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CHOMSKY'S VIEWS ON FIRST LANGUAGE ACQUISITION

Introduction

A clear-cut analysis of Chomsky's views on first language acquisition is presented in this paper. Chomsky, who is a famous linguist and supporter of the theory of rationalism, or mentalism, believes that language is an innate faculty of the mind and that the child is born with knowledge of language. Experience provides the means for the child to acquire the language perfectly and without special effort. Chomsky does not accept the behaviourist theory that states that a child is born with a 'tabula rasa' in their mind, namely that s/he does not have the slightest information about the form of language, but s/he learns the language through habits or due to his/ her environment that provides linguistic information. Chomsky's rationalist theory on first language acquisition will be illustrated, since it has an extremely interesting framework and has been considered as a fundamental theory in the linguistics field.

An explanation about the way an ideal grammar for children is constructed by referring to Chomsky's definition of a 'generative grammar', in relation to the speaker's ability to deal with language effectively. The importance of 'deep and surface structure' and the way 'transformations' are linked to this linguistic theory are also discussed. My aim is to enable the reader to understand the relation of these theoretical aspects to the way a child acquires his / her mother tongue and proceeds in its use.

Finally, in the third part of the article, I refer to Chomsky's later views on first language acquisition, since there has been a shift in his ideas during the 1980's. I explain the reason for this change and I deal with the analysis of his recent views in

relation to the first language acquisition pattern.

1. THEORIES CONCERNING FIRST LANGUAGE ACQUISITION

The first part of the article concentrates on defining the object of first language acquisition as pointed out by Chomsky in the 1960's.

1.1 A Rationalist approach to the character of first language acquisition.

In this first section, I deal consistently with the way rational theory applies to first language acquisition, focusing mainly on Chomsky's theoretical framework. Chomsky, whose rational views on first language acquisition have been broadly discussed argues that knowledge of language is innate, namely that a system of knowledge is fixed in the human mind, constituting the human language faculty. All the linguistic information that a child needs to possess in order to acquire language is present in their mind in the form of an innate representation of rules and structures. The child is predisposed with knowledge that s/ he has to arrange into a logical order and use it in the production of speech.

The main point in Chomsky's theory on first language acquisition is the ability of children to manipulate linguistic structures and rules. Chomsky views children as being intuitive and informed in such a way that they can form meaningful and grammatical sentences by simply observing the data they receive. A child may receive a signal and describe it structurally and grammatically, since s/ he has at his / her disposal a rich set of internalized rules that operate when 'triggered' by experience or maturation. According to Chomsky 1980 (in Botha: 1992, p. 16) 'a cognitive system such as a language results from the interaction between an organism's experience and the organism's method of dealing with the experience'.

Chomsky provides a detailed analysis on the fixed principles that exist and grow through experience in a child's mind. He rejects the behaviourist theory that views language in terms of a set of habits that are formed by the environment in

which a child grows. Chomsky acknowledges the fact that knowledge of language is genetically determined; according to Chomsky (1988) in Aitchison (1993, p. 15) 'this knowledge is part of the child's biological endowment, part of the structure of a language faculty'.

1.2 Theoretical and practical problems in the study of first language acquisition

Having set the basis for a thorough discussion on first language acquisition, I proceed with examining the difficulties that emerge in this theoretical field, rightly in my opinion. It is well established that language acquisition is a complex and varied process, which analyses the data obtained by children at an early stage of growth; this data provides the basis for the knowledge of language. In the case of lack of data that is essential, or omission of basic structural or grammatical components, the child may end up in linguistic confusion.

As Chomsky points out (1966, p. 124), 'it is difficult to study the speech to which the child is exposed over a period of two or three years'¹. It is nearly an impossible task to analyse the linguistic data provided to the child at such an early stage; the reason for this is the fact that the data provided tends to be quite simple and lacking basic grammatical and structural information. How can someone possibly explain data that consists of ungrammaticalities, slips-of-the-tongue, incomplete utterances, false starts and pauses? Linguists find it difficult to study a child's mind and the s/ he deals with the linguistic data, especially in the case that this data is oversimplified.

A second difficulty that arises in the study of language acquisition is the fact that child speech is not rich enough to account for a full description of the utterances produced by them on a semantic, phonological and grammatical level². In order to

¹ Data which Chomsky calls 'primary linguistic data'.

² The impoverished linguistic data that the child is exposed to is relevant to the fact that mothers use a simple language when talking to a child at an early stage of growth. Chomsky quotes that 'the simplified data offered to children in the form of "motherese" constitute the

support this case, I will refer to an example (Chomsky: 1966, p. 126) of a child's utterance at an early stage of speech: *'mummy chair'*. The correct utterance should be *'mummy's chair'* or *'mummy has a chair'*. In the above example, we correctly assume that the impoverished speech should include extra pragmatic knowledge in order to be completely understood by a mature speaker.

A third problem observed in language acquisition is based on the relation that exists between the data the child receives and the data that s/ he actually produces. In fact, the relation is not immediate since there is a certain time span between the two data components. The time span serves purposes of analysis and investigation that take place in the human mind immediately after the reception of the data by the child; reaching the speech-production stage is based on the child's intuitions and the ways of dealing with new and more complex information that appears in their linguistic repertoire. Speech evolution occurs gradually and is dependent on the speaker's innate abilities.

Having presented Chomsky's theory of the character of first language acquisition, and the main difficulties involved in the study of the process, I continue my analysis by illustrating Chomsky's views on the topics by applying to more detail.

1.3 Chomsky's model of language acquisition: The Language Acquisition Device (LAD)

In section 1.1 of the article I mentioned the existence of an innate schema of the language faculty present in the child's mind. Chomsky's attempts to describe the way that these internalized rules function in order to lead the child to the knowledge of language have led him to the conclusion that a kind of mechanism or apparatus is fixed in the human mind, 'an innate component of the human mind that yields a particular language through interaction with presented experience, a device that converts experience into a system of knowledge attained: knowledge of one or another language' (Chomsky:

basis on which children actually acquire the language' (Chomsky: 1980, p. 42, in Aitchison: 1993).

1986, p.5). Chomsky argues that the role of this device for language acquisition is of outmost significance because without such a device language acquisition would be impossible.

Furthermore, Chomsky (1965 version) quotes that 'a hypothesis-making device, linguistic universals and (perhaps) an evaluation procedure constitute an innately endowed Language Acquisition Device (LAD)' (Aitchison: 1993, p. 102). This device enables the child to interpret the information s/ he receives about language. The device resembles to a network, which involves a deep analysis of the grammatical components of language, present in the child's data. In my view, a child must form hypotheses about language, otherwise s/ he will not be able to reach the speech production stage; if a child does not form hypotheses about language, I believe that s/ he will continually repeat himself/ herself and copy the utterances s/ he hears from other speakers of the language, provided to the child in a simplified linguistic form.

Moving a step forward in this analysis, I would like to highlight the importance of linguistic universals in relation to the 'Language Acquisition Device' model. By considering the meaning of such a theory, Chomsky poses the question: 'What are the initial assumptions concerning the nature of language that the child brings to language learning, and how detailed and specific is the innate schema (the general definition of 'grammar') that gradually becomes more explicit and differentiated as the child learns the language?' (Chomsky: 1965, p.27). The answer to the above question should involve the 'task of linguistic universals, which is 'to account for the rapidity and uniformity of language learning' (Chomsky: 1965, p.28). Children know in outline what languages look like and learn their language fast and efficiently. The general idea about languages and their form is present in the child's mind and consists of linguistic universals.

Furthermore, we should note that linguistic universals are of two types: formal and substantive universals. Formal universals of languages refer to the shape and the form of the grammar of the particular language and are considered the general principles which underlie the pattern of grammatical rules and their

operation in the grammar of certain languages. The formal universals of a language describe the ways in which different grammatical parts relate to each other. Lyons (1970, p. 132) suggests that 'he (Chomsky) attaches far more importance to the fact that different languages make use of the same formal operations in the construction of grammatical sentences', referring to the fact that grammars of all languages follow the same paradigm or pattern in their analyses. As this being the case, I believe that it is a common fact that languages involve the use of grammatical operations in order to provide the means for the learnability process. A child can learn the language only if s/ he has access to the rules of grammar that underlie a particular language. The role of formal universals is basic, since the application of these grammatical properties that preexist in their mind provide to the child a general view of how languages should operate. In case the child understands the way grammatical rules operate in one or another language, eventually they will be capable of learning their particular language fast, and producing correct grammatical utterances³.

As far as the substantive universals of a language are concerned, I should acknowledge the fact that they 'represent the fundamental "building blocks" of language, the substance out of which it is made' (Aitchison, 1993, p.95). This procedure involves knowledge of phonetic rules of language, linked together to form the theory that 'items of a particular kind in any language must be drawn from a fixed class of items' (Chomsky: 1965, p.28). For example, there exist phonetic features in a grammar which are universal (having the same application) and a child should be aware of the fact that 'each output of this component consists of elements that are characterized in terms of some small number of fixed, universal, phonetic features, each of which has a substantive acoustic-articulatory characterization independent of any particular language'

³ Formal universals offer the child the opportunity of viewing the grammar of a language in a more general form. Grammar has nearly the same application in any natural language. The child simply follows the pattern.

(Chomsky: 1965, p.28). With the guidelines provided by the substantive universals, the child immediately defines the signals of a language and the set from which the signals are drawn, in order to be able to use them effectively and acquire knowledge of the phonological pattern of a language.

Finally, I would like to briefly introduce the notion of an 'evaluation procedure' which should be a basic element of a Language Acquisition Device. A child should definitely perform an evaluation procedure in order to choose between the rules that are incorporated to the data that they receive (referring to the 'primary linguistic data'). By evaluating the grammatical rules of a language, the child could distinguish between the theoretical and practical aspects of two or more grammars and realise that the possible grammar is more correct than another alternative grammar. In the application of an evaluation measure by the child, we should note that the important factor is the selection of 'generalizations' of rules. By the term 'generalization', Chomsky (1965, p.42) refers to the case that 'a set of rules about distinct items can be replaced by a single rule about the whole set, or when it can be shown that a 'natural class' of items undergoes a certain process or set of similar processes'. Generalizations of rules are used in such a way that helps the child avoid complexity of grammatical forms and examine the hierarchical order of grammar rules (according to which the child will realise which rule is the most applicable over a set of alternative ones); by an evaluation procedure the child chooses the grammar that seems more adequate in his/her own criteria. Yet, Chomsky's theory of the evaluation procedure has been severely criticized by many linguists, because it is considered to be vague and inadequate, since Chomsky does not provide many guidelines about the methods involved. He believes, however, that evaluation depends on the learner's intuitions and abilities of selections of rules. Schlesinger (1967) has an opposing view to Chomsky's and he does not approve of the evaluation measure, since he accepts the fact that 'children have complicated grammars which only gradually become simple and streamlined'. Evaluation measure is an important factor in language acquisition, rightly in my opinion, because it gives children the opportunity to select

between two or more grammars, according to their personal criteria and avoid confusion, and incomprehension, as far as rules of grammar are concerned, by simply choosing the grammar that seems more adequate and simple to them.

2. CONSTRUCTING A GRAMMAR FOR CHILDREN

In the first part of the article, an adequate analysis of Chomsky's rationalist theory of language acquisition, of difficulties in acquiring the first language and of the function and purposes of a Language Acquisition Device (LAD). In the second part of the article, a description of the possible ways of constructing an ideal grammar for children will be discussed, by referring to Chomsky's arguments on the subject.

2.1 How do children construct 'automatic grammatisers' for themselves?

Chomsky has spent a great amount of time in studying the child's ability of constructing a grammar. It seems like an impossible task for the child, since s/he has to analyse data, which is oversimplified and of an extremely complex character (consisting of sentences and non-sentences highly irregular). However, Chomsky has observed that the construction of a grammatical framework by the child occurs in an astonishingly short time. How does this operation take place? The question that is raised here involves the study of other parameters present in the child's linguistic framework.

2.2 The speaker's linguistic competence and performance.

Chomsky argues that one can think of language in either two ways: in terms of the speaker's competence and performance. According to Chomsky (1965, p.4), linguistic competence is 'the speaker's/ hearer's knowledge of his language', while linguistic performance is the speaker's 'actual use of language in concrete situations'. The difference that lies between these two concepts will be studied first, by focusing on the importance of the speaker's competence in relation to grammar constructions.

When Chomsky provided an accurate description of the

speaker's linguistic competence, he assumed that competence was concerned with the speaker's ability of speaking and of using grammatical utterances correctly. Competence deals with the deeper structures that the person has internalized; knowledge of syntax, meaning and sound makes performance possible. However, it is impossible to find out about competence without studying performance, since it is the actual data of linguistic performance which will provide evidence for determining the plausibility of underlying linguistic structure, which forms the basis of a correct grammar construction. Yet, linguists should not depend totally on speaker's performance studying their ability in producing correct grammatical utterances (their competence). The speaker's comprehension of the realization of linguistic structures should be tested by the linguist by devious kinds of observations on their performance. In the way I view this, a speaker, and in this case a child, could memorise a possible number of utterances that they have heard and actually perform in this data adequately. The linguist then, would face the difficulty of understanding whether the child has internalized the rules of grammar in question, or whether s/he performs on these rules by conducting a perfect method of imitation⁴.

Thus, a possible conclusion for this part is that a child's ability of internalizing the rules of linguistic structure (his/her competence) leads him/her to the construction of a particular grammar. How does Chomsky define this grammar and to what extent is this grammar adequate enough to account for the speaker's linguistic competence?

2.3 The generative grammar model

Chomsky defines the term 'generative grammar' in a few explicit terms providing us with essential information about this grammar model. According to his views, "a grammar

⁴ In the case of imitation, grammar construction is an impossible task since the child does not actually learn the grammatical rules, s/he just memorises them. A grammar should not possibly describe observed linguistic performance directly; it should be concerned with the speaker's knowledge of rules.

of a language purports to be a description of the ideal speaker-hearer's intrinsic competence. If the grammar is, furthermore, perfectly explicit - in other words, if it does not rely on the intelligence of the understanding reader but rather provides an explicit analysis of his contribution - we may (somewhat redundantly) call it a 'generative grammar'" (1965, p.4). By the term 'explicit', Chomsky refers to the fact that a correct grammar should provide a full account of the speaker's knowledge of the particular language. Generative grammar is mainly concerned with the speaker's competence, not their performance; it is concerned with specifying the speaker's knowledge of the language. It is important at this point to make a note that "a generative grammar must be a system of rules that can iterate to generate an indefinitely large number of structures. This system of rules can be analysed into the three major components of the generative grammar: the syntactic, phonological and semantic components" (Chomsky: 1965, p. 16-16). Thus, we reach to the point of realizing what the purposes are of a generative grammar and what its constituents are. Therefore, we find ourselves in front of one of the most central issues initiated by Chomsky in the 1960's.

Are we facing any problems in the study of generative grammar? There certainly exist some fundamental problems in this study, but the basic one is the insufficient evidence concerning the data available to a speaker by a certain speech community. The data is impoverished, thus not enabling the speaker to proceed in an analysis. People in a speech community may receive the same information about language, but may differ in the way they put this information into use. In this case, speakers involve different cognitive processes in speech in grammar introduction but these 'psychological mechanisms' differ from one speaker to another⁵. For example, a child may learn the language in a short period but another may acquire the language at a later stage of his/her growth. This mostly relies on the speaker's intelligence and ability of internalizing grammar

⁵ By the term 'psychological mechanisms of speech production', Lyons (1970) refers mainly to the 'limitations of human memory and attention'.

rules. In the case, however, that the child is dealing with insufficient data, how can s/he observe and analyse a possible set of utterances which is not rich enough to account for his/her knowledge of grammar rules?

As an answer to the previous question Chomsky (1965) provides us with the theory of 'an explanatory adequacy', as a major aspect in justifying a generative grammar. The central point is that the grammar should be explicit enough in order for a speaker to understand and use it successfully in the production of a speech pattern. According to Chomsky (1965, p.25), such a linguistic theory 'offers an explanation for the intuition of the native speaker on the basis of an empirical hypothesis concerning the innate predisposition of the child to develop a certain kind of theory to deal with the evidence presented to him'. It is on the basis of an explanatory adequacy theory that the speaker will be able to deal with the linguistic data presented to him and construct a generative grammar that accounts for the knowledge of his particular language.

Moving deeper towards the analysis of the construction of an ideal grammar for the child, I would also like to underline the importance of the way knowledge of grammar rules is shaped into a child's mind.

2.4 Deep and surface structure and the importance of transformations

Chomsky's assumptions on the structural description of sentences (forming part of a natural language) will be investigated. "Chomsky assumed that every sentence had an 'inner' hidden deep structure and an outer manifest surface structure" (Aitchison: 1993, p.98). Therefore, a sentence of a natural language is characterized syntactically, on two levels: the level of surface structure, and the level of deep structure. What is the distinction between these two levels of structure and how will the speaker manage to operate successfully on both levels?

First of all, what comes to our mind when we are dealing with the surface structure of a sentence is the set of phonological properties assigned to the particular sentence. As Chomsky and Halle (1968) assume, "surface structure is intimately connected

with stress and intonation". Thus, we realise that we are dealing with phonology when we observe the surface structure of a sentence.

Furthermore, Chomsky conducted a thorough analysis to prove the existence of some deeper rules, underlying the structure of a sentence. He believed that every sentence has a deep structure, which should be discovered and understood by the speaker or hearer. In my opinion, Chomsky's views are correctly stated, because if sentences did not involve a deep structure level, then it would be extremely difficult to deal with the sentence in terms of assigning structural analysis to its parts and to examine the relation between them; in such a case, we would deal with the sentence on a superficial level, without being able to analyse its structure in depth and observe the way grammar rules apply to the particular sentence.

What is the connection between deep and surface structure and transformation rules? Chomsky gave an account of the relation between deep and surface structure by noting that "the rules expressing the relation of deep and surface structure are called grammatical transformations" (Chomsky: 1972, p. 166). Thus, the two levels of structure are linked together by transformational rules. How does this process take place and what should the speaker know about transformations? An example will be provided to indicate the fact that a sentence may include two different meanings if examined on a deep structure level; if the sentence is examined on a surface structure level it may be considered as ambiguous, since we would not know its exact explanation. Once the rules of transformations are applied, the sentence automatically is viewed in two different ways. In the example below, we have the following case:

"The rabbit is ready to eat" (Aitchison: 1993, p.99).

The sentence is ambiguous in terms of its meaning. It could have two possible explanations: a) 'the rabbit is ready to eat something', or b) 'the rabbit is ready for someone to eat it'. If the transformational rules apply to this sentence, then we will be able to observe two different semantic interpretations of the same sentence.

Chomsky assumed that children are pre-wired with information about the two structural levels and transformational

rules, so that they are able of applying these rules to sentences. Children could rearrange elements in a sentence in order to reach to the level of a deep structure analysis.

3. CHOMSKY'S LATER VIEWS

A summary of Chomsky's recent theories on first language acquisition is provided in the last part of the article.

3.1 Setting switches

Chomsky came up with a new set of linguistic theories during the 1980's. The reason for this change was mainly his concern about the way language is learnable. He already acknowledged the fact that children are predisposed with linguistic information; he believed that children are born equipped with a mental grammar that he called 'universal grammar' (UG). Aitchison (1993, p. 104) states Chomsky's definition of UG: "UG is a characterization of these innate, biologically determined principles, which constitute one component of the human mind - the language faculty" (Chomsky: 1986, p.25). In Chomsky's approach, UG consists of a number of 'modules' (a term borrowed for computers). Each module contains a set of principles which provides the basis for the acquisition of a wide diversity of languages by the child. Each principle is associated with a set of parameters, which provide the child with data concerning his/her particular language. Chomsky's attention is placed on these parameters or 'switches' as he calls them. How does he describe their function?

Chomsky argues that UG is 'partially wired-up', namely that the child has at their disposal only limited evidence and they must understand which way to throw the switch and set the system of language acquisition into operation. For example, a child should know that language structure has one key word ('head') and s/he then has to discover the position of the 'modifiers', which could be placed before or after the head. As Aitchison (1993, p. 105) points out, "in English, heads are generally placed before modifiers". If the value of such a parameter is set, the child can determine the structure of grammar components. As Chomsky (1986, p. 146) quotes, in this case "the whole system is

operative" (in Aitchison: 1993, p. 107). The child then has acquired knowledge of their particular language. I should also refer to the fact that "on the base of their experience of language, children fix the values of the open parameter to attain the (mental) grammar of their language" (Botha: 1992, p.40). It is through linguistic experience that children learn how to set a 'switch' and understand how a language operates.

3.2 Core and periphery elements

After having set the switches into function, a child has acquired his/her mother tongue and has reached an adequate state of knowledge. An ideal construction of the language is defined as "core language". As pointed out by Chomsky (1986, p.211, in Botha: 1992, p. 82), "this is the essential part of what is 'learned', if that is the correct term for this process of fixing knowledge of a particular language". Chomsky states that the core language includes basic rules and structures used by the speakers of a natural language.

Furthermore, Chomsky notes that there exist some extra elements added to the core language, which are recognized and viewed by the speaker at a later stage of their acquisition of the language. As Botha (1992, p.83) points out "in the periphery one will find, for example, irregular morphology, idioms, more complex rules, borrowings and historical relics of earlier stages of the language". In my opinion it takes time for the speaker of a language to observe irregularities in the language, since they have at first to know the language perfectly well and perform on it adequately. It is impossible to point out irregular patterns in a language, without having mastered the language and being able to deal with it effectively in terms of structure, meaning and grammatical form.

Conclusion

In this article, I have dealt with the thorough analysis of Chomsky's views on first language acquisition as initiated in the 1960's and the change of his ideas during the 1980's. I have also referred to Chomsky's assumptions in detail and I have supported his point of view about the way children acquire their mother tongue. Chomsky is a pioneer in the field of linguistics, since he provides us with new guidelines as to the way language acquisition is achieved. His methods and approaches on the topic have been accepted or severely criticized by others. In my opinion he has succeeded in determining the way a child's mind functions in order to learn the process of language acquisition which is a difficult task because there is not much evidence on how children conceive language. Yet, Chomsky analyses the way language appears in a child's mind and has initiated a vast linguistic theory concerning the innate abilities of a child in relation to language.

On the other hand, I find it difficult to accept the theory of behaviorism, since I cannot believe that a child learns language through behaviour and habit information. Language is not learnable in such a way. If this was the case, then, animals could possibly communicate with humans in the way we do, i.e. through the medium of language. However, it is only the human mind that contains such information about language and this piece of information is provided to the child genetically. A child knows that this is the only way to communicate with other human beings. Chomsky acknowledges that language acquisition can be achieved only by humans, but it is not such an easy task to consider. As he points out (in Aitchison: 1993, p.21), "we lose sight of the need for explanation when phenomena are too familiar and 'obvious'. We tend too easily to assume that explanations must be transparent and close to the surface... As native speakers, we have a vast amount of data available to us. For just this reason, it is easy to fall into the trap of believing that there is nothing to be explained. Nothing could be further from the truth..." (Chomsky: 1972, pp.25-26).

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