

ON THE VALIDITY OF EXPLOITING THE BASIC CONCEPTS OF ARABIC LINGUISTICS FOR THE ANALYSIS OF ENGLISH

Fatiha Khelout

Abderrahmane Hadj-Salah

Scientific and Technical Research Centre
for Arabic Language Development

Kamal Khaldi

English Department - University of Algiers

Abstract

This paper aims at discussing the possibility of exploiting the basic concepts of Arabic linguistics for the analysis of a language other than Arabic, namely English. For this, we start by presenting briefly the neo-khalilian theory, being the main source from which we have extracted the methodological tools and the principles put forward by the first arab grammarians for the description of Arabic many centuries ago ; then, we review how some linguistic units have been defined through a number of western linguistic theories in comparison to the neo-khalilian model of analysis ; finally, we end by explaining why we are trying to apply the neo-khaliliar. for the analysis of English.

Keywords

Neo-khalilian theory - linguistic analysis - English language - generating patterns - linguistic units.

الملخص

المقال عبارة عن طرح إشكالية لإمكانية تطبيق المفاهيم الأساسية التي تتبنى عليها اللسانيات العربية لتحليل لغة أخرى غير العربية وهي الإنجليزية. ولتحقيق ذلك، بدأنا بتعريف وجيز للنظرية الخليلية الحديثة التي استقينا منها المبادئ الأساسية التي وضعها النحاة العرب القدامى والوسائل المنهجية التي اتخذوها لوصف اللغة العربية وتحليلها منذ قرون. ثم انتقلنا إلى تعريف الوحدات اللغوية وكذا مستويات التحليل اللغوي حسب مجموعة من النظريات اللسانية الغربية بالمقارنة مع النموذج التحليلي الخليلي الحديث. وختمنا مقالنا بتعليل للأسباب التي جعلتنا نختار النظرية الخليلية الحديثة لتحليل اللغة الإنجليزية.

الكلمات المفتاحية

النظرية الخليلية الحديثة - التحليل اللساني - اللغة الإنجليزية - الحدود الإجرائية - الوحدات اللغوية.

Résumé

Nous essayons à travers cet article de lancer le débat sur la possibilité d'appliquer les concepts de base de la linguistique arabe pour l'analyse d'une langue autre que l'arabe, l'anglais. Pour cela, nous commençons par présenter très brièvement la théorie néo-khalilienne, ayant servi de source principale pour l'extraction des outils méthodologiques et des concepts élaborés par les anciens grammairiens arabes pour la description de l'arabe il y a de cela plusieurs siècles. Nous passons ensuite en revue quelques définitions des unités linguistiques ainsi que les niveaux d'analyses sur lesquels se basent un nombre de théories linguistiques occidentales en comparaison avec le modèle d'analyse néo-khalilien. Nous terminons par expliquer pourquoi une application de cette théorie pour l'analyse de l'anglais.

Mots clés

Théorie néo-khalilienne - analyse linguistique - langue anglaise - schèmes générateurs - unités linguistiques.

Introduction

From the beginning of the twentieth century, when De Saussure¹ has proposed to analyse language on a scientific basis, various studies have emerged, all attempting at discovering and analysing the structure of human language.

The English language, among other languages, has received exhaustive treatment by many theories starting from the earliest structuralist trends to the most recent transformationalist ones. Although there are differences between the various descriptions that have been proposed, there is a broad agreement among linguists that no theory is entirely satisfactory. Thus, one must remain open to every new theory that can contribute to language analysis. This is why we thought of exploiting the basic concepts of arabic linguistics for the analysis of English.²

For those who are not familiar with arabic linguistics, its exploitation for the analysis of English might seem strange and even impossible, because they may hardly perceive how an analysis conceived originally for a Semitic language with non-Latin alphabet could be used for the analysis of an Indo-European language. In fact, it is precisely this absence of clear and observable resemblance that is going to allow us to transcend the superficial differences and arrive to the essence of the human language. Chomsky says that "real progress in linguistics consists in the discovery that certain features of given languages can be reduced to universal properties of language and be explained in terms of these deeper aspects of linguistic form." (1964 : 35). Though Chomsky speaks of a specific kind of properties, what is of prior importance for us now is the search for the concepts and methodological tools that could be used for the analysis of any human language.

1. Introduction to the Neo-Khalilian Theory³

To extract the basic concepts of arabic linguistics, we have chosen to base our study on the works of what is called the *neo-khalilian* school, referring to *Al-Ḥalil Ibn Ahmad Al-Farāhīdī* (718 -786 AD), an eminent grammarian who undertook a number of surveys in different fields of study, among which a description of the arabic language. What is noticeable in the analysis of *Al-Ḥalil* is the introduction of some concepts of Mathematics, which rendered it explicit and rigorous. His works and those of his students⁴ have allowed the clarification of some elements necessary for a better understanding of the mechanisms upon which the grammar of Arabic is based.

¹ Ferdinand De Saussure, (1897-1913) Swiss linguist who laid down the basis for linguistics as the scientific study of language through language. His ideas were collected by two of his students Charles Bally and Albert Sechehaye in *Cours de Linguistique Générale*, which was published for the first time in 1916 under the name of their teacher.

² We have to emphasise the fact that the first Arab grammarians did not aspire to come up with a universal grammar that might be applied to other languages, since their unique goal, at that time, was the study of Arabic.

³ This theory and the principles upon which it bases its analysis are presented very briefly in this paper ; a more exhaustive summary of these concepts and Arabic linguistics is available in Aderrahman Hadj-Salah. "Linguistique et phonétiques arabes (1)" in *Al-Lisaniyyat* 8. and "Linguistique et phonétiques arabes (2)" in *Al-Lisaniyyat* 9.

⁴ Mainly *Al-Kitāb* of Sibawayhi.

The *neo-khalilian* school is a trend which has emerged thanks to the growing interest of a number of arab researchers who have underlined in their works the importance of the heritage left by the first arab grammarians and attempt to bring a contribution to modern linguistics in its most recent forms.

We have precisely based this paper on a work entitled *Linguistique Arabe et Linguistique Générale : Essai de Méthodologie et d'Epistémologie du 'Ilm - Al 'Arabiyya* (Hadj Salah 1979), in which the achievements of *Al-Ḥalīl*, as well as the first arab grammarians, are presented in a new way that is adapted to the development of modern linguistics and that is reflected in the following three points :

- A synthesis of the studies made by the first arab grammarians on the description of Arabic is presented. It is supported by a critical analysis, especially when there is more than one point of view discussing a particular aspect of the arabic language.

- New elements of mathematics are introduced in order to clarify and exploit all the possibilities offered by this analysis. We can, for example, mention the use of a variety of diagrams, symbols, and formulae for the clarification of the operations (transformations : omissions, additions, etc.) that occur in the different patterns.

- Some concepts of the analysis of Arabic are compared to existing concepts that are closest in meaning to the ones existing in western linguistics⁵. Though, as will be shown in this paper, most of these concepts are not entirely new in western linguistics ; on the contrary, most western linguists acknowledge the existence of such concepts as : *'aṣl* (i.e. the kernel from which depart all the transformations in a linguistic pattern) and *lafḍa or lexie* (i.e. the linguistic unit which is formally definable as an independent unit of speech). We also emphasise upon the fact that the importance and the far-reaching consequences of the use of such concepts are, according to us, still insufficiently evaluated.

2. The Importance of the Definition of the Units of Language

Every linguist knows that an objective analysis of language depends largely on the importance given to the definition of the units upon which language operates. This has already been underlined by De Saussure in the following lines : "by determining the elements that it uses, our science will fulfil its work entirely"⁶ (1916 : 178) and despite this importance "in terms of language, we have always contented ourselves by operating on units that are not well defined."⁷ (*ibid.*) As far as this point is concerned, we can note that English grammar has always given an exclusive importance to two units of language : the word and the sentence. As main concepts, these have been used to define all the other units and to explain the linguistic phenomena occurring in language.

In fact, we do not object the use of the terms 'sentence' and 'word' in linguistic analyses, on the contrary, we agree that these terms are very useful. However, what is arguable is the vagueness, and even the circularity, with which these units are defined.

⁵ Throughout this paper, we have used the term *western linguistics* to refer to all the theories that appeared in Europe and the United States of America just in order to distinguish it from Arabic linguistics, though we are aware of the fact that these theories have different, and sometimes contradictory, view points concerning the analysis of language.

⁶ "En déterminant ainsi les éléments qu'elle manie, notre science remplirait sa tâche tout entière."

⁷ "En matière de langue on s'est toujours contenté d'opérer sur des unités mal définies."

To define syntax, for example, a dictionary makes generally reference to these two terms : "syntax : the arrangement of words (in their appropriate forms) by which their connexion and relation in a sentence are shown." (Little & al 1968 : 2114). ". To define a phrase we find : "a phrase is two or more words rightly put together, in order to make a part of sentence." Even Chomsky bases his definition of language on this notion of sentence : "A language is a set of (finite or infinite)⁸ sentences, each finite in length and constructed by concatenation from a finite set of elements." (1957 : 15) But what is a sentence ?

The sentence remains one of the most problematic linguistic units, because it is just a hypothesis in all western linguistics. Some have tried to define it by saying that it is a group of words expressing a complete thought. However, nobody knows really how to apply this criterion of 'complete thought' which is far from being formal and objective. This definition, as Fries points it, "quite evidently does not furnish a workable set of criteria by which to recognise sentences." (1952 : 9). Moreover, even the term 'word' itself is ambiguous (Cf. Lyons 1981 : 31). The different definitions proposed in linguistics for the classification of word categories (especially the most traditional ones) are vague : "It would often be quite impossible to judge from them whether a word is a noun, a verb or an adjective without knowing the answer already!" (*ibid.*)

Many other definitions for the sentence are proposed. In fact, we can find "more than two hundred different definitions" (Fries 1952 : 9). We can find, for example, "... speech is made up of separate sayings, each complete in itself [...] these sayings are sentences. Any complete meaning is a sentence." ((Alexander Brain 1879 : 8) Quoted by Fries 1952 : 13). For Bloomfield⁹, "a sentence is a construction (or form) which in the given utterance, is not part of any larger construction" (1926 : 156). This definition is vague because it fails to tell us how to distinguish a sentence from a "non-sentence", and it gives no formal criteria by virtue of which we can decide what is "a larger" or "a smaller" linguistic construction. For example, is *Peter is writing a book* a sentence, though it is part of another sentence (*i.e.* a larger construction) *I know that Peter is writing a book* ? Most other definitions refer to the sentence as a group of words that occur in a proper order to make a complete sense. The first question that comes to our mind while reading these definitions is : what are the criteria upon which we can decide if an order is correct or if a sense is complete ?

The great interest given to the sentence has ended by being directed towards the analysis of its constituents. The functionalists¹⁰, for example, have proceeded from left to right considering the sentence as a continuum of minimal elements, enchainé or concatenated. These elements are called *monemes* (*i.e.* the smallest linguistic unit at the morphological level for André Martinet and it corresponds approximately to the term *morpheme*) at the syntactic level and phonemes at the phonological level¹¹. This distinction is generally accompanied by semantic considerations. The level of the

⁸ This is to distinguish formal languages from natural ones.

⁹ Leonard Bloomfield (1887-1949), a "classic representative of American linguistics" (Ivič 1965 : 157).

¹⁰ European structuralists whose primary interest is to show how every unit functions in the communicative act. André Martinet (1908-1999) was one of the main representatives of this trend.

¹¹ "This corresponds to the hypothesis of the double articulation of André Martinet and is present under similar forms in the works of Jakobsen and the Americans." (Ruwet 1967 : 85)

monemes consists of units having at the same time a phonic form (a signifier) and a semantic content (a signified) ; while at the level of the phonemes, we find purely phonic units whose essential function is to distinguish between the *monemes*.

Chomsky's hypothesis according to which each sentence is rewritten as *NP + VP* has also been criticized on the ground that it is based on a notional kernel. Ian Scott, for example, gives the following argument :

“Noam Chomsky's assumption that the one kernel for English is NOUN PHRASE + VERB PHRASE has apparently gone unquestioned by both transformational and traditional grammarians. Yet if all English sentence-patterns are mutually transformable, as Chomsky also assumes, and there seems to be no reason why not any sentence-pattern whatever can serve as a kernel from which we can generate and describe all the other patterns, once given transforms enough” (1968 : 67)

Ian Scott proposes another kernel : *SVOQ* (Subject + Verb + Object + Quantifier) instead of Chomsky's *SVO*. It is presented as being clearer and more economical since it can generate more sentence-patterns with any given number of transformations. For example “with one type of transformation, omission, the *SV* kernel generates four patterns : silence, or *S*, or *V*, or *SV*. With the same single transformation, the *SVOQ* kernel generates all these, and 12 other patterns.”(*ibid.*)

What is worth noticing in mentioning Ian Scott's work, as far as we are concerned, is the fact that analysing language from higher levels to lower ones is not an easy theoretical choice because our notion of kernel remains always open to criticism. It can be *SVO*, as proposed by Chomsky, or *SVOQ*, or any other one. It seems to us that the only way to avoid such problems is to try to define the linguistic units of every level by going from lower levels to higher ones, instead of trying to impose any kind of analysis that is based on a pre-defined kernel. Chomsky himself says that the *NP-VP* division “is empirical, therefore controversial, but it appears to be well supported by cross-linguistic evidence of varied types” (1986 : 59). In sum, even Chomsky's analysis, though it has solved some of the problems faced by both trends (*i.e.* European and American structuralism) and has contributed considerably to the progress of language study, still takes the sentence as a starting point.

In fact, even if defined rigorously, the sentence can hardly form the basis of language analysis because its rigidity and inflexibility somehow blind the linguist from perceiving it as being the result of a dynamic movement that occurs in a spatio-temporal dimension deriving from the simultaneous use of the syntagmatic and the paradigmatic axes.

However surprising this might seem, there are already some linguists who agree about the fact that language should be studied according to units that are discovered gradually departing from the reality that is offered to the investigation of the linguist and not by basing the entire analysis on the assumption of the existence of such or such linguistic unit. Ščerba, for example, states that it is ridiculous “to ask ‘what is a sentence ?’ One must begin by finding out what the actual realities of the field are and only then proceed with giving names to the observed phenomena.” (quoted by Akhmanova (1969 : 117)) .

De Saussure joined significantly this point of view when he gave a great importance to the delimitation of the units upon which an analysis should be based : “We can not go without neither knowing them [the linguistic units] nor making reference to them ; but, still, their delimitation is a so delicate problem that we ask ourselves if they are really given”¹² (1916 : 178). So, De Saussure invited us to reconsider the linguistic units upon which linguists base their analysis and not to take any one of them for granted.

Although all the linguists agree that De Saussure is the father of modern linguistics, it seems that many have neglected the importance of what he wanted to say by : “the sentence is part of *la parole*, not *la langue*.”¹³ (*ibid.* : 199) and “We can speak [...] of a linguistics of *la parole* but we must not confuse it with the linguistics properly said ; that of which *la langue* is the unique subject of study.”¹⁴ (*ibid.* : 40). Thus, the sentence has not to be studied within *la langue* but rather within *la parole*¹⁵. If we admit that the sentence belongs to *la parole*, how could we expect our analysis of *la langue* to be accurate and revealing while it is entirely based on it ?

The arab grammarians, on the other hand, make a clear distinction between the study of the *Ġumla*, i.e. sentence, and the study of the formal units that can constitute it. *Al-Ĥalil* and *Sibawayhi*¹⁶ chose the *lexie* as a starting point for their analysis. The primitive kernel of the *lexie* is defined as being the smallest isolated sequence of language that can carry a message. By taking the *lexie* as a starting point, the first arab grammarians have discovered the importance of being able to analyse speech not by taking the sentence as a starting point but, on the contrary, by going from smaller units to it. This is of primordial importance because it reflects the necessity of understanding the process of sentence construction. The western linguists, on the other hand have imprisoned themselves in a one-way analysis : the one that goes from the sentence to the morphemes and ultimately the phonemes. This kind of analysis has compelled them to take examples from what a speaker articulates, and then, analyse them, and thus, giving fixed and instantaneous moments of language that do not reveal the dynamic movement that occurs in the mind of the speaker. While the analysis of the arab grammarians allows to study all the possible combinations at every level¹⁷.

3. Levels of Language Analysis Through Linguistic Theories

In his theory of the *double articulation*, André Martinet mentions two levels for the analysis of language. The linguistic description according to him has two essential components describing the choices offered by *la langue* : phonology and syntax, which

¹² “On ne peut ni se dispenser de les [unités de la langue] connaître, ni faire un pas sans recourir à elles ; et pourtant leur délimitation est un problème si délicat qu'on se demande si elles sont réellement données”.

¹³ “la phrase appartient à *la parole*, non à *la langue*”.

¹⁴ “On peut [...] parler d'une linguistique de *la parole* mais il ne faudra pas la confondre avec la linguistique proprement dite ; celle dont *la langue* est l'unique objet.”

¹⁵ “La parole”, for De Saussure, is the individual linguistic creation while “la langue” is the property of a whole social group.

¹⁶ “Sibawayhi was a linguist of Persian origin born ca. 760 AD. He was one of the earliest and greatest grammarians of the Arabic language, and his phonetic description of Arabic is one of the most precise ever made.” (Wikipédia 2006). His book *Al-Kitāb* is a reference in Arabic grammar.

¹⁷ That of the *kalim*, the *lexies*, and the *tectonies*.

are devoted respectively to the second and first articulation, in addition to two indispensable, but theoretically marginal, studies that indicate the conditions imposed by *la langue* : phonetic and morphological studies (Cf. Ducrot 1972 : 72-73).

The American structuralist analysis, known as the immediate constituent analysis (ICA)¹⁸, on the other hand, insists on structure. It consists very generally in representing the sentence structure under the form of a hierarchy. It could be summarised in the procedure of a subdivision of the sentence into two parts through a combination of the operations of segmentation and substitution ; then, every resulting part is further subdivided into two other parts, and so on, until we arrive to minimal indivisible units called ultimate constituents (UCs). The immediate constituent analysis (ICA) presents a model that is more powerful than the one presented by the functionalists, because it generates embedded sentences and it shows the relations between the sentence and its constituents ; nonetheless, it does not show how sentences are related between each other. This is, for instance, the case of the relation that exists between a sentence in the active voice and its corresponding passive form. But, let us not go into the details of the problems faced by the European and American structuralists in their analyses of language because our aim is not show the weaknesses of their theories, but just to show that they all base their studies on a linguistic unit that none of them can define rigorously : the sentence

Chomsky, on the other hand, has overtly “opted for [...] the gradual approach in analyzing linguistic facts.” (Schank 1969 : 29), but instead of going from smaller units to larger ones, he goes from the level of the sentence to lower ones. So, his procedure that is claimed “to be a step by step model of sentence production as it goes on in the mind of the speaker”(*ibid.*) is perhaps not true because “transformational theory has not been successfully implemented on a computer”, so this “could imply that it is not in fact a theory of what goes on in the head.” (*ibid.*)

For Chomsky, the grammar of a language is the totality of its description :

“ A generative grammar consists of a syntactic component, which generates strings of formatives and specifies their structural features and interrelations ; a phonological component, converts a string of formatives with a specified (surface) syntactic structure into a phonetic representation, and a semantic component, which assigns a semantic interpretation to a string of formatives with a specified (deep) syntactic structure.” (Chomsky 1964 : 60)

He talks about three components : syntax¹⁹, part of the grammar that generates all and only the grammatical strings of morphemes, the semantic component that gives a meaning to these sequences, and finally the phonological component that reveals the way they are pronounced.

In sum, Chomsky also agrees with Martinet on the existence of a phonological and morphological level even if he interprets differently the relations that exist between them and the other components. Thus, the syntactic strings are analysed through two

¹⁸ Typical analysis of American structuralists also called *distributionalisme*.

¹⁹ Syntax, according to Chomsky has two components : the basic one that gives the profound structure of the sentence and the transformations, which give its superficial structure.

levels only.²⁰ The *neo-khalilian* theory, on the other hand, makes reference to more than two levels for this kind of description. In addition to the level of phonemes, there is the level of the *kalima*²¹, that of the *lexie*, that of the *tectonie*²², and that of the surrection. We have to note here that the *supra-lexical* level is not the result of a simple concatenation of morphemes as put forward by Martinet, or of phrases, by Chomsky²³ but rather a structural integration according to the syntactic pattern $(R \rightarrow T_1, T_2) \pm D$; where R stands for the governing element; T_1 for the first governed element; T_2 for the second governed term and D stands for the peripheral elements. The arrow here has a special significance. It represents the formal connection between the governing element and the first governed term and is not to be confused with the same symbol used by Chomsky to design the rules of re-writing. The nature of this syntactic structure, according to the *neo-khalilian* theory, excludes any segmental analysis.

The analysis at the level of the *lexie*, which is the central level for language analysis, is based on a linguistic unit that is syntactically larger than the simple 'word' and which can even contain syntax; for example, the verbal *lexie darabahu* (i.e. he hit him) can be analysed both at the *lexical* and *supra-lexical* levels since it is both a *lexie* and a *tectonie*.

4. Why an Application of the Neo-Khalilian Theory for the Analysis of English ?

To our knowledge, no attempt has been made hitherto to apply the *neo-khalilian* theory for the analysis of English, but this does not mean that the concepts that we aim to apply are entirely new as far as the analysis of English is concerned.

Western linguists acknowledge, for example, that language analysis must be based on a linguistic unit that is larger than a simple word, but their definitions of this unit, generally the phrase, remain either vague or based on non formal criteria. Chomsky's division of the sentence into *NP* and *VP* reflects the need for an intermediate level made of groups of words that behave as one unit. This is what Baker means when he says: "there are certain fundamental principles of English structure which specify the composition of English sentences not merely as sequences of individual words, but as sequences of phrases, units larger than individual words." (1978 : 34).

For the arab grammarians this unit is the *lexie*, i.e. the unit of speech that is preceded and followed by a silence in speech. This is certainly an intuitive criterion, but there are three other formal criteria which allow us to identify this unit; viz. : the '*ibtidā*', the '*infisāl*' and the *tamakkun*. These criteria enable the *lexie* to be independent in meaning and form, since it can convey a message that cannot be conveyed by smaller linguistic

²⁰ Note here that we make reference only to the morpho-syntax. Semantics, in the *neo-khalilian* theory, has not to be confused with the semiologico-grammatical side. The grammatical analysis should be based only on the elements that are derived from the grammatical structure at each level of language; while semantics, which is as important as the semioloco-grammatical analysis, is another domain of study that has other goals. This does not prevent the use of the same methodological concepts in both domains.

²¹ Most of the *kalim* (plural of *kalima*) are analysed through a vertical analysis, into an ordered substance (*mādda*) and a sequential pattern (*wazn*).

²² This level deals with the integration of the *Lexies* and some *kalim* that do not appear at the *lexical* level.

²³ As we have mentioned, according to the hypothesis of Chomsky, the sentence is divided into phrases: $S \rightarrow NP + VP$. However, this vision has somehow changed with his theory of government and binding that he has initiated in 1981.

units. It is also independent for it has a double boundary : it can be separated from what precedes (*'ibtidā'*) and what follows (*'infiṣāl'*). This is expressed in speech by two silences (we exclude the kind of silences that are brought about by hesitation and memory failure that occur in speech). This independence enables it of being expanded (*tamakkun*) by receiving additions (not any way, but through the transformations that go from the kernel to the different positions of the pattern where new elements are introduced.)

Jean Gagnepain, for example, has noticed when observing aphasic subjects²⁴ that groups of morphemes are organised according to some specific spaces. For him, this set of fragments, that are mutually interdependent, constitute what he calls a nominal, verbal, or adverbial *'programme'*. In the book written by his students (Bonnet & Barreau) we read “the reciprocal correlation or implications of the lists²⁵(categories of *semes*²⁶) constitute in each language what we can call “patterns”(…) we will call “word” every concrete realisation generated from one semiological model.”²⁷ (1974 : 51)

The structure proposed by Gagnepain progresses in the horizontal axis through additions but there is no starting point ; this makes the organisation of these operations unclear. While the pattern proposed in the *neo-khalilian* theory progresses through “a movement that renders the two axes dynamic through the progressive augmentative passage from the minimal string to its derivations and vice-versa”²⁸ (Hadj-Salah 1979 : II, 676). Moreover, this *modèle du mot* is doubly limited on both ends ; on the contrary of the *lexie* whose flexibility and recursive positions allow it to be unlimited in length (theoretically).

In all cases, our aim here is not to compare the two theories but just to show that, despite some differences, the analysis presented by this linguist, at first glance, reflects a reasoning that is close to that of the *neo-khalilian* theory as opposed to some other western theories in which, in case we can find this intermediate level between the word and the sentence, its units are not yet taken as a starting point for the analysis. Once again, the existence of such a theory reinforces the possibility of a possible applicability of the *neo-khalilian* theory for the study of an Indo-European language, notably of English.

²⁴ Aphasia is a language disturbance. It is “a loss or impairment of the ability to produce and/or comprehend language, due to brain damage. It is usually a result of damage to the language centres of the brain (like Broca's area). These areas are almost always located in the left hemisphere, and in most people this is where the ability to produce and comprehend language is found. However in a very small number of people language ability is found in the right hemisphere. (...) Depending on the area and extent of the damage, someone suffering from aphasia may be able to speak but not write, or vice versa, understand more complex sentences than he or she can produce, or display any of a wide variety of other deficiencies in reading, writing, and comprehension”. (Wikipedia 2006)

²⁵ A list gathers all the *semes* that have the same value in the category, and at the same time every *seme* has a differential value.

²⁶ *i.e.* “la plus petite valeur dénotée” (Bonnet & Barreau 1974 : 65)

²⁷ “Les corrélations ou implications réciproques des listes (ou catégories sémiques) constituent dans chaque langue ce qu'on peut appeler des “modèles” (...) Nous appellerons “Mot” chaque réalisation concrète engendrée à partir d'un modèle sémiologique.”

²⁸ “le mouvement qui dynamise les deux axes par le passage gradué et croissant de la séquence minimale à ses dérivées qui en constituent les isotopes et inversement.”

We find also the same idea in Harris since he says that : “we have to formulate the process of sentence construction not on the basis of word classes on which we would make additions, but on the basis of a larger unit” (1974 : 36). He talks about a nominal group defined as : a noun (N) accompanied by other elements “the order of the left additions” (*ibid.*), for example, are presented as follows : (...) N = *star*, we can have : TN²⁹ = *the star*, AN³⁰ = *green star*, but not : ATN = * *green the star*³¹. In his analysis, Harris lists only all the possible left additions for the noun. Thus, Harris also acknowledges the need for a linguistic unit that is larger than words in order to describe more accurately language and to reveal its structure. However, he does not take this unit as a starting point for his analysis and does not make reference to the fact that it is a minimal unit of discourse.

However, if we follow the arab grammarians' analysis, we can find one or more general patterns that would allow us to generate all the strings quoted above according to the filling of one or more positions constituting this or these patterns. This filling is subject to some restrictions due to the kind of relationships that the elements of the different positions hold between themselves (for example : co-occurrence and exclusion). We can exemplify this in the following representation, while specifying that the position of the noun (N) is the central position of our structure ; that is to say, the point of departure of all the transformations that allows to introduce the elements of the other positions. This position is always full on the contrary of the other positions that can be empty. Here appears the notion of zero mark because the absence of an element within this structure has a significant meaning.

²⁹ T = article ; here 'the'.

³⁰ A = Adjective ; here 'green'.

³¹ The asterisk behind any sentence or part of sentence indicates that the construction is not correct from the grammatical point of view, *i.e.* it does not follow the rules of the system, and not from the communicational and semantic point of view.

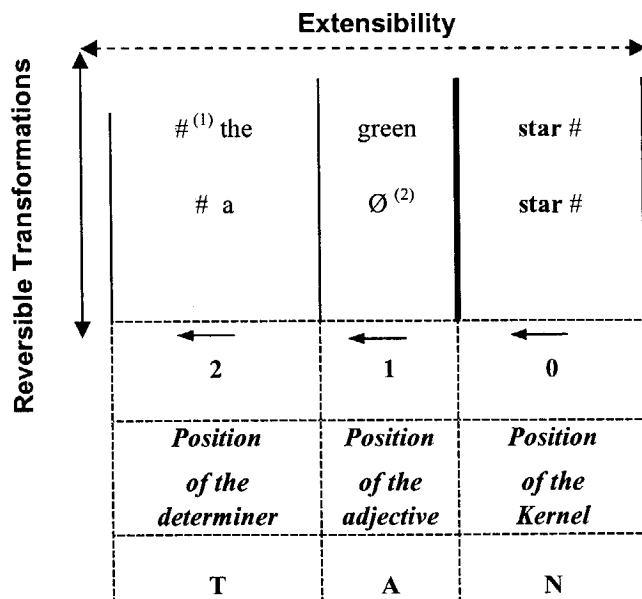


Figure 1 : Preliminary Generating Pattern of the English Nominal Lexie

- (1) This symbol indicates the left or right boundary of an utterance.
- (2) This symbol indicates the 'zero morpheme' or 'zero mark', or *tark al 'alāma* for *Sibawayhi*.

A glance at the preceding pattern shows that every constitutive element has its importance and significance, even if absent ; in this latter case, it is represented by the symbol (∅). We can notice easily that this kind of analysis, though incomplete, is far from being just a simple enumeration of the possible linguistic constructions. It is economical in that it allows the representation of all these constructions in only one structure. In this structure (i.e. in Figure 1), there is a recursive position, that of the adjective, since we can say : *the green star* as well as *the beautiful green star*, *the beautiful green shining... star*. Such positions enable the *lexie* to be flexible and unlimited -theoretically³²- in length.

Once complete, this pattern becomes an in-put/out-put device that allows us to generate all the possible utterances ; of course, within some limits imposed either by the language system (for example, the order of the positions that cannot be changed because they are part of the grammatical system of every language : this is the case of **green the star*, which is represented by the order *ATN*) or by some specifications that the linguist sets himself (after an objective observation and analysis of the resulting strings and their grammaticality³³.)

The application of the *neo-khalilian* theory for the analysis of English will allow us to explore the possibility of the existence of patterns generating linguistic units at

³² Generally the speakers tend to avoid too long utterances in their speech even if these are grammatically correct.

³³ The rules of co-occurrence, for example, that specify which element of which position may appear or not in every possible resulting sequence from that pattern.

different levels of language. It seems to us that the discovery of such patterns might be profitable, as far as they can help us to understand better the mechanisms and processes upon which the construction of language units is based. We suppose that the existence of such patterns at every level is a universal feature for all the languages, but we cannot predict that the formal limits and the constituents of these patterns are the same. In the arabic language, for example, there is no position between the article and the noun, while this position exists in English : it is the position of the adjective (Cf. Figure 1 : 72).

To define the linguistic units of English, the number of their generating patterns (in Arabic, for example, there are three generating patterns for the verbal *lexie* and one for the nominal one) with a specification of the segments that appear in their internal structure, we will make use of two important concepts that have been used throughout the arab grammarians' analysis : the concepts of *mawḍi'* and that of *qiyās*.

The *mawḍi'* "is a virtual entity"³⁴ (Hadj-Salah 1979 : II, 650) that covers all the levels of language : from the production of the *hurūf* (i.e. phonemes) to the discourse analysis (cf. *ibid.* : II, 646-657). It is a virtual entity because it is not a simple position in the spoken chain : it appears in a structured and organised pattern. It "is not defined only by the distribution or even the function of the elements that occupy it : it is a position that can be occupied by a class of elements not simply in the syntagmatic axis but in an operational and abstract pattern that derives from the two axes at the same time."³⁵ (*ibid.* : II, 655)

To discover these *mawāḍi'* (plural of *mawḍi'*) at every level, we will have to examine all the possible combinations and the different positions where the same element appears and situate each new appearance in a linguistic structure ; then compare it to the preceding ones and make a sort of alignment of the possible operations according to some rules, so that we come up with a complete and generalised pattern that would take into account all the structures resulting from the careful study of the examined utterances. In addition, this pattern should allow us to generate all the predictable grammatical utterances that might be actualised by a native speaker of English, even if they are non existent in the corpus because, after all, this latter can not possibly contain all the utterances of a given language. Such a procedure may appear at first glance, purely statistical but in reality it is far from being that because we will use, just as the first arab grammarians, the notion of *qiyās*.

The *qiyās* is a tool that is used to establish intensive and extensive relations between linguistic units and also equivalences between structures. It is the correspondence of the content of two or more classes that allows to define the elements, not just according to the category to which they belong, but through a system of extensive relations with elements of other categories. Hence, it acquires by its single position the status of an absolute variable not linked to any class of elements.

³⁴ "une entité virtuelle"

³⁵ "Le *mawḍi'*, dans cette optique, n'est pas défini ni par la seule distribution ni par la fonction des éléments qui l'occupent : il s'agit d'une position que peut occuper une classe d'éléments non pas simplement dans l'axe syntagmatique mais dans un schème opératoire abstrait à partir des deux axes en même temps."

It is true that we can define the elements according to the class to which they belong, but the definition that is based on the relations it holds with the other units of language can be more powerful. It is this alignment of all the possible operations according to some rules which enables us to introduce new elements on a pre-existing model. The *qiyās* can also prove useful for the understanding of language acquisition because it is not a simple analogy ; it is a comparison that allows the linguist to go beyond the superficial differences and the limits that could derive from the group of items to which a given unit belongs.

The discovery of linguistic patterns which enable the users of each language to generate an infinite number of linguistic units reflects a reasoning that is not entirely new in western linguistics ; let us, for example, examine this extract from the Course In Modern Linguistics of Hockett³⁶ :

“The property of language which renders it such a powerful means of communication is that one can say something that has never been said before, and yet be understood, often without either speaker or audience being aware of the novelty. A novel utterance is built from familiar raw-materials, by familiar patterns of putting raw-materials together. Neither the raw-material nor the patterns need be new in order for the utterance to be different from any that has occurred previously.” (1958 : 157).

The raw-materials for Hockett are the morphemes, while the patterns are hierarchical models which are the result of a careful observation of the construction of a given sentence and which is, then, used for the construction of a number of other sentences using new “raw-materials”. What Hockett expresses in these few lines reflect to a far extent the way language is acquired and used.

Hockett underlines the important fact that the speaker of any human language utters each time new utterances that he has never used before without even noticing this novelty, because the acquisition of a language presupposes the acquisition of its patterns as well as the necessary “raw-materials” used for the construction of correct utterances, rather than a rote learning of all the utterances he hears or reads³⁷.

The definitions based on formally structured patterns, as one may expect, are clearer than any other kind of definitions. It may even help us to explain some ambiguous cases. Let us, take the following example : *Take that chair in the garden*, which may be understood in two ways according to whether the chair is already in the garden or not. To explain this, some linguists speak about “rankshift” :

- 1- “*Take that chair which is in the garden.*(rankshift)”
- 2- “*Take that chair and put it in the garden.* (no rankshift)”

Therefore, the linguist is compelled to interpret each possibility by rewriting the sentence. In our case, we can show the two possibilities according to whether *in the garden* appears in an internal position of the nominal *lexie that chair in the garden* (1) or if it is a separate *lexie* (2). This could be represented as follows :

³⁶ Charles Francis Hockett (1916 -2000) “was an important American linguistic theorist who developed many influential ideas of American structuralism, and a student of Leonard Bloomfield.” (Wikipédia 2006).

³⁷ This is constructive learning : “*apprentissage constructif*”

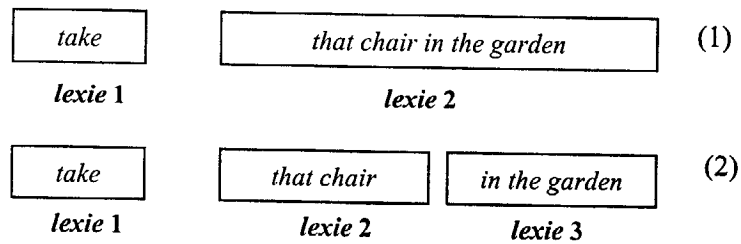


Figure 2³⁸

This kind of interpretation may arise some questions about the criteria upon which we have to decide if an element is part of a given *lexie* or is external to it. For this, we will use the test of omission. In a sentence like : *I wrote a long letter yesterday*. At first glance, every linguistic unit appears to be independent from the other ones. After a more careful analysis, we notice that *I* cannot be omitted because the remaining construction is not a correct utterance : **wrote a long letter yesterday*, on the contrary of *yesterday* which can be omitted since both *yesterday* and *I wrote a long letter* are correct utterances. They can both be complete answers respectively to the following questions : *When did you write the letter ? What did you do yesterday ?*

To decide if any utterance is correct, we have to rely on the intuitions of native speakers because “normal mastery of a language involves [...] the ability to identify deviant sentences” (Chomsky 1964 : 7) and :

“The evaluation of sentences according to the criterion of grammaticality belongs to the linguistic competence of the native speakers. This competence involves the ability to understand new sentences, to detect deviant sentences, and even to interpret them [...] Chomsky even explicitly states that he would like to find a theory which will predict such intuitions.” (Ivič 1965 : 207-208)

According to us, the speakers have an intuitive and implicit knowledge of their language and not a theoretical and explicit one, which is the one of the grammarians. Thus, the grammarian can use the implicit knowledge that can be provided by the native speakers when the explicit knowledge provides no tools that can help the investigator.

The use of the intuition of speakers is not new in linguistics. Let us examine these two paragraphs about the way the units of language could be found :

- “...*la langue* is not a set of signs delimited in advance, which we need only study the signification and the order ; it is an indistinct whole where the attention and the practice can alone make us find particular elements. The unit has no special phonic character, and the only definition that we can give to it is the following : a sound sequence that is, at the exclusion of what precedes and

³⁸ This delimitation of the lexies is preliminary just to show that the meaning of the sentence can be different according to the position in which a given element appears. It is only after a careful analysis that the left and right boundaries can be determined. We have also to note that *lexie 1* and *lexie 2* do not belong to the same type of lexies; the former being verbal and the latter nominal.

follows in the speech chain, the signification of a given concept. ”³⁹ (De Saussure 1916 : 167)

- “The one thing in which various languages agree is the fact that, in all languages that we know, there are utterances that stand alone, that are separate from other utterances, that occur with silence before and after the utterance.” (Jespersen 1924 : 307). Quoted by Fries (1952 : 19))

Conclusion

As a conclusion, we can say that what is presented here is just a discussion on the possibility of analysing English according to the basic concepts and the methodological tools used by the first arab grammarians, like *Al-Ḥalil Ibn Aḥmad Al-Farāhidī* and *Sibawayhi*. An attempt for proposing an English grammar resulting from the exploitation of the concepts exposed in this paper is being undertaken and we hope to present its results as soon as possible.

³⁹ “ ...la langue ne se présente pas comme un ensemble de signes délimités d'avance, dont il suffirait d'étudier les significations et l'agencement ; c'est une masse indistincte où l'attention et l'habitude peuvent seules nous faire trouver des éléments particuliers. L'unité n'a aucun caractère phonique spécial, et la seule définition qu'on puisse en donner est la suivante : une tranche de sonorité qui est à l'exclusion de ce qui précède et de ce qui suit dans la chaîne parlée, le signifiant d'un certain concept. ” (Saussure 1916 : 167)

BIBLIOGRAPHY

- Akhmanova, Olga & Galina Mikael'an, 1969. *The Theory of Syntax in Modern Linguistics*. Janua Linguarum Minor Series 68. The Hague-Paris: Mouton.
- Baker, C. L., 1978. *Introduction to Generative Transformational Syntax*. New Jersey: Prentice-Hall, Inc.
- Bloomfield, Leonard, 1926. "A Set of Postulates for the Science of Language". *Language* 2.
- Bonnet, J. & Barreau, J., 1974. *L'esprit des Mots. Traité De Linguistique Française*. Tome1: Grammaire. Paris 6: L'école.
- Chomsky, Noam, 1957. *Syntactic Structures*. Trans. Braudeau, Michel, 1969. Paris: Editions du Seuil.
- _____, 1964. *Current Issues in Linguistic Theory*. Janua Linguarum Minor Series. The Hague, Paris: Mouton (6th printing 1975).
- _____, 1986. *Knowledge of Language: Its Nature, Origin and Use*. New York: Praeger.
- De Saussure, Ferdinand, 1916. *Cours De Linguistique Générale*. Algérie: Enag/Editions. 1994.
- Ducrot, Oswald & Tzevetan Todorov, 1972. *Dictionnaire Encyclopédique des Sciences du Langage*. Paris: Editions du Seuil.
- Fries, C. C., 1952. *The Structure Of English: An Introduction to the Construction of English Sentences*. Hartcourt, Brace and World, Inc.
- Hadj Salah, Abderrahman, 1979. *Linguistique Arabe et Linguistique Générale: Essai de Méthodologie et D'épistémologie du 'Ilm Al-Arabiyya*. Volume 1/2. Typed thesis. Paris: Sorbonne.
- _____, 2003. "Linguistique et phonétiques arabes (1)". *Al-Lisaniyyat* 8. 11-33.
- _____, 2004. "Linguistique et phonétiques arabes (2)". *Al-Lisaniyyat* 9. 7-38.
- Harris, Zellig. S., 1974. *Structures Mathématiques du Langage*. Paris : Dunod.
- Hockett, C., F., 1958. *A Course in Modern Linguistics*. New York: Mac Millan.
- Ivič, Milka, 1965. *Trends in Linguistics*. Trans. Heppell, Muriel. Janua Linguarum 42.
- Little, William & al, 1968. *The Shorter Oxford English Dictionary: On Historical Principles*. 3rd ed. Oxford: Clarendon Press.
- Lyons, John, 1981. *Language and Linguistics: An Introduction*. New York: Cambridge University Press.
- Ruwet, Nicolas, 1967. *Introduction à la Grammaire Générative* Paris: Librairie Pion.
- Schank, Roger, 1969. "Conceptual Dependency as a Framework for Linguistic Analysis", *Linguistics* 49. 28-50.
- Scott, Robert Ian, 1968. "Two Ways to Determine the Most Useful Kernel for English." *Linguistics* 45. 67-75.
- www.wikipedia.org. 5/10/2006.

