acquisition, which are the Universal Principles of Grammar. In the sequence, the perspective of Cook (2009) was also considered. Cook (2009) states that research based on UG has to take into consideration the multilingual mind.

REFERENCES

COOK, V. (2009). Multilingual universal grammar as the norm. In: LEUNG, Y. I. (Ed.); *Third language acquisition and universal grammar*. (pp. 55-70). Bristol(UK): Multilingual Matters.

CRAIN, S. ; PIETROSKI, P. (2001). Nature, nurture and Universal Grammar. *Linguistics and Philosophy*, 24. 139-186.

FLYNN, S. (2009). UG and L3 Acquisition: new insights and more questions. In: LEUNG, Y. I. (Ed.); *Third language acquisition and universal grammar*. (pp. 71-88). Bristol(UK): Multilingual Matters.

GOMEZ, R. L. & GERKEN, L. A. (2000) Infant artificial language learning and language acquisition. *Trends in cognitive sciences*, 4 (5). 178-186.

HAWKINS, R. (2006). *Second language syntax: a generative introduction*. Malden: Blackwell Publishing.

JAENSCH, C. (2009). L3 enhanced feature sensitivity as a result of higher proficiency in the L2. In Y. I. Leung (Ed.); *Third language acquisition and universal grammar*. (pp. 115-142). Bristol(UK): Multilingual Matters.

LIANG, Y. C. (2009). Do L2 grammars go beyond the L1 and L2 input? Proceedings of the 3rd Conference on Generative Approaches to Language Acquisition North America (GALANA 2008), ed. Jean Crawford *et al*, pp. 139-147. Somerville, MA: Cascadilla Proceedings Project.

O' GRADDY, W. (2001). Toward a new nativism. *Studies in Second Language Acquisition*, 21. 621-633.

PETITTO, L. A. (2000). On the biological foundations of human language. PETITTO, L.A. (2000). On The Biological Foundations of Human Language. In: EMMOREY, K.; LANE, H. (Eds.) *The signs of language revisted: An anthology in honor of Ursula Bellugi and Edward Klima*. Mahway, N.J.: Lawrence Erlbaum Assoc. Inc.

SEUREN, P. A. M. (2013). From Whorf to Montague. Explorations in the Theory of Language. Oxford University Press, 384p.

_____

Recebido em: 15/06/2018
Aceito em: 20/11/2018