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Word Formation in English: A Generative Account

Mohammad Hamid[1], Dr. Pallav Vishnu[2]

[1]Research Scholar, Department of Linguistics, Aligarh Muslim University, Aligarh, Uttar Pradesh, India
[2]Associate Professor, Department of Linguistics, Aligarh Muslim University, Aligarh, Uttar Pradesh, India

ABSTRACT

This research article reviews the previous literature on Chomskyan Generative Grammar in linguistics. It offers new insights into analyzing the patterning of words' internal structure. It outlines a few concepts of Chomsky and provides some logical and valuable comments on them, opening doors for further research. It discusses some general word formation rules assumed by speakers in language acquisition. It provides new insight into the study of meaning. With formidable data, it raises theoretical questions regarding the universality of grammar, language acquisition, language faculty, parametric variation, headedness of the compound, determination of the category of compounds, etc. It accurately describes morphological theory and suggests that some linguistic theories must be revised, mainly morphological and syntactic. It brings conceptual clarity to morphological theory in linguistics. Finally, it aims to clarify the structural and semantic complexity of word formation in English.

KEYWORDS: *Generative Grammar, Competence and Performance, Productivity and Creativity, Blocking, Universal Grammar, Principle and Parameter, compounding, Innateness, Localization, etc.*

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INTRODUCTION

Before the introduction of '*Generative Grammar'* by Chomsky (1960s), morphology was only concerned with analyzing and accounting for the pattern in data in studying the internal structure of words. For morphologists, it was the word that was considered the basic unit for understanding the grammar of any language. For them, morphology was assumed to be an independent branch of linguistics that had no interaction with other branches. However, it soon became evident that morphology resorts to some phonological rules to determine its pronunciation and interacts with some syntactic rules to identify the correct usage of certain lexical bound morphemes that could only be understood when used in a sentence.

Chomsky (1965) turned the emphasis of linguistic theory from studying observable behavior to investigating the knowledge of language that underlies it. This thought of Chomsky was a big move in the history of linguistics, which brought a revolution that involved the mental representation of any pattern or observed behavior in a language. He believed that when one observes specific behavior or patterns in a language, something in one's mind is at work internally, and this guides us in identifying the pattern or observing the pattern of behavior tacitly (Chomsky, 1968). This is what he called language competence. Hence, the main objective of generative grammar is to underline the knowledge that language speakers possess.

Competence and Performance

Chomsky characterizes language knowledge using the concepts of '*competence'* and '*performance'* (Chomsky, 1965). According to him, '*Competence'* is the speaker's tacit knowledge which enables him to produce and understand as many novel sentences as possible, whereas '*performance'* is the practical usage of language in a real situation. Katamba simplifies that knowledge of language pertains to learning a finite set of rules that enable language speakers to produce and understand an unlimited number of sentences in a language (Katamba, 1993). Moreover, Chomsky proposes that *competence*, rather than *performance,* is the main object of linguistic investigation (Chomsky, 1965). Word formation rules are one subset of this system, which I have discussed in detail in the following section.

Productivity and Creativity

Katamba states that words are formed mainly by following general rules and principles internalized by speakers in language acquisition (Katamba, 1993). For example, Fromkin et. al. illustrate that if the suffix *-ly* is added to an adjective *'quick'*, an adverb *'quickly'* is produced; if the prefix *post-* is attached to a noun base, as in the word *post-war*, an adjective with the meaning 'after' is formed, and so on (Fromkin et. al. 2003). Moreover, Katamba (1993) claims that speakers can dramatically expand their range of words by creating words without precisely following standard word formation rules. We can see them in the following compounds, drawn from Katamba (1993):

1. a. *Stool pigeon* (police informer)
   b. *red legs* (poor whites in Tobago)
   c. *deadline* (the end or limit of something, the last date of something)

(data from Katamba, 2003, p. 72)

In the above data, Katamba (1993) describes that no synchronous rules can be formed to explain the meaning of the compound, like '*stool pigeon'*, which is unpredictable in terms of semantics. However, in some cases, tracking the past might display that some of these compounds initially had a denotative meaning, which was dispensed with later, through metaphorical extension. Similarly, during the American Civil War, a *deadline* was the line around the boundary fence beyond which no soldiers could go. A soldier who meandered beyond that line might be killed for abandonment. However, today, moving beyond the deadline will not be dangerous (Katamba, 1993, p. 73). Today, the word *deadline* has a different connotation, which is much distinct from those used in the American Civil War. It still has the sense of risk, but not as fatal as in the American Civil War. As far as 'redlegs' are concerned, it may be true that poor whites working in the hot sun as workers on plantations in Tobago literally had red legs; nevertheless, the compound redlegs is covert in terms of semantics. It is implausible that anyone could work out the meaning of '*redlegs'* from the meaning of the words '*red'* and '*leg'*. Similar examples in today's English can be easily found. Several words can be included under this proposition. If we consider words such as 'Walkman' and 'Tallboy', we find that in earlier times, 'Walkman' did not mean a kind of man but a tiny, private stereo kit. Similarly, the word '*tallboy' did not* mean a kind of tall boy but referred to a part of furniture.

This study assumes that it is not the sequence of sounds (word) that gives a particular meaning to a word. Rather, it is the meaning that gives the existence of a particular sequence of sound (which is in turn called words), as evident from the study of 'lexical gaps' (Fromkin et. al., 2003, p. 87) that some permissible sound sequences like *blick, slarm, krobe*, can be possible words. However, they are not included in the dictionary as they do not have any meaning. Simply put, a possible sequence of sounds does not constitute a word unless it renders a meaning. In a nutshell, this study asserts that meaning is autonomous. It is free from any particular physical realization in reality. It can be conveyed without using words, which is evident from the sign languages, where only gestures and postures are used to convey the meaning. Hence, this study assumes that, in reality, the content of a word is permanent and has an independent existence on its own, whereas the form of a word is relative and what we see as a sequence of sounds in constituting words is also relative (temporary). 'Word' is a 'container' of meaning, not the 'creator'. Instead, the immediate context and situation defer meanings to other constituents within the sentence and direct us to put them in any sound sequence in the written form so that one can identify them by a particular word. The constitution of meaning also depends upon fleeting time and space, as evident from the above examples.

Blocking

Moving forward from Creativity to Blocking, the same happens with morphemes. Fromkin et. al. (2003) illustrate that when the word *commune+ist* entered the language, words such as *commune+ite* (as in *Trotsky + ite*) or *commune + ian* (as in *grammarian*) were not needed and were not formed. Sometimes, alternative forms coexist: for example, *Chomskyan, Chomskyist,* and perhaps even *Chomskyite* (all of these mean the same "follower of Chomsky's view of linguistics"). Similarly, *linguist* and *linguistician* are both used, but the word *linguite* is not used (Fromkin et. al. 2003, p. 87). Again, it clarifies that meaning is not dependent on any particular sound sequence. One can put the same meaning in any sequence of sounds (in terms of the phonotactics of a language), making it a meaningful word or morpheme, and the earlier one loses its identity as a morpheme or word. That is to say, the moment we take out the meaning from a sequence of sounds and put it in another sequence of sounds, the earlier sequence of sounds loses its identity as a word or as a morpheme in a particular word, as evident in the above cases of sound sequences like *+ist, +ian, +ite,* etc. Hence, in the context of word meaning, the meaning is autonomous and of utmost importance. These examples also support the above description produced in italics. Therefore, I would interpret it as *"Semantic Autonomy"*.

Unlisted Morphological Objects

Katamba (1993) describes unlisted morphological objects in languages as unlisted new words formed habitually by morphological rules (Katamba, 1993, p. 296). He states that many words do not need to be included in any wordlist if created predictably by word-formation rules (Katamba, 1993, p. 296). For example, consider the word *redraw*, which does not need to be listed in the lexicon and memorized because it is predictable by the English word-formation rule of *re-* as a prefix with the meaning 'again. He further states that a speaker who knows the meaning of re- and *draw* and the relevant morphological rule of prefixation can easily prefix *re-* to the word *draw* to form *re-draw* (Katamba, 1993, p.296). He contends that even many nonsense words (speakers expressly create) are built using standard morphological rules (Katamba, 1993, p. 296). Recently, I also encountered words like **careble* and **perfectedness* in the following context:

2. a. This child is *careable. (= is capable of caring)
   b. The *perfectedness of work (= the fact that the work is perfect)

Katamba (1993) notes that we experience no difficulty in finding the meaning of the italicized words above, although none are listed in any dictionary. In principle, on its own, there is no limit to the number of new words that can be created in any language. It is entirely true that, generally, speakers tend to memorize a vast number of words, but not the sentences of their language. Nonetheless, both morphology and syntax, since they are creatively rule-governed, are open-ended (Katamba, 1993, p. 297).

Theoretical Framework

It is said that the speakers of a language do not just commit to memorizing all the words they know. Their competence includes the ability to manipulate rules to create new words and unscramble the meaning of novel or unfamiliar words they encounter (Fromkin et. al. 2003, p. 87). Fromkin et. al. (2003) questioned, "If knowing a language essentially involves mastering a system of rules, then how do native speakers use a language appropriately without learning the grammar, and how do humans accomplish this task?" In this case, Chomsky (1957) contended that the linguistic capacity of humans is innate. This means that the general character of linguistic knowledge is determined by the nature of the mind endowed with a specialized 'Language Faculty' (Chomsky, 1965) which persists somewhere in the biology of the brain. Here, Chomsky moved from a metaphysical to a physical position of language (that is, from mind to brain) to explain the linguistic knowledge of language speakers. In this case, Chomsky claimed that the human child is biologically endowed with a blueprint of language, which he called 'Universal Grammar' (Chomsky, 1960s), which I have explained below.

Universal Grammar

According to Chomsky, 'Universal Grammar' is the faculty of the mind that determines the nature of language acquisition in infants and linguistic competence (Chomsky, 1960s). He further elaborates that the properties behind the competence of speakers of various languages are governed by restricted and unified elementary principles rooted in Universal Grammar. This explains the striking underlying similarity between languages in their essential structural properties. Under this proposition, it is admitted that languages differ, but the structural difference between them occurs within the relatively narrow range sanctioned by Universal Grammar. Concerning word formation, very similar word-building principles recur in language after language. According to him, the language faculty of the mind is essentially the same in all humans. Hence, languages can only differ from each other within the limits predetermined by the neurology and physiology of the human brain, which determine the nature of universal grammar. Moreover, universal grammar determines the kinds of grammar of a particular language that infants can acquire (Chomsky, 1965). Here, again, the ability of language seems confined within a physical parameter set by Universal Grammar. Chomsky tends to support the physical position of language ability somewhere in the brain, but has unfortunately failed to find the exact location in the brain. Neurologists like Broca and Wernicke have assumed that the ability of language lies in the brain's left hemisphere (Broca, 1968; Wernicke, 1974), but 'Where in the left hemisphere?' is still a big question. However, some exceptions to this proposition are still unsolved. Chomsky contended that language is impaired after brain lesions, but not general intelligence, which is also related to the brain. Moreover, "How does this happen?" is a big question that needs an answer.

The principle and parameter Theory

There is a big question of how universal grammar is structured. The answer is, perhaps, that it is modular in structure. It consists of various sub-systems of principles (Katamba, 2003). Its principles consist of parameters fixed by experience based on simple evidence available to a child (Chomsky, 1981). Here, language exposure is of utmost importance to these Universal rules. Chomsky compares Universal Grammar to an intricate electrical system wired up in the brain, but not switched on. It is the language

exposure that switches it on. This system contains a finite set of switches, each with a restricted number of positions. Here, Exposure to a specific language is required to turn on these switches and give them the appropriate setting (Chomsky, 1965).

The basic idea of parameters is to capture the fact that many rules are interdependent. It means that if one choice is made, it may preclude other choices or set other related choices in motion. Katamba (2003) suggested that this makes the task of language acquisition simpler than it would be if each rule had to be worked out independently of all other rules (Katamba, 2003, p. 7). The parametric approach assumes that infants who acquire a language make very clever guesses about the rules of grammar based on the rules already acquired after the experience of a particular language (Chomsky, 1965). The parametric variation can be understood from the examples below.

The Right-hand Head/Left-hand Head Rule

The Right-hand Head: Williams (1981) states that the Right-hand Head/Left-hand Head Rule best explains a parameter. In English, most compounds are endocentric, that is to say, they have a head, and in such compounds, the head element typically comes at the rightmost position. Let us look at English endocentric compounds below, where a compound noun may contain a noun followed by another noun, an adjective followed by a noun, or a preposition followed by a noun. Consider the following examples drawn from (Williams, 1981, p. 248):

3.	**N + N**	**A + N**	**Prep N**
	a. Water-lily	hothouse	undergraduate
	b. Bookcase	sour-dough	near-sightedness
	c. Motor-car	greenfly	outskirts
	d. Skyline	High Court	undergo
	e. India-rubber	wet-suit	oversight

(data from Williams, 1981, p. 248)

It is clear from the phrase structure rules in the above example that the right-hand constituent is the one whose syntactic category (noun, verb, and adjective) percolates to the entire compound word. In other words, we can say that it determines the category of the entire compound.

Now, consider other examples drawn from (Williams, 1981, p. 248):

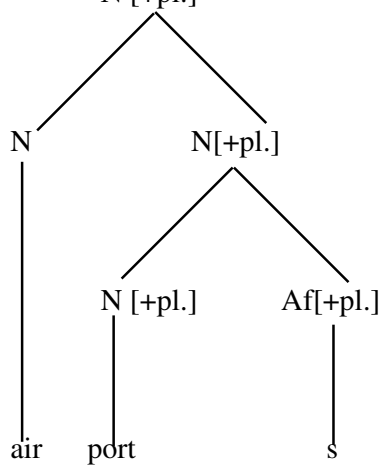
4. a. [bird $_N$ watch $_V$] $_V$ [over $_P$ react $_V$] $_V$
   b. [Sugar $_N$ daddy $_N$] $_N$ [blue $_N$ book $_N$] $_N$
   c. [blue $_A$ black $_A$] $_A$ [wind $_N$ screen $_N$] $_N$

(data from Williams, 1981, p. 248)

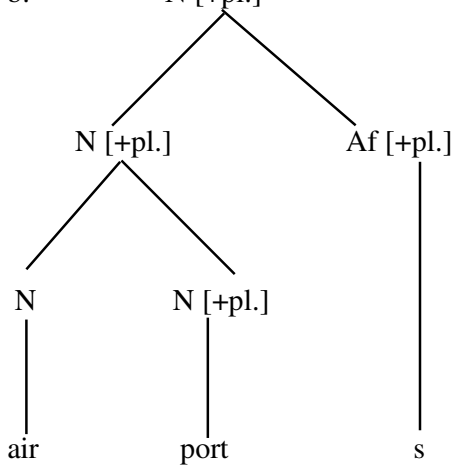
From the above data, Williams (1981) argues that we can define the head of a morphologically complex word as the right-hand member of that word. We can correctly predict that, in the above example, the rightmost member of the word is the head of the word.

The next question concerns the headedness and the analysis of inflected compounds. In the literature, Selkirk (1982), in the following tree diagram, illustrated two possible analyses of inflected compounds in the following way:

5. a.

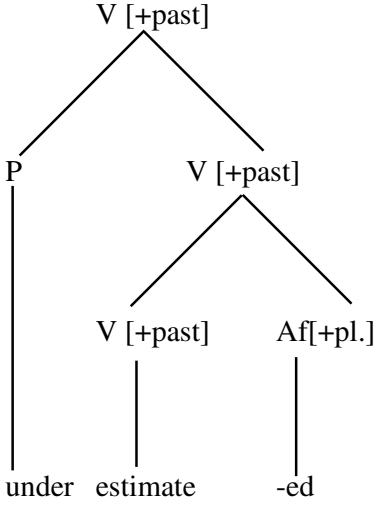


b.

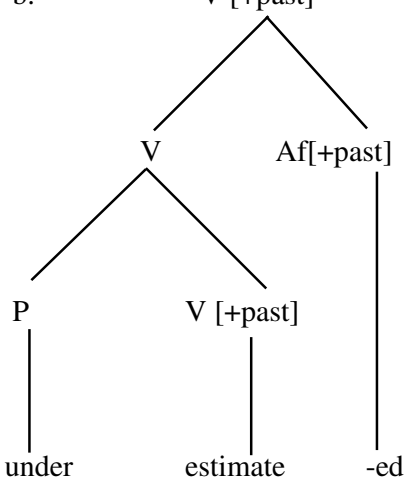


(examples from Selkirk, 1982: p. 55)

6. a.



b.



(examples from Selkirk, 1982: p. 55)

Selkirk (1982) elaborates that in examples 5b and 6b, the inflection marks the compound as a whole, implying that compounding is done first, and then the affixation occurs later. Meanwhile, in 5a and 6a, the order is reversed. In this case, affixation is first attached to the compound's head, and subsequent compounding occurs. Now the theoretical question arises: since we would get the same semantic reading for these compounds, is there any principled way of choosing between the two analyses? To answer this question, based on the above example, we can say that compounding can feed inflection, which led Williams (1982) to treat affixes as heads of their words. Further, it is claimed that RHR applies to affixes. It means that the rightmost suffix in a word assigns its properties by feature percolation to the entire word. Di Sciullo and Williams (1982) states:

"For an affix to determine the properties of its word, it must appear in the ultimate head position that is (the head of the head of the head...)."

Di Sciullo and Williams (1982) argued that if right-headedness in morphology appears at the very last position in the word, nothing is surprising about affixes being the head of the word, including compounds, because once a compound like $[[wet_A]\ [suit_N]_N$ is formed, it can receive a plural-s suffix to form $[[wetsuit]_N]$ s as N. The plural suffix is attached to the head word on the right, the head before the inflectional suffix. Instead of this, if we inflect the word on the left for plural, then the resulting word would be ill-formed $(*[[[wet]\ s]_N\ [suit]]$.

Now, consider the following data drawn from Selkirk (1982: 52):

7. a. Overseas investor — sales recipient
   b. Parks commissioner — parts distributor
   c. Arms merchant — arms race
   d. Building inspector — weapons analysis

(examples from Selkirk, 982: p. 52)

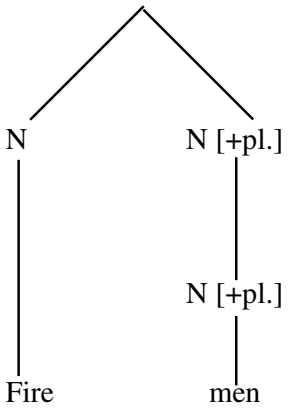
Katamba (1993) points out that the above nouns are endocentric compounds with a right-hand head. Semantically, we know that investor, commissioner, recipient, etc., are the heads. Here, an *overseas investor* is a kind of investor, a *parks commissioner* is a kind of commissioner, an *arms merchant* is a kind of merchant, etc. Here, plural marking -s is on the left-hand element instead of the right, and the non-head element does not indicate the plurality of the entire compound.

In these cases, it follows from the percolation principle. As a rule, the head drips its morphosyntactic feature onto the rest of the compound. If we assume that the rightmost affix is the head, it is to be expected that it will determine the properties of the whole compound, but this is not the case here. Here, the plural suffix in *overseas, parks, arms,* etc., does not mark the plurality of the whole compound but rather the plurality of the non-head constituent. In order to pluralize the entire compound noun, we have to attach the plural suffix to the head constituent, which is on the right, to yield *overseas investors, parks commissioners, arms merchants,* etc.

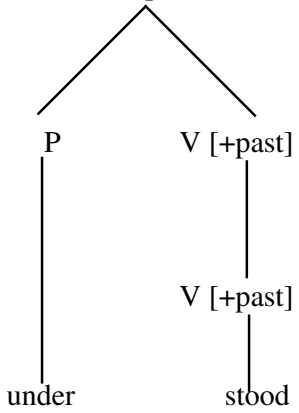
Against this, it should be noted that if the word on the right has irregular inflection, as in the words like firemen, field mice, underwrote, outdid, and oversaw, there is a good case for adopting the percolation principle since there is no separate inflectional affix, so the inflection is assigned directly to the second element. The rightmost

word in the compound percolates its properties, including irregular properties of inflection, to the entire compound. See in the tree diagram below, drawn from (Williams, 1981):

8. a.



b.



(see cf. Williams, 1981, p. 313)

Now consider the following data drawn from Allen (1978):

9.

Column A	**Column B**	**Column C**
a. *scissor	scissors	scissor-handles
b. *trouser	trousers	trouser-hangers
c. *pant	pants	pant-liners
d. *binocular	binoculars	binocular-cases

(Examples from Allen 1978, p. 112)

In the above example, Allen (1978) argues that it reveals more complex facts if we assume that compounding feeds affixation. A compound word like *scissor-handle* must first be formed before plural suffixation occurs. In this case, an uninflected form of a non-head like **scissor* does not exist in isolation. The requirement to place the suffix after the head at the end of the words is paramount. Allen (1978) has gone so far as to argue that a universal law bans inflectional affixes from appearing inside compounds.

Left-headed Compounds: From the above studies of compounds, it became clear that the right-hand head rule in compounds is not universal. In English, the head of the compound is typically on the right, but in other languages, like Italian and French, the head is usually on the left (see cf. Scalise, 1984, p. 125).

Scalise (1984) illustrates that, in French, the head of compound nouns is on the left, and some of which are joined by *de*, and others are not linked by anything, as we can see in the data below drawn from Katamba (2003: 316):

10.

Singular	**Gloss plural**	
a. un chef d'atelier	'foreman'	des chefs d'atelier
b. une chemise de nuit	'nightdress'	des chemise de nuit
c. un bureau de change	'foreign exchange office'	des bureaux de change
d. un billet de banque	'banknote'	des billets de banque
e. un timbre-poste	'postage stamp'	des timbres-poste

(data from Katamba 2003: p. 316)

The above data shows that the plural inflection is attached to the first noun in the compound in each case. Hence, the right-hand rule (RHR) does not apply here.

Now let us consider the English examples. Concerning English compounds, Katamba (2003) describes that although English follows the RHR rule, there is a small minority of endocentric compounds with left-hand heads. They include nouns that form their plural by adding the plural morpheme to the noun in the first position. He cites examples such as the following, which are listed in Quirk and Greenbaum (1973: p. 84):

11.	**Singular**	**Gloss**	**plural**
a.	Passer-by	passers-by	(*passer-bys)
b.	Notary public	notaries public	(*notary publics)
c.	Grant-in-aid	grants-in-aid	(*grant-in-aids)
d.	Coat of mail	coats of mail	(*coat of mails)
e.	Mother-in-law	mothers-in-law	(*mother-in-laws)

(data drawn from Quirk and Greenbaum,1973: p. 84)

From the above data, we can say that the right-hand and left-hand heads are parameters concerned with the position of the head of a grammatical constituent. The head is usually placed on the right in some languages, like English. For example, in the phrase *these large sheets*, the rightmost word *'sheets'* is the head. Alternatives like **sheets large* and **these sheets large* are forbidden. However, we should note that the exception is also available, as we have seen in the earlier data. As a rule, the head is only the obligatory element of a constituent like an NP. For example, the phrase *'these Books'* is a well-formed NP. Semantically, the head *'books'* is the key word in this NP. The function of these is merely to specify further the particular *books* referred to.

Likewise, at the word level, in the compound *farmhouse*, the head *house* is the last, pivotal element semantically (A farmhouse is a kind of house). However, the case is just the reverse in some languages, such as Japanese. In Japanese, the head of the grammatical constituent is usually on the left. Thus, regarding language acquisition, once an infant has worked out the head position for one construction, this can be generalized with considerable success to other constructions.

Katamba (1993) represents that *'Universal grammar'* consists of several interrelated modules, as given below:

12. [i] Lexicon and Morphology
    [ii] Syntax
    [iii] Phonetic Form (PF) that deals with the representation of utterances in speech.
    [iv] Logical Form (LF), which deals with meaning.

Since *'Universal Grammar'* includes both the lexicon and morphology modules shown above, the knowledge of word structure is a central aspect of linguistic competence. From the above module, a case can be made for recognizing Morphology as a separate 'Universal Grammar' module. However, at the same time, morphology and lexicon serve as an interface or link between other grammar modules. Therefore, examining morphology is necessary not in isolation, but in conjunction with another grammar module. Since Morphology interacts with phonology, syntax, and semantics, it can be studied by considering words' phonological, syntactic, and semantic dimensions.

Results and Discussion

This study considers words formed by the general rules and principles internalized in the speaker's mind during language acquisition. It acknowledges that the speaker of a language can extends the stock of words to produce words without following the standard rules of the language, as evident from the speakers' ability to create as many new words ('*creativity*'), and the same thing happens with the morpheme, as seen in '*blocking'*. This leads to the assumption that meaning is autonomous from any physical realization. To a certain extent, we can say that, in languages, we follow the same standard morphological rules to create nonsense words, as evident from the above examples (2a) and (2b).

It seems logical from this study that language learning does not imply memorizing all the words the speakers know. Instead, they manipulate rules to produce novel words and understand the meaning of new and unknown words.

It seems reasonable to assume that language learning does not involve the mastery of rules. If it is so, there is a big question of how native speaker use a language appropriately without learning the grammar of their language. To answer this question, as far as speaking is concerned, the rules are not learned as the rules are not completely followed in speaking, but it never means that the speaker does not have grammar or does not speak according to grammar. In reality, the speakers have the grammar and even speak according to the grammatical rules, but they are unaware of them. As far as writing is concerned, we have to stick to the grammatical rules and master the grammar rules consciously. However, the ability to learn a language, without any doubt, is innate.

The theory of *'Universal Grammar'* (that language acquisition in infants is underlined by their biologically endowed language faculty or linguistic competence, as a constrained and united elementary principle ingrained in the 'Universal Grammar', leading to the underlying similarity between

languages in their structural properties) is reasonable to acknowledge because of language learning behaviors observed in children across the world's languages. However, one should keep in mind that the structural similarities between languages can also be the result of '*language diffusion'* [Courtenay, (1904); Trubetzkoy, (1928); Wang and Chen (1969, 1975)] as a diffused feature. So, we cannot confidently say that the structural similarities are due to the limited and united elementary principles fixed in the 'Universal Grammar'.

Regarding Universal grammar, there is a question: why are there structural differences in languages? If the rules are common to all languages. As a response, Chomsky introduced the 'principle and parameter' theory in 1981, arguing that the structural differences among languages are due to parametric variation. Here, one should note that Universal Grammar fails to capture the structural differences between languages. However, if we look at the examples related to the head word in the compounds, we find that the right-hand head or left-hand head serves to explain the parametric variation. For example, most compounds are endocentric in English, as shown in Figures 3 and 4. Moreover, one should also note that this is not always the case. There is also an issue regarding inflection in the compound word. If we analyse the previous literature, we find two plausible inflection cases, which I have shown in Figure 5. The problem is whether the compounding or the affixation process comes first. If we look at figures (5b) and (6b), it is the compounding that occurs first, and the process of affixation comes later, but in (5a) and (6a), the affixation comes first, and the compounding is done later. In this matter, William (1982) claimed that, since compounding can feed inflection, the affix is the compound's head. He further elaborates that the RHR rule operates on affixes, and the right-most affix in a word gives its property through percolating the feature to the whole word. Moreover, Di Sciullo (1982) also supported his view.

Williams (1982) also argues that the affix determines the word's category because affixes belong to a lexical category like noun, verb, and adjective. He further elaborates that since affixes diverge from root nouns, verbs, and adjectives in a way that can only appear as a bound morpheme, the lexical accesses for the suffix '*-erN'* and '*-ionN'* will contain the category *N*. He argues that if the suffix '*-er'* and '*-ion'*, as in word *work-er* and *educate-ion*, come last in a word, the whole word has to be a noun. He contends that *Inflectional affixes* would also be marked in the same way. For example, '*-sN'* is the plural noun suffix and '*-edV'* is the past tense verbal suffix. Here, in each case, the category of the right-hand element, the head, would determine the entire word category. It is clear that in the cases of compounds, the demarcation line between inflection and derivation is very fuzzy because both have the power to determine a word category. In this case, there is a need to find out the rules to define the differences between the two to determine the category of the compound words.

This study assumes that the claim that inflection also determines the category of a compound is baseless. Since an inflection cannot occur independently, how can it determine the category of a compound? We can only say that since an affix sometimes marks the word's category to which they are added, as in the form of noun, verb, and adjective suffixes, it helps the rightmost word in the compound to identify its category as a whole. Here, I would introduce a new term, *"Aiding Inflection"*. In other words, we can say that since the plural suffix occurs on the head, the whole compound becomes plural with the effect of the attachment of the plural suffix to the head by feature percolation. Contrary to this, if the plural suffix occurs on a non-head word in the compound, it does not make the whole compound plural, as evident from all the examples in (7).

We can also assume that the rightmost word in the compound contains an irregular inflection, as evident from examples like *'firemen', 'mice', 'underwrote'*, etc., given in section 2. There is a proper case for assuming the percolation principle because no inflectional affix is distinctly marked here. Hence, the inflection is directly attached to the second element. In this case, we can say that the rightmost word in the compound percolates its irregular properties, involving the inflection, to the whole compound, as shown in the diagram (8).

Considering the data (9), we have seen that compounding feeds affixation. That is to say, compounding takes place first, then the suffixation occurs later, as we can see in the examples like '*scissor-handles', 'trouser-hangers', 'pant-liners', and 'binocular-cases'* given above in section 3. In this case, the uninflected form of **scissor* does not occur in isolation because these words are always used as plural in isolation according to English grammar. The moment we put them in the compound, it becomes singular with a different meaning in focus, rather than the meaning of *scissors*. Hence, we can pluralize the head word instead of the non-head to make the entire compound plural.

There are some languages in which the head occurs on the left in the compound word, as we can see in the examples of French in (10). Similarly, in English, there are certain endocentric compound words in

which the head occurs on the left, as shown in (11). In such compound words, the plural occurs on the left of the head, and reverse cases are ungrammatical. Considering all the examples regarding the headedness of the compound, we can say that there is no fixed position for the head in the compound. It has a different position in different languages. In some languages, it occurs in the rightmost position, while in others, it occurs in the leftmost position in the compound word. So, all the assumptions regarding the fixed positioning of the head in the compound are faulty. What seems universal is the head of the compound that determines the syntactic category of the entire compound, whether it occurs on the right or the left in the compound. The same thing happens when pluralizing the compounds as a whole.

Regarding morphology, without any doubt, many word-formation processes show very similar principles of word-building among languages, but this might also be due to '*language diffusion*' as a morphologically diffused feature. Hence, the concept of Universal Grammar, which claims that languages can only diverge within the boundaries set by the biology of the human brain, is fuzzy and needs clarification.

This study acknowledges Chomsky's Innateness Hypothesis, which says that humans are biologically endowed with language ability by birth, but his claim of *language faculty* within the brain is beyond consideration. This study assumes that language ability is metaphysical in nature and cannot be located anywhere in the brain because it is connected to the brain mystically, which is nearly impossible to trace physically. Whatever we have read in the study of 'localization', the idea that certain functions like language, memory, etc., have specific locations or areas in the brain (Broca, 1860s) is just an assumption, not a fact. This is directly related to the kind of language exposure available to a child.

Conclusion

From these studies and discussions, it can be concluded that generative grammar focused from the very beginning on the syntactic level of description, i.e., on a 'higher' level in contradistinction to the predominant practice in American structuralism (particularly in the Bloomfieldian school), which was primarily concerned with the problems of the lower linguistic levels. In the initial works on generative grammar, morphology was partially combined with syntax, downgraded to morphophonemics in later studies, and in some cases, to phonology. (See, for example, cf. Chomsky,1957; Halle, 1962).

Another reasonable disregard of morphology in generative grammar might be that English, on which the initial works mainly focused, is not a language with a predominantly rich morphology. Generative grammarians working with English were not confronted with too many morphological issues (there are quite a few complicated morphological problems in English word formation). However, grammarians working on exceedingly inflecting languages have long felt that morphological processes must be appropriately placed in an integrated description.

Hence, the Morphological applications in generative grammar are available as the above-mentioned theoretical concepts indicate their applicability in language structure and stopping over-generalization of word formations.

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Data sharing does not apply to this article as no data were generated or analyzed. The data has only been reviewed for justification.

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