

## Parallel structural patterns in internal linguistic systems of English: an integrated approach

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### Abstract

This paper reviews the major parallel structural patterns common across all internal linguistic systems despite the fact that important differences exist between the different language systems besides similarities. However, the prevailing pedagogic approaches to treating these internal linguistic systems as mutually exclusive rather than complementary have highlighted the differences by bringing them to the fore and at the same time have obscured and ignored the essential similarities shared by them all. Drawing on Radford's (2004) reflection that binarity is equally valid and applicable to the constituent structures of phonological and morphological systems and operations along with that of syntax, the present study extends certain other operations primarily discussed and analysed in terms of syntactic constituents to have been equal application and validity in other linguistic systems i.e., phonology, morphology, and lexicology. This study has concentrated on aspects of general structural patterns in three significant patterns such as 'essential/non-essential dichotomy', 'ordering of elements in constituents at all levels', 'subcategorization' restrictions on elements of constituents at all levels. It has been concluded that all the features equally apply to all three internal linguistic systems.

**Keywords:** structural pattern, binarity, ordering constraints, sub-categorical restriction, integrated approach, linguistic systems, pedagogic approach.

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## 1. Introduction

The concept of integrating different language skills has been discussed thoroughly but the same approach can also be successfully extended to language systems. Clark and Clark (1977) have provided good theoretical reasons for the ‘part-to-whole’ (isolated) approach to teaching language skills as unsatisfactory when used in an extreme form. Recent approaches to teaching tend to adopt what might be called a more ‘whole-to-parts’ (integrated) approach. Importantly, there are also limitations in adopting a completely integrated approach because there are important differences between the different language systems besides similarities. The indiscriminate use of an integrated approach may obscure such differences with the result that the learners may ignore the crucial differences between these different internal linguistic systems. Given the general pattern of the structural similarities between these systems and their role as complementary rather than mutually exclusive, it seems sensible to capitalize on the integration of these systems displaying similar structural behaviour in teaching them to learners.

There seems to be such a deep-rooted similarity with respect to structural patterns in different internal linguistic systems of English such as PHONOLOGY, MORPHOLOGY, and SYNTAX that learning/mastering the formal and structural pattern for one linguistic system will necessarily have meaningful implications for the other linguistic systems as well. The similarities in structural behaviour for these internal linguistic systems can be easily explained in terms of broad and general structural patterns such as ‘essential/non-essential dichotomy’, ‘ordering of elements in constituents at all levels’, ‘subcategorization’ restrictions on elements of constituents at all levels, ‘complementary distribution’, ‘blocking effect’ and ‘boundaries’ between elements in a constituent. However, the present study discusses only the first three of them rather than dealing with all. Consequently, it makes the study of these apparently different linguistic systems necessarily integrated rather than individualistic. If all internal linguistic systems display a great sense of similarities in respect of structures, patterns and organization, it stands to reason that they must be guided by the same basic mechanism of general nature applicable equally to all. From a learning/pedagogic perspective, it also implies that mastering the structural principles and patterns for one of the systems can help better understand other systems or minimally make it easier to learn or master the other systems in relatively easier and quicker ways.

## 2. Literature review

The familiar concepts of language, speech, language skills, and the relation of language with other fields have been extensively studied and can be traced back right to the time when the study of language was not part of scientific expedition. Right from the inception of the controversy that surrounds the nature of *Language* itself, dating back to Greek tradition and era, issues regarding structure, function and meaning of Language are getting multiplied and addressed in turn by different philosophers/linguists/scholars and students of language in different eras belonging to different epistemological backgrounds and traditions ranging from *Naturalism*, *Conventionalism*, *Empiricism*, *Positivism*, *Idealism*, *Realism*, *Anti-realism*, *Dialecticism*, *Logicism*, *Pragmatism*, *Psychologism*, *Historicism*, *Structuralism*, *Generativism*, *Functionalism*, *Cognitivism* etc. Apparently, it seems as if the ideas of a philosopher of language or linguist which are triggered by the concepts and ideas of a preceding philosopher of language are in utter opposition and thoroughly rejecting the ideas of the former one but in

reality, the latter one merely contributes in a different way and focuses on a different perspective of the same meaning issue. This means that s/he contributes to the field of study and science of language in a different way or merely approaches it in a new way.

For example, Bloomfield (1983) says, “the question what is language? as comparable with- and some would say, hardly less profound than, what is life?” equating the science of language in some sense to biological or life sciences contrary to those who deem it as social science or semiotic science or cognitive and cultural science etc. Similarly, language has been defined by different linguists in quite diverse ways apparently having nothing in common because the apparently simple question of “what is language?” is in reality a multiplex phenomenon. Some regard it as “organized noise” used in concrete public circumstances, others think of it as “contextualized systematic sounds”.

Some of the well-known and best definitions propounded by authentic sources and well-known classic scholars of language and linguists are as under reflecting of focusing on the many and complex properties of language. The definition of language by Microsoft Encarta (2007) primarily focuses on the communicative functions of language rather than focusing on any other of the numerous functions. According to it language is “the principal means used by human beings to communicate with one another”. Quite different to this, Richards *et al.* (1985) concentrate on other different aspects than the one discussed earlier. For example, it is primarily oriented toward the patterned arrangements of linguistic elements or units and the hierarchical property of them. It conceives of language as “the system of human communication by means of a structured arrangement of sounds or their written presentation to form larger units, e.g., ORPHEMES, WORDS, SENTENCES”.

This paragraph cites some accounts of language in the classic works by renowned linguists ranging from classical authors such Aristotle, to European (continental authors such as Suassure to American linguists such as Sapir, Blommfield, Chomsky etc. The well-known anthropologist or anthropological linguist, Sapir says about language that “language is a purely human and non-instinctive method of communicating ideas, emotions and desires by means of voluntarily produced symbols” (Sapir, 1921, p. 08). Similarly, Bloch and Trager assert about almost the same thing as stated by Sapir in *Outline of Linguistic Analysis*, “A language is a system of arbitrary vocal symbols by means of which a social group co-operates” (Bloch & Trager, 1942, p. 05). Unlike the other preceding three linguists, Hall Jr (1968) in his famous essay declares language as an institution rather than a phenomenon and states that language is “the institution whereby humans communicate and interact with each other by means of habitually used oral-auditory arbitrary symbols” (Hall Jr, 1968, p. 158).

Robins (1971) has a somewhat different perspective to offer on language. He is interested in the resilient, elastic, productive and creative aspects of language that’s why he articulates that “languages are extendable and modifiable according to the changing needs and conditions of the speakers” (Robins, 1971, p. 13). Finally, the famous linguist hailing from both the generativist tradition, Chomsky comes up with a strikingly different and revolutionary note of Generative Grammar (GG) (1957) or Transformational Grammar (TG) or Transformational Generative Grammar (TGG). He affirms that “from now I will consider a language to be a set (finite or infinite) of sentences, each finite in length and constructed out of a finite set of elements” (Chomsky, 1957, p. 13). These definitions and explanations of language offered by the various authentic sources and the different renowned linguists in their classic works are

oriented to the different properties and functions of language as it is a multifarious and complex phenomenon simultaneously.

### **3. Theoretical framework**

According to Radford (2004) the primary aim and purpose in the development of a Universal Grammar theory is motivated by the attempts to find principles of universal significance and application prevailing in the nature/pattern of linguistic structure across all natural languages. Radford referred, in particular, to Chomsky and Lasnik's (1995) universal principles related to the constituent structure of a linguistic construction that are primarily abstracted from general language by looking closely at the relevant structures in language use, the principles regarding constituent structure known as "Headedness Principle i.e., every syntactic structure is a projection of a headword and Binarity Principle i.e., every syntactic structure is binary-branching", are observed.

According to Radford, uncovering constituent structure principles as mentioned above is necessary keeping in view the perspective of learnability, because such and other universal principles "reduce the range of alternatives which children have to choose between when trying to determine the structure of a given kind of expression" (Radford, 2004). Moreover, Radford furnishes further support for the "Binarity Principle" from proofs and evidence located in constituent structures of the other sub-linguistic systems (phonological, morphological and lexical) contained in the constituent structures of the overarching system of Syntax along with substantial range of empirical and practical confirmation of binary-branching syntactic structures in a series of different languages (Kayne, 1984). However, support and evidence in other internal linguistic systems for a particular constituent structure is not limited only to Binarity Principle alone; rather, many structural principles run parallel across all the systems and all the languages.

The basic reason for neglecting or underestimating the importance of such general structural pattern applicable to all the different linguistic systems is that they are considered and accordingly taught as separate, analytic and independent systems rather than integrated, synthetic and highly interwoven with each other both with respect to structure and functions as can be witnessed in the following section. In this study, the structural similarities in different internal systems with respect to three different aspects i.e., essential/non-essential (optional) elements, constraints of the sequence of elements, subcategorization features of elements etc. are discussed.

### **4. Holistic overview of different approaches to language study**

The language, being a broad and complex phenomenon, has been defined, approached, explained and elaborated by different scholars. The scholars may have pure and monolithic interest in one pure field or hailing from different fields/discipline (multidisciplinary) or in some cases, may come from different yet related fields (interdisciplinary) or in some cases they may have quite larger and overarching interest with trans-disposition and transdisciplinary approach. All of them, though from different fields of interest and dispositions, define and explain language according to the best of their perceptions and conceptions of the term in their respective fields.

Apart from those scholars having interest in language yet coming from another disciplinary/field of interest, language can also be approached from multiple perspectives within the field of linguistics by linguists themselves subscribing to different schools of thoughts such as Historicism, Structuralism, Generativism, Cognitivism, Functionalism etc. For instance, the description attached to a single set of sentences varies so much so that one gets baffled as to which one of these is more/less correct, more/less preferable, more/less reasonable if one does not have a sound knowledge of the orientation or different motivations anchored in their respective approaches to language which in some cases are same and sometimes different from one another

For example, it can be defined and approached broadly from the pure linguistic perspective of a linguist him/herself having interest in pure internal linguistic branches such as phonology, morphology, syntax etc. treating these branches both as having objective scientific features as well as language specific grammatical pattern at these very levels. The pure linguistic scholars may be interested in pure structural description of any of the various internal linguistic systems or they may be interested in the uses (functions both linguistic and communicative and both universal and language-specific) or they may be interested in the interfaces i.e. bordered/shared area of two or more systems which belongs to neither one nor the other in the pure sense referring to those linguistic phenomena in which the issue belongs to one system yet whose explanation is provided by another system or the feature belongs to one system yet has effects on another system such as morphology phonology interface known as morphonology or morphology syntax interface known as morho-syntax.

Moreover, it can be approached from the perspectives of those who are interested in language along with major interest in some other broad fields such as sociology, anthropology, psychology etc. i.e., the combination of two or more disciplines adopting a sociocultural, or socio-cognitive approach or in some cases, the scholars may be interested in the mutual implications of these broad fields for one another such as socio-linguistics vs sociology of language, anthropological linguistics vs linguistic anthropology, psycho-linguistics vs psychology of language etc.

In other cases, linguistics and other fields may have parallel features, structures and behaviour such as language and psychology, language and biology, language and geography etc. resulting in areas such as language development vs cognitive development, language evolution vs biological evolution, language diversity vs biological diversity, language geography vs physical/human geography etc. Language can also be approached from multiple aspects/levels even within a broad field such as psychology which includes behavioural, clinical, experimental, developmental, cognitive, neural aspects providing related yet distinct definition and explanation for language itself or any other language-related phenomenon.

## **5. Data analysis**

### **5.1. Binary division**

Binarity Principle is not limited only to syntactic structures but is equally evident in phonological structure such as syllables like ‘tag’, ‘bag’, ‘sage’, ‘fake’, ‘take’, etc. all having a binary structure, dividing or branching into two immediate nodes and branches, either of which can further potentially be branched into two again further. It is worth noting that each of

these linguistic constructions consists of the first elements known as onset exemplified by /t/, /b/, /s/, /f/ and /t/ respectively, and the rhyme |ag|; the rhyme in turn consists of a binary structure, the nucleus |a| and the second element known as coda instantiated by /ag/, /age/ and /ake/ respectively. Likewise, the evidence for binarity of morphological structure can be witnessed: for example, in the mechanism of nominal construction “indecipherability” as follow.

First by the prefix or verbaliser ‘de’- is prefixed to the noun ‘cipher’ deriving the noun ‘cipher into a verbal ‘decipher’; next, the suffix or adjectivaliser –‘able’ is suffixed to the verbal construction ‘decipher’ resulting into the adjectival ‘decipherable’. In the next step, the addition of the prefix ‘in’- to the already available adjectival ‘decipherable’ results in the formation or construction of a new adjectival ‘indecipherable’. Finally, the addition of the suffix –‘ity’ or the nominaliser to the newly derived adjective ‘indecipherable’ derives back the nominal construction ‘indecipherability’ (Radford *et al.*, 2009). Radford *et al.* (2009) maintains that binarity, therefore, seems to be typical of the phonological, morphological and syntactic structure of natural languages. But there are other general structural principles also which extends beyond the level of syntactic structures and has the same application, pattern and behaviour as is witnessed in case of syntactic structures.

## 5.2. Essential/non-essential (optional) elements of all systems

In all the three systems of English (phonology, morphology, syntax) we have both essential and non-essential (optional) elements. However, it is quite surprising to note that an overwhelming majority of structures in all the three levels result by combining both essential and optional elements and a very small ratio constitutes structures comprising only of essential elements. At phonological level, nucleus (technical term in phonology used for the essential vowel) and onset & coda (technical term for consonants at initial and end position respectively) combine to make syllable/word. But for the formation of a syllable/word only vowel is essential. A vowel/ nucleus by itself (without the help of a consonant) can make a syllable/word such as “a”, “I” etc. whereas a consonant/onset & coda can make a syllable in a very restricted sense (syllabic /n/, /l/ only in coda position in special contexts) but can never make a word on its own (Yule, 2006). It is interesting to note that a vast majority of English syllables are the result of combination of the essential vowel and the optional consonants, and a very few syllables are based on the only essential element (vowel). The same is true of the other two systems as well.

At morphological level, there are free and bound morphemes. As clearly indicated by their respective names, the free morphemes can stand alone without the help of bound morphemes but not vice versa. No doubt, one can find quite a large number of free morphemes in English but still a predominant majority of words/lexemes is actually the combination of both free and bound morphemes. The free morphemes are actually technically called “roots” (base or essential element in a word). Bound morphemes consist of affixes which can be either inflectional or derivational (Aronoff, 1976). A root plus derivational suffix results in a “stem”, so an English word basically consists of the essential element “root” and optional elements “affixes” (derivational and inflectional). For example, the word buyers consist of the root ‘buy’, the stem ‘buyer’ and the word/lexeme ‘buyers’ or the word buyers consists of the essential free morpheme buy and the optional derivational affix or to be more precise the suffix, -er, and the inflectional suffix -s (Booij, 2007).

Along the same lines we have syntactic structures. A clause/sentence consists of structural/functional elements like subject, predicator, object, complement and adverbial (adjuncts). However, the only essential element of clause/sentence structure is the predicator which can stand alone without the help of all other elements whereas none of the rest can stand alone without its help. For example, the clauses/sentences, “Run”, “go”, “Stop” consist only of one element which is predicator but we cannot have an English sentence consisting of a structure not having the essential element of predicator even if it has all other clausal elements such as “they good boys” is not a well-structured English clause/sentence because it lacks the essential element predicator and have only optional elements (Leech *et al.*, 2006). So, we have the essential/optional dichotomy of Vowel/Consonants for syllable structure in phonology, of Root/Stem/Affixes (Free/Bound morphemes) for word structure in morphology and of Predicator/Subject, Object, Complement and Adverbial (adjunct) for clause/sentence structure in syntax.

### 5.3. Constraints on the sequence/order of elements in constituent structures in all linguistic systems

Not only this, but we also have a similar pattern of constraints i.e., permissible and non-permissible sequences of the respective elements in each system. The patterns of constraints or permissible and non-permissible sequences of elements in a constituent structure is not only limited to syntax (constituents of sentence structure) but the same also holds true for the systems of phonology and morphology. This means that elements cannot be combined and ordered as per one’s whims and wishes; instead, it is to be combined merely in certain permissible sequences and any ordering/combination of elements in any constituent structure at any linguistic level that is not according to the permissible sequence will be ungrammatical and unacceptable.

For example, in English Phonology the permissible sequences of elements in syllable structure/pattern are V, VC, VCC, VCCC, CV, CCV, CCCV, CVC, CCVC, CVCC, CVCCC, CCVCC, CCCVC, CCCVCC. (V...vowel, C...consonant) (Roach, 2009). Almost all syllabic structures in English comply to one or other of these permissible sequences of syllabic structure and any syllabic structure with slight anomaly in the sequence of elements results in an unacceptable syllable/word. For example, ‘talk’, ‘ball’, ‘agree’, ‘happy’, etc. are actual English words as they are formed according to the permissible sequences of elements whereas words such as ‘trig’, ‘sall’, ‘bist’ though, not actual English words are, nonetheless, possible English words because they are formed as per permissible sequences of elements in a syllabic structure. But items such as ‘bgdl’, ‘ftm’, ‘ieiau’ etc. are neither actual nor possible English words due to their violation of the permissible sequences of elements of syllabic structures. The basic difference between the possible words of a language and the impossible words of language is related to their future possibility as being a possible candidate for some real world or abstract phenomenon with the result that the former unfortunately not being opted presently for any items to refer can be used possibly as English word but unfortunately representing an accidental lexical gap in the vocabulary of English whereas the latter has no such possibility to be listed as part of the English lexicon in future (Yule, 2006).

In English morphology, the general permissible structural pattern of a word/lexeme consists of Prefixes-Roots-Suffixes) or Root followed by derivational suffix, followed by inflectional suffix. In case of complex words, the affix order is Derivational-prefixes —Roots---

Derivational-suffixes, Inflectional- suffixes. This combination or order is valid only for native roots. In case of non-native roots, the pattern is: Non-native root + Non-native suffixes + Native suffixes (Booij, 2007).

Similarly, in syntax the permissible sequences for an ordinary indicative structure are: SV, SVO, SVC, SVA, SVOC, SVOA, etc. with many other possible combinations and variations but not randomly; rather the combinations are possible only in a systematic and rule-based way. (S...subject, V...verb, O...object, C... complement, A...adverbial/adjunct). One striking similarity among them is that the essential element in each of the three system occupies the central/medial position with the optional element appear on either side (initially & finally) or only in preposition or only in post position or in some cases not attached at all.

#### **5.4. Subcategories restrictions/features of elements of all systems**

In all three systems we have not only simple restrictions of structural nature on derivation of new syllables, words and sentences but also subcategorization restriction operating in conjunction with the structural restrictions. For example, a sentence like ‘the rock loves the boy’ is not having any restrictions with respect to structural constraints but has issues due to subcategories restrictions (Cornie, 2013). Similarly, we have phonological rules but still there are subcategories restrictions. For example, a simple rule of English is that it can actually have larger clusters at onset/coda position, with maximally three consonants and maximally four consonants at onset and coda position respectively in a syllable. However, this restriction is not only limited to the number of consonants or position of consonants in a syllable, it also has a subcategory restriction in the form of which type or kind of consonants can cooccur. The restrictions on these larger onset consonant clusters is that the first consonant must always be the voiceless fricative /s/, followed by one of the voiceless plosives/stops (/p/, /t/, /k/) and then one of the liquids or glides (/l/, /r/, /w/) as exemplified in words such as ‘splash’, ‘spring’, ‘strong’, ‘scream’ and ‘square’ (Yule, 2006).

In morphological operation, not only order of morphemes and affixes is significant but also constraints related to the category or subcategory of these elements are also worth attending to. Derivational processes involving morphological operations, impose constraints on the kind and category of base words used as their inputs in the sense of syntactic class requirements. As stated by Booij (2007) “For each morphological operation, we have to define the set of base words to which it applies. Often, the operation is restricted to base words of a particular syntactic category. This is the input category of the operation” (Booij, 2007, p. 35).

Likewise, the resulting outputs of an operation also necessarily belong to a definite syntactic category. For example, input category of the English suffix ‘-able’ is ‘Verb’, and the output category is ‘Adjective’, hence, ‘verbs’ function as the base words for the adjectival suffix ‘-able’. Thus, in derivation, morphological operations may result in lexical items having a different syntactic category or subcategory than that of the input category. In this way, according to Booij, “Affixes are provided with a subcategorization feature that specifies with which kind of morphological elements it has to combine” (Booij, 2007, p. 35).

For instance, the subcategorization feature of the adjectival suffix ‘-able’ is specified as [V—]A, which schematically represents that it takes ‘verbs’ as base/input category to form ‘adjectives’ as output category. Almost all affixes (bound morphemes) can be categorized and

described using their subcategorization features in the form of specifying the syntactic category or subclass of both the input and output entries. Besides the structural similarities in these three internal linguistic systems, features such as complementary distributions and blocking effects are also common to all the internal linguistic systems.

## **6. Conclusion**

The study confirms some of the patterns as a common and shared property of all the internal linguistic systems operating at different levels with different units and hierarchies. It confirms that binarity, essential/non-essential dichotomy, constraints on the ordering/organization of elements, subcategorization restrictions are found across all the internal linguistic systems applicable. The study has shown that despite apparent differences of structure and levels of units, there also exist deep similarities and patterns common to all the linguistic systems. It advocates integrated and holistic approach in teaching/learning of language rather than the individualistic and modular view prevalent in the context of language teaching. The latter actually gives a false impression of linguistic systems as mutually exclusive rather than complementary and supportive. Hence the study proves to be significant in helping out expose, eradicate and finally replace the individualistic and modular view of language teaching with the more viable, appropriate, natural and advisable method of integrated and holistic language teaching especially focusing on the interfaces between/among different language systems. It is recommended that student should be given a clear sense and knowledge of when, how and which systems interact between/among each other in different situations.

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