**Chomsky’s Major Contributions**

**to the Principles and Elementary Linguistic Theories and New Model of Grammar**

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**Abstract**

This paper intended mainly to review Chomsky's major contributions that deal with the principles and elementary theories of linguistics, and the new model of grammar. It also reviewed the operation of the phonological and semantic components. The study employed a survey as a tool for collecting data. It distributed among the students at the following four university: Khartoum, Omdurman Islamic, Africa International and Alneelain Universities, it consisted of (n=) students. Aiming at studying the students who enrolled in the academic year 2004. Then the researcher counted and analyzed the data statistically. The researcher collects the data from the books concerning the topic under investigation, which were written by Chomsky from different libraries and the internet resources, about the biographical of Chomsky’s life, the major contributions he made in the field of language learning, to come out with results, conclusion and recommendations

***Keywords***: *Linguistics Principles theory, Elementary Linguistic theory, New Model of Grammar*

***مستخلص***

هذه الدراسة عن اسهامات تشموسكي في حقل اللغويات وهي تتناول الأسس اللغوية، النظرية اللغوية الأولية، النموذج الجديد لقواعد اللغة، وتحتوي أيضاً على مكونات الأصوات والمعنى وأيضاً تحتوي على طريقة جمع المعلومات واجراءات تحليلها. لبلوغ هذا الهدف اتبعت الباحثة عدة طرائق وأجرت مسحاً في عدد اربع جامعات حكومية وهي: جامعة الخرطوم، جامعة ام درمان الاسلامية، جامعة افريقيا العالمية، وجامعة النيلين، أجري هذا البحث اثناء السنة الدراسية 2004م وجمعت الاجابات وحللت احصائيا. جمع الباحث المعلومات من الكتب المطبوعة في المكتبات ومن الانترنت. تتناول الدراسة حياة تشومسسكي والاسهامات التي قام بها ووجة نظر تسومسكي في تعلم اللغة واخيراُ الخاتمة والتوصيات

**Introduction**

This paper deals with Chomsky's contribution to linguistics and language learning. The researcher presents the theories that Chomsky made and the importance of these theories for the learners in the field of linguistics and language learning. The work of Noam Chomsky in linguistics embodies recognition on the strengths of traditional grammar and structural work. The sources of inspiration for Chomsky are to be found in modem as well as in older studies. In the article: "Transformational Grammar and Linguistics Universals", Chomsky acknowledges that the writing of Zelling S.1 lards have been influential in forming his thought, and that in, less obvidus ways the logical and speculative writings Willard Quine have been significant.

Formalism is something new in modem linguistics, but most readers are struck by this aspect of transformational work. While formulaic abbreviation can be an annoying and unmotivated stylistic feature, this was far from being the origin or intent of such formalism in Chomsky's work. He has shown convincingly that by a rigorous formalization a theory can be pushed to its logical conclusion, whereas intuitive discussion may fail to reveal its limits. Formalization can also suggest remedies for inconsistencies and inadequacies that other firms of investigation cannot.

The transformational grammar has undergone several stages of development. This can be found in Chomsky's Syntactic Structure". Chomsky suggests that considering the grammar of a language as involving a theory of that language, and a theory of language in general, is one way to see how the goals of linguistics can be formulated clearly and what methods are required to attain these goals Such a linguistic theory is to be a scientific theory. According to Chomsky, scientific theories arc constructed, so the reader can gain into the nature of linguistic theories aid the entities they concern. In grammatical work there must be an observation of a finite number of utterances, and there must be some distinguished as being grammatical, in order to relate the grammatical sentences to each other and to distinguish them from the ungrammatical ones, there must be a general law that concern the predictable relations among grammatical sentences. This will involve the construction of entities such as phonemes, morphemes. Grammatical categories, and in terms of the general law then predict what combinations will represent grammatical sentences.

Noam Chomsky shows that there are considerable problems involved in [lie method by which one can go about selecting the correct theory. First, he notes that the theory should need certain conditions of external adequacy, which include the prediction of sentences that the native speaker of the language would accept\_ Second, there should be a condition of generality since a 'linguistic theory, unlike a particular grammar of the language, should be so constructed to be helpful in deciding what makes a language a language and how a particular language differs from another. A third criterion is the notion of simplicity. Chomsky says it is worth to consider in what sense particular grammars, or forms of grammars, can be said to follow or of the general linguistic theory. Chomsky is more realistic in view of general theory it is required only to provide an evaluation procedure. That is, it should enable the reader to decide that particular grammars of a language, or forms of grammars, are either better or less desirable ways of formulating the general laws underlying the grammatical character of a finite set of observed sentences. The question of simplicity is suitable in making a choice between alternative theories, and there are various ways. Chomsky shows that to choose between grammatical theories there is no a priori norm to decide which account is the simpler. Although some obvious examples of comparative simplicity wine readily to mind for example, two proposed phonemic systems for a language may be compared in terms of simplicity if one has fewer phonemes than the other. However, positing a smaller number of phonemes may complicate the syllabic structure and the morphophonemic statement, so "simplicity" from one point of view may result in complexity from another. So, Chomsky points out that, simplicity may be considered as a function of the generalizing power of the analysis of the language.

**Aims**

The purpose of this paper is to present and review Chomsky's coherent contributions to linguistics. The paper attempts to make these contributions available for researchers and learners in the field of linguistics.

**The Importance of the study**

The importance of this paper is to put it as a resource for the learners in the field of linguistics. This paper mainly means to prove that Noam Chomsky is a linguist who has outstanding contributions to linguistics

**The Theoretical Background**

**Linguistic Principles**

Francis P. Dinnen in his book I an Introduction to General Linguistics" states that, all the linguists agreed that the object of Y linguistic study should be la langue which is the set of pervasive patterns in terms of which la paio Le is the actual utterances to be described. Noam Chomsky has basic objections to De Saussure's conception of the linguistic system; he proposed another contrastive set of terms that distinguished objects of linguistic study. As Chomsky states the study can be either to a speaker's knowledge of the language (his competence) or to the speaker's actual use of the language in real situations (his performance).

The knowledge that the speaker possesses is not conscious but is, rather, the ability he/she has to Produce and understand many sentences. Chomsky points out, a speaker's expressed opinions about mechanisms by which he/she produces sentences can be quite mistaken, so that linguists, taking a speaker's competence as an object of study, and interesting in what a speaker really knows rather titan in what he/she thinks and knows.

Chomsky finds one way of appreciating what kind of knowledge the speaker may be presumed to possess by considering the conditions for a child to learn any language. When a child has learned a language, Chomsky holds that he/she has developed what can be described as internal representation of a system of rules that determines how sentences are to be produced and understood. This is a kind of theory of the child's own language, and the data from which it was constructed can he presumed to be correctly and incorrectly formed sentences. it can be assumed that unless the child already had knowledge of language in sonic sense, he/she could not have learned a particular language.

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| *Theory of linguistics structure that aims for explanatory adequacy incorporates an account of linguistic universals, and it attributes tacit knowledge of these universals to the child. It proposes, then that the child approaches the data with presumption that they are drawn from a language of a certain antecedently well-defined type, his problem being to determine which of the (humanly,) possible languages is that of the community in which he/she is placed. Language learning would be impossible unless this were the case.* |

As a consequence of these assumptions, Chomsky sees it as one of the main tasks of linguistic theory to:

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| *Develop an account of linguistic universals that, on the one hand will not be falsified by the actual diversity of languages, and on the other, will be sufficiently rich and explicit to account for the rapidity and uniformity of language learning, and the remarkable complexity and range of language learning.* |

Chomsky distinguishes two types of linguistic universals, substantive and formal. Substantive theory is that items of a particular kind in any language must be examples of a determined set. Formal universals are more abstract, that the grammar of any language must meet certain specified formal conditions. Chomsky points out in "Aspect of Theory of Syntax.?, that among substantive universals arc those that concern the vocabulary required to describe a language, e.g., nouns, verbs, vowels, and sentences, while the formal universals are concerned with types of relations, in terms of which grammatical rules are formulated e.g., coordination and transformation.

**Elementary Linguistic Theory New Model of Grammar**

Formalism is a kind of linguistic description particularly formal description. There are disagreement concerning the methods 01 identifying and defining the linguistic forms. The linguists have several consequences for the conception of language as viewed by linguistics. One consequence is on the sound and sequence of a language and patterns into which they enter. Another is that to find ways of classifying large numbers of forms so as to reduce the number of items the description concern. A third consequence is that to determine the kinds of relation among forms, Linguistics is complement to study e.g., Grammar versus stylistics. Formalism is another expression of generalization contained in the analysis of language.

Met language is the language of descriptive linguistics with reference to particular natural language it describes. The vocabulary' of descriptive linguistics in a formal analysis should refer to accurately distinguishable forms. This means that formal expressions of the linguistic theory can be established when the descriptive theories formulated accurately.

In "syntactic structure p.11" Chomsky explains the nature of syntax and shows how this level of analysis is dealt with in different approaches of language. He defines "Syntax" as "the study' of the principle and process by which sentences are constructed in particular languages...". The linguistic generally concern to determine. the fundamental properties of grammar. Chomsky views a grammar as a device of sonic son for producing all of the grammatical sentences, and none of the ungrammatical sentences of language. This kind of grammar contains several linguistic levels e.g., Phonetics morphology, and phrase structure.

Defining "Language as a set of sentences (finite or infinite) each finite in length and constructed out of a finite set of elements". Chomsky points out the notion of the acceptability to the native speaker. In his book "Aspect of the Theory of Syntax" Chomsky gives some operational, criteria for acceptability because it is misunderstood, and points out that both grammaticality and acceptability are matters of degree.

Chomsky rejects the assumption that the grammar is a description of a finite number of' observed sentences. The notion "grammatical sentence" must be richer than this. Chomsky notes that language makes infinite use of finite means. But Chomsky's view is that grammatical sentence cannot he identified with meaningful or significant in any semantic sense, but he seems to believe that semantic theories have not been made sufficiently exact to justify proposing a notion of meaning. Chomsky concluded that grammar is autonomous and independent of meaning. lie says grammar should have the following properties ("Syntactic Structures" pp. 15 and 19).

#### It should be (mite.???

1. It should predict an infinite number of sentences.
2. It should be describable in purely formal terms without reliance on meaning.

Chomsky formalizes the relation that arc used in the phrase structure grammar that grammar is concerned with the identification of the constituents of constructions and how they are related.

**New Model of Grammar**

Chomsky demonstrates that it is possible to formulate rules which

Will:

1. Ensure the correct production of new sentences by conjunction, according to suitable IC (immediate constituent) relations of the items conjoined.
2. Assign rules to guarantee the production of sentences with correct concord of noun and verb and the proper selection and combination of auxiliaries.
3. Guarantee the formation of passive sentence from active ones without allowing ungrammatical sentences to result.

Chomsky finds that these rules lead to a new conception of linguistics structure, which can be called "Grammatical Transformations" that operate on a set of strings that have one constituent structure and convert them into things with a different constituent structure e.g.: (NP I + V t NP2 + is + ven + by).

He also concludes that grammar which can incorporate such roles will have at least these two components {E, f} component and a

Transformational component. A third component will also be required, consisting of morphophonemic rules that rewrite the terminal strings into the proper phonemic representation.

**Deep Structure and Surface Structure**

As mentioned previously the transformational grammar was divided into:

1. Phrase structure grammar that produces terminal strings.
2. Transformational components that, through obligatory and optional additions, deletions, and rearrangements, produce the final grammatical representations of all sentences in the language.
3. Morphophonemic components that rewrite sentences into the proper sequence of phonemes.

Chomsky finds that the distinction between the phrase structures the base and the transformational component determines the difference between deep structure and the surface structure.

This means that the grammatical representations effected by transformations, and the phonological representations produced by the morphophonemic component. So, he formulated it as a theory.

The term "deep structure" and TI surface structure" can be replaced by the notion of "inner form" of a sentence and "outer form" of a sentence. Chomsky (1965:199).

The elements of deep structure include grammatical relations, functions, and categories, while surface structure includes the actual formatives, phonetics, signals, and combinations of perceived utterance.

Chomsky says that, the reader does not understand utterance in terms of the surface signals but rather in terms of the structures underlying them and from which they can be considered to be transformational produced. Chomsky's statement in "Aspects of the theory of syntax" 117 that:

The base phrase-markers may be regarded as die elementary content elements out of which actual sentences are constructed and interpreted this serves to point up the clear notion of deep structure that he later developed.

**New Model of Transformational Grammar**

So far, the grammar is perfectly explicit; there is nothing to the reader's intuition, but provided symbols and rules on the items described by grammar. Chomsky states that this kind of grammar can be called Generative Grammar.

It must be finite, to generate an infinite number of sentences and assign to each structural description to make them phonetically and semantically interpreted.

Such a grammar consisting of three major components:

1. A semantic component that contains information needed for the phonological and semantic interpretation of a particular sentence.
2. A phonological component that determines the phonetic of a sentence generated by the syntactic rules.
3. A semantic component. that determines the semantic interpretation of a sentence

As a result, the syntactic component determines the deep structure through semantic interpretation and phonetic component specifies the surface structure through phonetic interpretation. So, one can called syntactic component the base because the other two are interpret and only syntactic component is generating. It is assumed that sentences are understood in terms of:

1. Their lexical items.
2. Their grammatical relations among the lexical items, especially through the processes by which the surface sentence has been formed. This informational process, operating on lexical items and syntactic relations into which they enter, is referred to as the deep structure. To ensure that Chomsky notes the distinction that the Port-Royal logicians made between "what one thinks" and "what one says" Citing their example, one can say "the invisible God created the visible world".

But one understands this sentence because one has made the following judgments:

1. God created the world.
2. God is invisible.
3. The world is visible.

From this investigation, Chomsky sees, that the considerations of syntactic and semantic should not be sharply distinguished, (Aspect of the theory of Syntax: 77).

To assign the base and semantic component is to examine what information traditional grammatical analysis gives with respect to a single sentence. To illustrate Chomsky proceeds as follows:

(I) Sincerity may frighten the boy

The information is:

1. The string is a sentence(s), frighten the boy is a verb phrase (VP) consisting of the verb (V) frighten and the noun phrase (NP) the boy; sincerity is also an NP, the NP the boy consists of the determiners (Der) they followed by a noun (N); the NP sincerity consists of just an N; the is an article (ART); may is a verbal Auxiliary (Aux) and, a model (M).
2. The NP sincerity function as the subject of the sentence, the VP frighten the boy functions as the predicate of the sentence; the NP the boy function as the object of the VP, and the V frighten as its main verb; the grammatical relation subject-verb holds of the pair (sincerity. frighten), and the grammatical relation verb-object holds of the pair (frighten, the boy).
3. The N boy is a count noun distinct from the mass noun *(butter)* and abstract noun *(sincerity)* and a common noun from the proper noun John and the pronoun *(it),* it is an animate noun distinct from the (book and the human noun distinct from *(bee).* Frighten is a transitive verb distinct from *(occur),* doesn’t freely permit object deletion *(read-eat)* it takes progressive aspect distinct from *(Know and own);* it allows abstract subject distinct from *(eat-admire)* and human objects distinct from *(read - wear)* Chomsky (1968: 63 -64).

These grammatical categories which begin with the initial symbol sentence show each category that the symbol represents in a string such as N P - VP until the terminal string of a terminated derivation consist of a string of formatives. These formatives are distinguished from morphemes:

*The set of morphemes for a language is not*

*necessarily identical with the set formatives*

*because transformations may acid or delete*

*terminal symbols, and in fact it never does*

*Katz and P. Postal (1964).*

Formatives are elements of surface structure, Chomsky defines them as "minimal syntactically functioning units" to which the phonological components apply "first to the minimal elements, then to the constituents of which these arc parts", Chomsky (1965: 143) The morphemes appear to be as deep structure. Katz & postal note that the terminal symbols of underlying phrase—markers are referred to as `morphemes" So the phrase structure grammar can be as this formula:

A z/x y A: indicates a single category symbol, is to be rewritten as a string, Z, of non-null symbols in the environment x-)y. Chomsky (1965:66).

Chomsky points out that the information given by traditional grammar indicates an important difference between grammatical categories and grammatical functions. Chomsky calls a category of lexical rule a lexical category. He notes that any category which dominates a string, where x is a lexical category, it could also be called a major category, and it would be accord with traditional grammar to restrict discussion of functional relation to major categories.

**The Operation of the Phonological Component**

In this respect Chomsky (1966:4748) states that the phonological component is a system of rules that relate the surface structure to the phonetic representation of a string. One has been assuming that the surface structure is the labeled bracketing of a sequence of minimal elements which may call formatives. There must be a distinction between the two types of formatives, grammatical formatives and lexical formatives. Each lexical formative is a complex symbol, that is, a set of features. Among them are phonological features, which can be represented in matrix or with rows corresponding to features and columns to "segments". 11(a) formative contains the phonological feature (a f n), where (a) is + or —, **(1)** is a feature, and (n) is an integer, then in the matrix which have the entry (a) in the (nth) column in the row corresponding to the feature (0. This matrix is the classificatory device; it determines the phonological rules that will apply to the item in question, it adds entries or revises them. Entries that arc blank in the surface structure may he filled in, and one may think of all entries as being replaced by integers indicating the position of the segment in the scale defined by the feature in question. The rules also delete grammatical formatives. The final output of the system of the phonological rules will be a phonetic matrix for the sentence as a whole in which the columns stand for successive segments and rows define. Phonetic distinctive features, regarded as scales, the entry indicating where a. segment falls along a scale, it should be noted that the phonetic distinctive features are proposed as the linguistic universals.

The input of the phonological component will call the phonological representation. The output produced by the phonological component will call the phonetic representation. Generative grammar that does not provide representations of these two types is unimaginable, in the present state of the knowledge. Here a question may be arisen, in connection with the phonological component of grammar, the question is whether there is any other linguistically significant system of representation intermediate level between phonological and phonetic components?

The lexical formatives are represented by segments that consist of sets of features in a distinctive feature’s matrix, where the columns represent successive segments and the rows represent the particular features. (op. city. A mark as + or — in a particular box formed by rows and columns indicates whether a particular segment is specified or unspecified for the feature in question. Segments are distinct, where they do not share a positive specification. The rule: A Z/X Y

Where A. Z and X Y, represent metrics, but A and Z are segments. A rule such as:

{+ Continuant} —> {+ voiced) / —> (+ voiced)

This means that a continuant as a voiced continuant in the environment of a voiced sound, Chomsky (1965:81-8 1).

**The Semantic Component**

The semantic component consists of two parts:

(a) A dictionary, which is provide the meaning of the lexical items of language.

(b)A finite set of projection rules, (Katz & postal: 21).

The semantic interpretation is obtained by assigning each lexical formative in the string to the meaning in the dictionary, and combining them by the projection rules according to the syntactic description. So, the output of the syntactic component must be the input to the semantic components. To illustrate. Katz & postal (I 946:14

(Animal)

(Human)

Bachelor

(Male)

(Young )

(when without a mate during the breading time) )

(W4 )

{having the academic degree confirmed competing he firs four year of college }

(W3 )

(Male)

(Adult)

(never married )

(W1)

(Young )

(Knight )

Serving under the standard the other (W2)

In the illustration of the dictionary entry, bachelor in the figure the following are noted: semantic markers are enclosed in parentheses distinguishers within brackets, and selection restriction within angles. The syntactic markers are not enclosed, they are dots below the syntactic marker noun indicate the possibility of other categorizations.

Moreover, (Katz & Postal: 15) illustrate that by saying there is ambiguity in the meaning because the Lexical items arc contain an ambiguous meaning such as in the following sentence:

The enjoys wearing a light suit in the summer.

The lexical item light has the semantic marker color and weight but where color is included weight is excluding.

**Universal Grammar (UG)**

In the book Chomsky's Universal Grammar U.0, Chomsky states that the concept universal grammar (UG) is the system of principles, conditions and rules that are elements or properties of all human languages... the essence of human language (Chomsky, 1976:26)..

All human beings share part of their knowledge of language; UG is their common possession regardless of which language they speak. While within the tradition of Chomsky's thinking since the 1950s, the current theory couches UG in terms of the specific proposals advanced in Chomsky's writings of the 1980s and 1990s. This was first known as Government/Binding (GB) theory. It was developed further in publications such as knowledge of language (Chomsky 1986).

Also, Chomsky has the theory principles and parameters. It conveys the unique central claim of the theory that language knowledge consists of principles universal to all languages and parameters that vary from one language to another.

UG **is** a theory of knowledge, not of behavior; its concern is with the internal structure of the human mind. UG theory holds that the speaker knows a set of principles that apply to all languages, and parameters that vary within clearly defined limits from one language to another. Each principle or parameter of language that proposed is substantive claim about the mind of speaker and about the nature of language acquisition. UG theory is not making vague or unverifiable suggestions about properties of the mind but precise statements based on specific evidence.

The importance of UG theory is its attempt to integrate grammar, mind and language at every moment.

**General ideas of Language**

Chomsky's work distinguishes externalized (E) language from internalized (I-) language (Chomsky, I 986a. p: 2 1-22). E- language linguistics, chiefly familiar from the American structuralism tradition such as Bloomfield (1 933), aims to collect samples of language and then describe their properties.

E-language linguistics collects sentences understood independently of the properties of the mind (Chomsky, I 986a: 20); E-language research constructs a. grammar to describe the regularities found in such a sample; a grammar is a collection of descriptive statements concerning the E-language. The linguist's task is to bring order to the set of external Facts that make up the language. The resulting grammar is described in terms of properties of such data through 'structure' or 'patterns'. I-language linguistics however is concerned with what a speaker knows about language and where this knowledge comes from; it treats language as an internal property of the human mind rather than something external: language is a system represented in the mind/brain of a particular individual (Chomsky, 1 98:36). Chomsky's first goal for linguistics discovering what constitutes language knowledge is an I-language aim.

The E—language approach includes not only theories that emphasize the physical manifestations of language but also those that treat language as a social phenomenon, 'as a collection or system of actions or behavior of some sort' (Chomsky, I 980a:20).

The study of E-language relates a sentence to the language that precedes it, to the situation at the moment of speaking, and to the social relationship between the speaker and the listener. It concentrates on social behavior between people, rather than on the inner psychological world. Much work within the field of sociolinguistics, or discourse analysis, comes within an E—language approach in that it concerns social rather than mental phenomena.

**Movement and Case Theory**

Ibid: The starting point is to consider that there may be no restrictions on movement at all, i.e., any part of the sentence could move anywhere. This can be staled as:

**1. Move** *a'.*

Where *a'* stands for any category. The movement operation is an invariant principle of computation, staling that a category can be moved to a target position (Chomsky & Lasnik, 1993:522).

The theory of movement explores the restrictions that human language actually places on movement. It is a property of UG that only certain elements may be moved that they may only be moved to certain locations, and that they may not move more than a certain distance: Move is tightly constrained. Some of these restrictions apply uniformly to all human languages; some are parameterized and vary within limits from one language to another.

Movement is clearly showing the relationship between D—structure, at which all the thematic relationships are frilly expressed, and S—structures at which they are changed into a form that can act as a bridge between PF (phonetic component) and LF (semantic component). So, the sentence:

**Where is the hospital?**

Has an underlying D-structure, in which the elements are in the Places projected from their lexical entries, i.e.: The hospital is where? And an S-structure which preserves their original locations through traces (t):

Where (I) is (2) the hospital t2 tl.

Movement is one way of talking about this relationship, it can be seen as going in both directions, either driving S-structure from D—structure or abstracting D—structure from S—structure. The purpose of D—structure is to show the original location of various elements in the sentence moved in Structure, in particular to maintain the projection principle, which express the idea that D—structure is a `pure'\_ representation of the thematically relevant GFS (Chomsky. 1982a: 9). •

An alternative way of expressing the relationship of D—structure to S-structure is via the concept of a chain that records the links that make tip this relationship, e.g.:

Where is the hospital?

Through movement, the relationship can be seen as incorporating two chains. One chain: (Where, tl)

Links where to one place in the structure tl. The second chain: (is 1 t2)

Links is to another place in the structure C. Movement of an element *a'* always leaves a trace and, in the simplest case, forms a chain (a', t) where *a',* the head of the chain, is the moved clement and t is its trace (Chomsky and Lannik, 1993:522).

**Minimalist Programme**

Ibid Minimalist is the most recent work to date. Chomsky's intention is to give the reader an insight into where the theory is going now, rather than a complete presentation. It avoids many of the technicalities that Chomsky himself addresses as well as much of the detail.

Minimalist programme is substantially different from any of the general accounts yet imprint, even textbook such as Ouhalla (1994). As mentioned previously there are terms such as principles and parameters theory. The majority of the innovations in the minimalist programme do not depart from the basic concept of principle and parameters, only from the particular version of these proposed by Chomsky (1981 a) and its subsequent development. So, as both approaches can be called principles and parameters theory with equal justification, a new term is needed for the earlier work.

The term GB (Government and binding) is revived, a theory here as a convenient label for the earlier principles and parameters, Chomsky (1986th).

Minimalist programme is a progression than a complete U—turn. The overall aim continues the tradition of making statements about human language that are as simple and general as possible. The central objective of generative grammar was to abstract general principles from the complex rule systems devised for particular languages, leaving rules that are simple, constrained in their operation by these UG principles (Chomsky, 1995:388).

The minimalist framework continues this drive for simplification. It is fairly easy to see how the principle of Economy leads to minimalism: if the linguistic system needs to be as economical as possible, in terms of both it represents and generates structures, clearly the smallest possible set of devices to account for language phenomena should be used — the defining characteristic of the minimalist programme.

Minimalist is a reaction to some of the problems that are faced GB theory, such as the subject position and the problem of the concept government. Also, the problem of assigning case to the specified of TP. The minimalist solution to the problem is to abandon government as a fundamental notion of the theory that means the effects of government can be reduced to more fundamental relations.

So, the theory attempts to reduce the grammar to its minimum, reconstructing the effects of the grammatical mechanisms that it abandons on the basis of more fundamental and more explanatory considerations.

The minimalist programme is transformational and so a movement operation is part of' the computational system.

**Language Learning Theory**

in this paper the researcher presents Chomsky's major contributions to linguistics and the conclusion is that the theory of language and of linguistic structure must meet so as to be adequate as a description and as an explanation for language.

1. It must contain the universal phonetic theory that defines the notion or' possible sentence".
2. It must contain the definition of" possible structural description".
3. It should contain the definition of "generative grammar".
4. Itshould contain the method for determining what the structural description of a sentence is given in the grammar.
5. It should provide the way of evaluating alternative proposed grammars.

Chomsky states that all phrase structure grammar must meet the criterion. In Chomsky's own view, "Real progress in linguistics consist in the discovery' that certain features of given languages can be reduces to universal properties of language, and explained in terms of deeper aspect of linguistic form". Chomsky (1965:3 5).

**Language Learning**

In language learning also Chomsky has an attack against the behaviorist B.F Skinner.

Skinner's view is that, language is stimulus and response, S r s R, and he has the 1)00k "Verbal Behavior". Chomsky reviews of this book and calls it "Review of verbal behavior". He says that: Skinner's ideas are in mature. He also says that language learnt by internal factors—language is innate ability. Children are born with language.

The language (mother language) is the input, this input is finite the output is infinite. The mother’s language is finite and unstructured the output is finite and structured. Chomsky says, children were born with language function. He called for a shift from external factors to internal factors. He says there is a machine which is responsible for finite input to infinite output and called it LAD.

L, is language, A, is acquisition and D, is device. The language the child exposed to is therefore the language device in his mind. He has at least four points:

1. Human behavior is more complex than animal behavior and language is the most complex human behavior.
2. Language behavior is so specific to human (no other creature have language) that cannot be explained through animal behavior.
3. A description of language behavior cannot be a description of external stimuli and the accompany responses, it has to be a description of innate ability of human being to learn language.
4. Language function is also innate.

The behaviorist believed that language learning is a matter of imitation arid habit formation. Children imitate the sounds and patterns around them and receive positive reinforcement for imitation. This means that the quality and quantity of the language the child hear & imitate is the result of the reinforcement offered by others in the environment.

Noam Chomsky states that children are biologically programmed for language and language develops in the child the same way other biological functions developed.

In Chomsky's view, language acquisition is very similar to the development of walking. He also says that the environment has a big contribution and tile people around the child and the biological endowment do the rest. Chomsky developed his theory in reaction to tile behaviorist theory of learning based on imitation and habit formation, Chomsky (1959). He argues, that the behaviorist theory fails to know what is called the logical problem of language acquisition. For Chomsky the language the child acquired from the environment it does not provide information that the child needs because it is full of slips of the tongue, fates starts and incomplete sentences.. Therefore, when the child talk to his parents they do not correct the mistakes, they locus on meaning and not on language itself. So, Chomsky says that children are born with a special ability to discover the underlying rules of language system. Here appears the fact that the language is a gift from Allah to the people, it is the thing which is characterize the human being from other creatures. Chomsky as mentioned before referred this ability to the language acquisition device (LAD). This device often described as an imaginary `black box' which exists somewhere in the brain. For tile LAD to work. the child needs access only to samples of the natural language, these samples serve to activate the device. Recently Chomsky and his followers use the term LAD, but refer to the child's innate endowment as universal grammar (UG). This UG is considered to consist of a set of principles which arc common to all languages. If the children are pre equipped with UG, they have to learn in the way in which their own language makes use of these principles and the variations on those principles which may exist in the particular language they are learning, (Chomsky 1 98 1, Cook I 988, White 1 989).

Here are the evidents which have been used to support Chomsky's annalist position:

1. Virtually all children successfully learn their native language at a time in life when they would not be expected to learn anything else so complicated.
2. Children successfully master the basic structure of their native language or dialect in a variety of conditions.
3. The language children are exposed to does not contain examples of all the information which they eventually know.
4. Animals — even Primates receiving intensive training from human cannot learn to manipulate a symbol system as complicated as the natural language of a three- or four-year-old human child.
5. Children seem to accomplish the complex task of language acquisition without having someone point out to them which of the sentences they hear and produce are correct and which are incorrect.

Chomsky's ideas are like those of the biologist Eric Lenneberg who also compares learning to talk with learning to walk. Lenneberg argues that the language acquisition device, like other biologic functions, works successfully only when it is stimulated at the right time. The notion is that there is a specific and limited time for language acquisition and he referred to as the critical period hypothesis (CPH).

**Language and Mind**

In discussing the past, Chomsky referred to two major traditions that have enriched the study of language in their separate and very different ways: and in his last lecture, lie tried to give some indication of the topics that seem on the immediate horizon today, as a kind of synthesis of philosophical grammar and structural linguistics begins to take shape. Each of the major traditions of study and speculation that he has been using as a point of reference was associated with a certain characteristic approach to the problems of mind; he might say, without. Distortion, that each evolved as a specific branch of the psychology of its time, to which it made a distinctive contribution.

It may seem a bit paradoxical to speak of structural linguistics in this way, given its militant anti—psychologist. But the paradox is lessened when the writers take note of the fact that this militant anti-psychologist is no less true of much of contemporary psychology itself particularly of those branches. That until a few years ago monopolized the study of use and acquisition of language. All writers live, after all, in the age of "behavioral science," not of "the science of mind." Chomsky does not want to read too much into a terminological innovation, but he thinks that there is some significance in the ease and willingness with which modem thinking about man and society accepts the designation "behavioral science." No sane person has ever doubted that behavior provides much of the evidence for this study — all of the evidence, if the interpretation of "behavior" is in a sufficiently loose sense. But the term "behavioral science suggests a not-so-subtle shift of emphasis toward the evidence itself and away from the deeper underlying principles and abstract mental structures that might be illuminated by the evidence of behavior. It is as if natural science were to be designated "the science of meter readings. What, in fact, would the writers expect of natural science in a culture that was satisfied to accept this designation for its activities?

Behavioral science has been much preoccupied with data and organization of data, and it has even seen itself as a kind of technology of control of behavior. Anti—mentalist in linguistics and in philosophy of language conforms to this shift of orientation. As Chomsky mentioned in his first lecture, he thinks that one major indirect contribution of modern structural linguistics results from its success in making explicit the assumptions of an anti—mentalist, thoroughly operational and behaviorist approach to the phenomena of language. By extending this approach to its natural limits, it laid the groundwork for a fairly conclusive demonstration of the inadequacy of any such approach to the problems of mind.

**Methodology and Data Analysis**

The researcher made a survey in four universities. The sample is 100 students, 25 students in every university

The following tables show are the statistics analysis for the data collected through the survey from the (100 students) at the four universities under study who were enrolled during the academic year 2004. All of them are finalist in fourth or fifth year:

Table (1)

Khartoum university students’ group: KUSG

|  |  |  |
| --- | --- | --- |
| The total | 25 students | Percentage |
| Students know Chomsky as linguist | 20 students | 80% |
| Students know Chomsky as a politician | 9 students | 15% |
| Students know Chomsky as a economist | 0 students | 0% |
| Student do not know him | 5 students | 5% |

Table (2)

Omdurman Islamic university students Group: OUSG

|  |  |  |
| --- | --- | --- |
| The total | 25 students | Percentage |
| Students know Chomsky as linguist | 14 students | 56% |
| Students know Chomsky as a politician | 8 students | 32% |
| Students know Chomsky as an economist | 0 students | 0% |
| Student do not know him | 3 students | 12% |

Table (3):

Alneelain university student group: NUSG

|  |  |  |
| --- | --- | --- |
| The total | 25 students | Percentage |
| Students know Chomsky as linguist | 22 students | 88% |
| Students know Chomsky as a politician | 15 students | 8% |
| Students know Chomsky as an economist | 7 students | 4% |
| Student do not know him | 0 students | 0% |

Table (4)

Africa international group: AIUSG

|  |  |  |
| --- | --- | --- |
| The total | 25 students | Percentage |
| Students know Chomsky as linguist | 16 students | 64% |
| Students know Chomsky as a politician | 3 students | 12% |
| Students know Chomsky as a economist | 0 students | 0% |
| Student do not know him | 9 students | 24% |

**Conclusion**

The major contributions will be summarized and presented. In conclusion the researcher attempts to shed lights on **NO2IM** Chomsky's major contributions to the field of linguistics, and to present them in a sufficient explanation according to Chomsky's view of linguistics. Also, the researcher intended to approve that this view awl theories are of' importance to the learners in this held. So, Noam Chomsky has many contributions which arc essential in this field these contributions are:

\* Linguistic principles

\* Elementary linguistic theory.

\* New model of grammar

\* Deep structure and surface structure.

\*The operation of the phonological component.

\* The semantic component.

\* Language learning\_

\* Transformational grammar. Syntactic structure.

These contributions are crucial in the analysis of language. Thus, in conclusion Noam Chomsky is a linguist who worth to be brilliant and his contributions to linguistics worth to he studied. This attempts to explain and analyze language in a simple way. This attempt must find wariness horn the learners in the field. The researcher is interested in Chomsky’s continuations regardless his origin amid religion.

**Recommendations**

Thus, after presenting Chomsky’s major contributions, the researcher recommends that: the English course should contain some of these contributions, especially for the graduate students. Because these contributions are crucial in the analysis of language, the researcher sees that teachers and students must be interested in Chomsky's contributions in language learning and linguistics.

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