

# Universal Grammar: Its Existence, Composition, and Evolution

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**Abstract:** Universal Grammar assumes that all human languages share the same fundamental principles despite their superficial differences. Since it was first proposed by the American linguist Noam Chomsky, there have been a lot of controversies surrounding it and the contents of Universal Grammar have gone through some significant changes. This paper first presents a few arguments for the existence of Universal Grammar. Then, it focuses on the contents of Universal Grammar that have been proposed from the Aspects Model to Minimalism. Simply put, the change has been from a maximized Universal Grammar to a minimized Universal Grammar. Finally, this paper dwells on the debate about Universal Grammar, namely whether it contains only Merge and whether it arises gradually or suddenly.

**Keywords:** Universal Grammar; Faculty of Language; Recursion; Merge; Minimalism

## 1. INTRODUCTION

There are thousands of languages in the world and on the surface languages differ in many aspects. As Joos (1957: 96) famously put it, languages could differ from each other without limit and in unpredictable ways. However, over the years, linguists and philosophers have assumed that behind all the diversities, there are common properties that are shared by all languages and they are genetically hard-wired in the human brain. The technical term for the research program is Universal Grammar, UG for short. It can be traced back to the thought of Plato and Aristotle, and arose in medieval scholastic philosophy, in the 17th-century Port-Royal grammarians. The definition of Universal Grammar has evolved considerably over the course of time. In modern times, the concept of a universal set of principles underlying the diversity of the world's languages has been uncontroversially associated with the American linguist Noam Chomsky. UG, according to Chomsky, is defined as "the system of principles, conditions, and rules that are elements or properties of all human languages" (Chomsky 1976: 29). Universal Grammar consists of a set of atomic grammatical categories and relations that are the building blocks of the particular grammars of all human languages.

This paper is structured as follows. Part 2 presents some arguments for the existence of Universal Grammar. Part 3 turns to the contents of UG from the Standard Theory to the Minimalist Program. Part 4 concentrates on the debate surrounding UG. Part 5 concludes the paper.

## 2. UNIVERSAL GRAMMAR: ARGUMENTS FOR ITS EXISTENCE

Over the years, there have been a lot of arguments in support of the existence of Universal Grammar and the following are the most typical ones.

Language Universals: All human languages share certain properties. Chomsky argues that in their essential properties and even down to fine detail, languages are cast to the same mode.

Convergence: The language that each person acquires is a quite rich and complex system which is underdetermined by the evidence available to the learner. However, the learner in a speech community rapidly converges on a grammatical system that is virtually identical to others. This can only be explained by the assumption that these individuals employ highly restrictive principles that guide the construction of the grammar (Chomsky 1975:11).

Poverty of the Stimulus: Children acquire linguistic knowledge for which there is no evidence in the input.

No Negative Evidence: Children know which structures are ungrammatical though they are not exposed to negative evidence.

Among the above, the most compelling one is the argument from the poverty of stimulus (APS), which has variously been called the logical problem of language acquisition, projection problem, and Plato's problem. In Russel's words, "How comes it that human beings, whose contacts with the world are brief and personal and limited, are nevertheless able to know as much as they do know?" Despite a limited amount of input, any normal human being is able to acquire a language but no animals can. They do this effortlessly and rapidly without conscious instruction (Berwick et al. 2012:19; Hornstein & Lightfoot 1981:9; Lightfoot 1999:64). This ability matures during the first several years after birth when other abilities have not been fully developed. Because of this apparent poverty of stimulus—the fact that linguistic knowledge seems undetermined by the input available for learning, many linguists have claimed that some knowledge of language must be hard-wired in the human brain. We must, the argument goes, be born with a theory of language (Chomsky 1975:30; Hornstein & Lightfoot 1981:9). The APS is "the most powerful theoretical tool" to argue for innate linguistic knowledge (Wexler 1991:268). It is based on the following reasoning steps (Cook 1991).

Step A: A native speaker of a particular language knows a particular aspect of syntax.

Step B: This aspect of syntax could not have been acquired from the language input typically available to children.

Step C: This aspect of syntax is not learnt from outside.

Step D: This aspect of syntax is built into the mind.

Binding theory and the principle of structural dependency can be used to illustrate this point. Look at the following data first.

(1) a. John<sub>i</sub> criticized himself<sub>i/\*j</sub>.

b. John<sub>i</sub> criticized him<sub>\*i/j</sub>.

Any learner of English knows at once that in the first sentence *himself* must refer to *John* and in the second sentence *him* must refer to someone other than *John*. Otherwise, the sentences will be ill-formed and ungrammatical. It is quite unlikely that the children could acquire these intuitions via exposure to relevant data. If it is not learnt by experience, the relevant intuitions must be based on something innate. Binding theory seeks to explain how different kinds of nominal expressions are distributed in a sentence and it is considered to be specific to the faculty of language.

For many years, Chomsky has resorted to the principle of structural dependency as an archetypal example. "All known formal operations in the grammar of English, or of any other language, are structure-dependent" (Chomsky 1971: 30). In forming a question, certain structural requirements must be met.

(2) a. The man who is here is tall.

b. Is the man who is here tall?

c. \*Is the man who here is tall?

Obviously, it is not linear order but hierarchical structure that plays a role. All children know structural dependency principle and it is highly unlikely that children learn the question formation rule from the language input. Therefore, it must be inherent in the children's minds.

### 3. UNIVERSAL GRAMMAR: ITS COMPOSITION

Over the years, with the development of generative grammar, the components of Universal Grammar have also changed accordingly. In the classical period, Chomsky's focus was to develop a generative grammar and Universal Grammar was not given due attention. Since the Aspects period, Universal Grammar has been studied extensively.

#### 3.1. UG in the Aspects Era

In the early period, Chomsky pointed out that phrase structure grammar was inadequate in that it can't reveal the relationship between sentences. For example, we have an intuitive feeling that active and

passive sentences are related to each other, but in phrase structure grammar, different kinds of rules need to be postulated. To solve this problem, Chomsky argues that besides phrase structure rules, there have to be transformational rules. Phrase structure rules and transformational rules are language-specific and construction-specific, which makes it hard to achieve explanatory adequacy. It is obscure how such a grammar can be acquired by children. What is universal is just the architecture of the grammar and an evaluation procedure which ranks grammars compatible with the data. This is elaborated on in Chomsky's Aspects Model (Chomsky 1965). In this model, there are three components, namely phonological component, syntactic component and semantic component. The lexicon and phrase structure rules constitute the base or deep structure of the syntactic component, which is converted to surface structure via transformational rules. During this period, Chomsky accepts Katz and Postal's hypothesis that transformations don't change meaning. However, this turned out to be untrue. In some cases, the surface structure also contributes to meaning and Chomsky argued that meaning could not fully be read at the level of deep structure. This gave rise to the extended standard theory, according to which deep structure and surface structure jointly determine the meaning of sentences. Shortly after, with the introduction to traces, meaning can be fully determined from surface structure without recourse to deep structure.

Phrase structure rules and transformational rules are too powerful and need to be restricted. The landmark achievements are Chomsky's A-over-A principle and Ross's detailed investigation of constraints on transformations. Later Chomsky succeeded in unifying these ideas through the notion of subadjacency. Chomsky showed that a variety of constructions can be derived from the same rule, namely Wh-movement, and the application of Wh-movement is subject to subadjacency principle. Phrase structure rules were also greatly simplified, culminating in the influential X-bar theory. Even though the rules are based on categories from Universal Grammar, the rules per se can vary indefinitely and differ from language to language and from construction to construction. However, A-over-A principle, subadjacency and X-bar are held to be UG principles and rules can be entirely dispensed with. The change from rule-based system to Principle-based system is a major conceptual shift in the history of generative grammar.

### 3.2. UG in the GB Era

There is now quite a specific Universal Grammar that goes beyond the formal format of rules to substantive conditions on how and when they apply. The question now remains how to deal with cross-linguistic variations. Chomsky came up with the idea of principles and parameters model, which is demonstrated in the government and binding theory (Chomsky 1981). There are four levels of linguistic representations: D-structure, S-structure, Phonetic Form (PF) and Logical Form (LF). In a nutshell, UG consists of a finite set of invariant universal principles and a set of open language-sensitive binary parameters. Children acquire a specific language simply by setting the parameters one way or another on the basis of primary linguistic data, just like switching on or off the switches. Different parameter settings result in different languages in the world. The general architecture of the grammar is known as the inverted Y-Model (Chomsky, 1986:68).

Concretely, within the Government and Binding (GB) framework (Chomsky 1986), there are four levels of representation and a lexicon. First, D-structure is generated according to X-bar theory. The generated D-structure is then converted into S-structure through a sequence of movement transformations. Finally, the S-structure is mapped to PF and LF respectively. The overall system is regulated by a variety of principles and intertwined modules such as the Projection Principle, the Extended Projection Principle, Empty Category Principle, Case Theory, Binding Theory, Control Theory, X-bar Theory, etc.

UG also posits a limited number of parameters to account for cross-linguistic variability. The null subject parameter and head-directionality parameter are two cases in point. The null subject parameter stems from the Extended Projection Principle which requires that all clauses in all languages have subjects. Languages which superficially lack subjects have silent ones. Some languages (such as Russian, Spanish, and Chinese) permit sentences without subjects, and are called pro-drop languages. Other languages, which include English, French, and German, do not permit sentences without subjects, and are called non-pro-drop languages. This parameter correlates with a clustering of properties, including the absence of the subject of a finite verb, the availability of subject-inversion, the absence of that-trace effect and so on. Another often-cited parameter is the head-directionality

parameter. This parameter classifies languages according to whether they are head-initial or head-final. Chinese, Irish and English belong to head-initial languages while Korean and Japanese belong to head-final languages. Once the parameter is set for a category, it is supposed to apply to all other categories across the board.

### 3.3. UG in the Minimalist Era

The principles-and-parameters approach provided a brand new perspective concerning child language acquisition. However, as the theory developed further, there was a proliferation of principles and parameters that substantially undermined its theoretical appeal. Couched within the principles-and-parameters framework, Generative Grammar underwent another radical conceptual shift—from Government and Binding to the Minimalist Program. Language, as a natural object, should be studied on a par with other natural objects. The guideline is the principle of economy which can be divided into Methodological Economy and Substantive Economy (Hornstein, Nunes & Grohmann 2005:7-8). The former relates to theoretical simplicity, symmetry and elegance. Hornstein, et al.(2005:7) put it this way: all things being equal, two primitive relations are worse than one, three theoretical entities are better than four, four modules are better than five. The latter can be further divided into Derivational Economy and Representational Economy. By derivational economy it is meant that there are no superfluous steps in the syntactic computation and movement should obey the locality principle. By representational economy it is meant that there are no redundant elements and all elements should receive full interpretation. In a nutshell, all those that are conceptually unnecessary and empirically avoidable should be dispensed with as much as possible.

The Minimalist Program also has another goal—to go beyond explanatory adequacy(Chomsky2001) or to achieve biological or evolutionary adequacy. Though Plato’s problem was supposed to be solved, with so many innate language-specific principles, one can’t help wondering how they evolved in the species given the short time of the emergence of language. Chomsky suggests approaching UG from below. Throughout the modern history of Generative Grammar, the problem of determining the character of FL has been approached “from top down”: How much must be attributed to UG to account for language acquisition? The MP seeks to approach the problem “from bottom up”: How little can be attributed to UG while still accounting for the variety of I-languages attained, relying on third factor principles?(Chomsky 2007:4)

Assuming that the faculty of language has the general properties of other biological systems, there are three factors which enter into the growth of a language (Chomsky 2005: 6).

- (3) a. Genetic factors, the topic of UG;
- b. Experience, which leads to variation;
- c. Principles not specific to the faculty of language.

Therefore, UG is reduced to the bare essentials. Chomsky assumes that Merge is the only structure building operation which comes from UG. Merge can be further classified as External Merge and Internal Merge (Chomsky1995, 2019). Merge (X, Y) is external Merge if X and Y are separate syntactic objects. Merge (X, Y) is internal Merge if either X contains Y or Y contains X. Since Merge operations are employed at each step of syntactic derivation, simple sentences are also recursively generated. The iterative use of Merge dynamically generates a variety of usable sentences. For example, in the sentence *Which city has the student visited?* The lexical items drawn from the lexicon are {{C, has}, {v, the, student, visited, which, city}}. The sentence is constructed incrementally bottom up through the repeated application of Merge. The following is a step-by-step derivation of the sentence.

- ① {which, city}
- ② {visited, {which, city}}
- ③ {v, {visited, {which, city}}}
- ④ {v+visited, {visited, {which, city}}}
- ⑤ {the, student}

- ⑥ {{the, student}, {v+visited, {visited, {which, city}}}}
- ⑦ {{which, city}, {{the, student}, {v+visited, {visited, {which, city}}}}}
- ⑧ {has, {{which, city}, {{the, student}, {v+visited, {visited, {which, city}}}}}}
- ⑨ {{the, student}, {has, {{which, city}, {{the, student}, {v+visited, {visited, {which, city}}}}}}}
- ⑩ {C, {{the, student}, {has, {{which, city}, {{the, student}, {v+visited, {visited, {which, city}}}}}}}}
- ⑪ {has+C, {{the, student}, {has, {{which, city}, {{the, student}, {v+visited, {visited, {which, city}}}}}}}}
- ⑫ {{which, city}, {has+C, {{the, student}, {has, {{which, city}, {{the, student}, {v+visited, {visited, {which, city}}}}}}}}}

To sum up, the composition of internalized language assumes different forms at different stages (Table 1).

**Table 1.** The Composition of UG and Levels of Adequacy

Models	UG Components	Levels of Adequacy
Standard Theory	Phrase Structure Rules and Transformational Rules	Descriptive Adequacy
Government and Binding Theory	Principles and Parameters	Explanatory Adequacy
Minimalist Program	Binary Merge	Evolutionary Adequacy

#### 4. DEBATE ON UNIVERSAL GRAMMAR

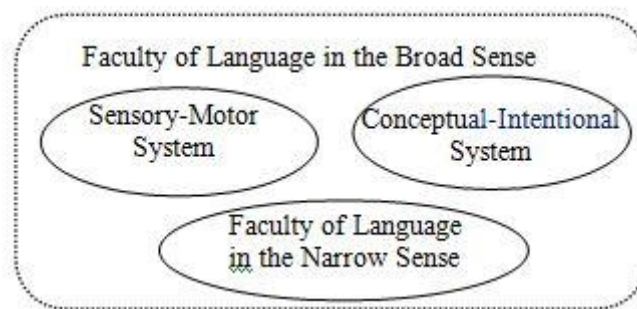
The latest research on Universal Grammar has triggered a lot of controversies, most of which revolve around the recursion-only hypothesis and the evolution of Universal Grammar.

##### 4.1. Recursion-only Hypothesis

Chomsky and his collaborators (Hauser *et al.* 2002) published a paper in *Science*, “*The faculty of language: what is it, who has it, and how did it evolve?*”. In this paper, they proposed the recursion-only hypothesis, which attracted widespread attention from the academia and initiated a heated debate on the faculty of language. Pinker and Jackendoff are staunch opponents. They (2005) published a paper, “*The faculty of language, what is special about it?*”, in which they vehemently attacked the “recursion-only hypothesis”. Shortly after the publication, Fitch, Hauser and Chomsky (2005), responded and clarified the concept of the faculty of language, pointing out that Pinker and Jackendoff did not correctly distinguish between two different kinds of faculty of language. Jackendoff and Pinker (2005) soon published “*The nature of the language faculty and its implications for evolution of language*” in *Cognition*, further criticizing the shortcomings of FLN. In the literature, the two sides are often abbreviated as HCF/FHC and JP/PJ respectively.

HFC (2002) made a conceptual distinction between the faculty of language in the broad sense (FLB) and the faculty of language in the narrow sense (FLN). FLB consists of a sensory-motor system, a conceptual-intentional system and the computational mechanism for recursion (Figure 1). Some intrinsic systems that are necessary but not sufficient for language are excluded from the faculty of language, such as the memory, respiratory, digestive, and circulatory systems.

FLN includes only recursion. Their theoretical hypothesis is that most of the features of FLB are shared by humans and vertebrates, and that only the computational mechanism for recursion is unique to human language. They emphasize that language is discrete and infinite and that its essence is recursive. Therefore, they proposed the “recursion-only hypothesis”. Of course, this is only a tentative and testable hypothesis that requires further empirical investigation. In addition, they speculate that FLNs may have evolved for reasons other than language, such as cognitive abilities in other domains, including numbers, navigation, and social relationships and so on. Conceived this way, FLN is a term within linguistic theory, and the criteria for defining it are not interdisciplinary, but entirely linguistic.



**Figure1.***The Composition of Faculty of Language*

In fact, the differentiation can refine the space for the study of language evolution. Thus, Chomsky *et al.* (2002: 1573-1574) propose three hypotheses regarding the evolution of the faculty of language.

- (4) a. FLB is strictly homologous to animal communication.
- b. FLB is a derived, uniquely human adaptation for language.
- c. Only FLN is uniquely human.

Which of the above three assumptions is correct? Obviously, the ultimate answer depends on the findings of empirical research.

HCF (2002: 1574) attempted to show that FLB is shared by humans and animals through evidence on animal speech perception, output, etc. For example, birds and non-human primates use the resonance peak (formant) as a key cue in distinguishing human speech sounds, and are able to perceive resonance peaks with the aid of their own vocalizations. Animals are also rich in conceptual representations, and through experimentation Hauser found that rhesus monkeys can distinguish between singular and plural concepts. However, in terms of the discrete nature of language, no animals but humans can combine smaller structural units into larger ones. Animals cannot acquire the more complex grammar of unbounded dependencies as humans can.

HCF (2002: 1576) emphasized that the recursion-only hypothesis was a bold one, and that its validity had yet to be tested empirically. Since the publication of their paper, however, they have come under fierce attack from various researchers. The most prominent and incisive criticism came from Pinker and Jackendoff (2005). Their criticism centered mainly on the “recursion-only hypothesis”, which has several components.

- (5) a. Recursion exists only in language, not in other cognitive systems.
- b. Recursion is the only component of the FLN.
- c. Recursion exists only in the human communicative system, not in the animal communicative system.

PJ agrees with HCF's conceptual distinction between FLB and FLN, as well as their distinction between shared and exclusive abilities, and the importance of the distinction between gradual and mutational evolution. However, PJ is skeptical and critical of their views on conceptual structure, speech perception and output, vocabulary, and syntax (Pinker & Jackendoff 2005: 201-236). For example, they argue that many conceptual systems (e.g., ownership, moral concepts, etc.) are particularly evident in human linguistic interactions and difficult to recognize in animal behavior. Furthermore, they point out that the “recursion-only hypothesis” ignores other unique features of language, including such grammatical aspects as phonology, morphology, case and agreement.

According to PJ, the theoretical motivation and basis for the recursion-only hypothesis is the Minimalist Program (Chomsky 1995), which focuses on three factors in language design (1) Universal Grammar, (2) Experience, and (3) Principles not specific to the faculty of language (Chomsky 2005: 1-22). The Minimalist perspective shifts the focus of research from the first factor to the third one by attributing the UG principles to the general laws of nature. In this way, the contents of the universal grammar are reduced to the minimum, i.e., only Merge. PJ argues that the Minimalist Program is a research program, not a mature theory, and that the conclusions drawn from this premise are unreliable and untenable.

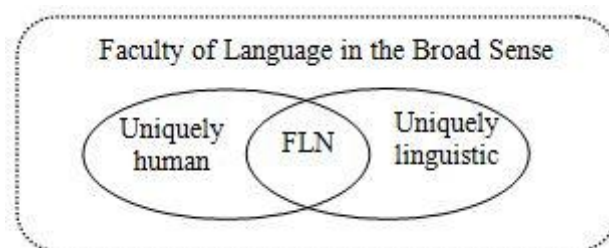
HCF and PJ also disagree on whether recursion is specific to human language. HCF argue that recursive features are language-specific, while PJ maintain that recursion resides not only in language systems but also in other cognitive systems, such as visual and music processing.

FHC (Fitch et al. 2005:197-210) responded to PJ's criticism by arguing that PJ, while agreeing with FHC's division of the faculty of language, did not really grasp the essence of the classification and confused the distinctions between FLB and FLN.

FHC argue that PJ have misunderstood their ideas about recursion, and have interpreted their claim that recursion is a core part of FLN as "recursion-only hypothesis". In the meantime, they reaffirm that recursion is part of FLN, based on the following considerations.

- (6) a. Recursion is assumed by most modern linguists to be an indispensable core computational ability underlying syntax, and thus language.
- b. There is not yet sufficient evidence to suggest that animal communication systems are recursive.
- c. There are no unambiguous demonstrations of recursion in other human cognitive domains.

PJ's criticisms of the minimalist Program are untenable according to FHC. They do not talk about the Minimalist Program, and the framework of linguistic evolutionary research is not constrained by the Minimalist Program. They argue that the faculty of language in the narrow sense is no longer considered a specific component of the faculty of language in the broad sense. The faculty of language in the broad sense includes all mechanisms involved in language and speech, although they may overlap with other cognitive domains or with other species. In other words, all language-related capacities are taken into account, regardless of whether they are language- or human-specific. However, it is undeniable that language as a whole is unique to humans, and it may be the case that some subset of the mechanisms of the faculty of language is unique to humans as well as to language. FHC note that this distinction provides a terminological aid for interdisciplinary discussion and rapprochement, and does not itself contain a testable hypothesis. Not surprisingly, FHC's reworded definition is fundamentally different from the original one. Although FHC still considers recursion as a component of narrow syntax, if there is robust evidence that recursion does exist in other systems, or that no component is specific to language and humans, then the narrow language faculty is an empty set, as shown in Figure 2.



**Figure2.** *Modified version of the Faculty of Language*

Jackendoff and Pinker (2005: 211-225) again express their agreement with the FLB/FLN distinction and explain the ambiguity in the division. They further elaborate on and reiterate their view on recursion, arguing that recursion does not exist in animal communicative systems, but human visual cognition is recursive and exhibits discrete infinity. In addition, the recursion-only hypothesis is problematic in that it overlooks many aspects of grammar that are not recursive, such as phonology, morphology, case, and so on. Although FHC deny the correlation between recursion and the Minimalist Program, recursion is related to Merge in the Minimalist Program.

### 4.2. The Evolution of Universal Grammar

In the long history of human evolution, language has only been around for a few tens of thousands of years and there is almost no evidence that language existed on the earth 50,000 years ago. But how did the human language faculty emerge? Did it evolve gradually, or did it emerge suddenly? In fact, there has always been a debate between gradualism and mutationalism in science, and the two camps, HCF/FHC and PJ/JP, are diametrically opposed to each other. Chomsky, following the tradition of

Galileo and Newton, assumed that nature is perfect (Chomsky 1995) and language, as an organic system of nature, must also be perfect in its design. Therefore, its emergence and evolution must follow the general laws of nature, such as symmetry, economy, and conservation. On this basis, Chomsky further speculates about the evolutionary nature of the faculty of language. Assuming that language has evolved, the following questions loom large: Why have its essential characteristics not changed much over 50,000 years of evolution? Why did language emerge with so many language-specific principles in such a short evolutionary time? These questions led him to cast doubt on the theory of linguistic gradualism. He began to realize that gradualism could not provide a reasonable and coherent explanation for these.

Instead, he speculated that language arises as a result of mutations in genes that result in functional variations in the brain (Berwick and Chomsky 2016). At some point, the brain's neural network undergoes a slight rewiring, and the core property of language, namely Merge, emerges. Both discrete and dislocation features of language are achieved by means of Merge. He conjectured that such genetic mutations occur first in individuals. As a result, the Language of Thought emerges, which gives rise to cognitive abilities such as understanding, reflection, and planning. Humans thus acquire the ability to form complex and structured linguistic expressions. He goes on to hypothesize that language does not emerge as a result of external pressures, because systems that emerge in a mutant fashion are optimal, depending only on the properties of the third factor. He argues that gradualism cannot explain how language can have the property of Merge, but only mutation can do so.

He further conjectures that the mutation is passed on to future generations. If it happens to have a selective advantage, it can spread in small fishing and hunting societies. Once the ability is shared, at some point it is externalized in one way or another. The sensory-motor system existed long before the advent of language. It is completely independent of the linguistic system, and is shared with animals (Hauser *et al.* 2002: 1571). Connecting to the sensory-motor system is a matter of language externalization. The process of language externalization is a very complex cognitive task, resolved differently in differently languages. In short, Chomsky's view of linguistic evolution suggests that Merge initially results from genetic variation in an individual, and is the most basic operation responsible for syntactic recursion (see Figure 3).

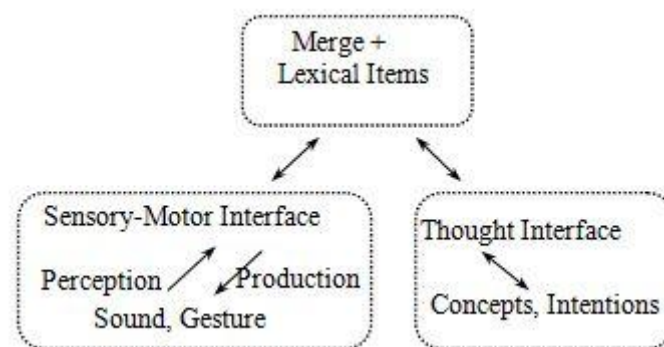


Figure3. Merge and the Interface Levels

Instead, PJ/JP use the Darwinian view of natural selection to study the evolution of language. They argue that natural selection is a factor in the evolution of language. Charles Darwin (1809-1882) was interested in the uniqueness of human language and tried to incorporate it into the evolutionary system. His evolutionary concept of selection-adaptation had a significant impact on linguistic research.

Adopting Darwin's ideas, Jackendoff and Pinker (2005) assume that the faculty of language, like any other complex adaptive biological system, is an adaptive system that evolved through natural selection. The faculty of language evolve successively from the original communicative system, and the characteristics of latter stages build on the foundation of the former and gradually evolve into a more complete system. If a language had only words and lacked syntactic combinatory rules, its expressive power would certainly be reduced, and JP believes that syntactic power evolved through adaptation in order to make communication more informative and effective. Therefore, their theory is based on the assumption of evolutionary gradualism. It can be seen that their theory also uses the hypothetical-deductive method, but is based on different assumptions from Chomsky's.



To seek evidence for the hypothesis, Pinker *et al.* argues that language is the result of adaptation from the universal design of linguistic symbols, the development of language ontology, the development of language in children, and the study of hereditary aphasia due to a defect in the FOXP2 gene, among other things. PJ/JP also point out Chomsky's inconsistencies regarding the evolution of language. They note that Chomsky argued in 2000 that it is pointless to explore the adaptive explanations of language and while in 2005 he argued that the faculty of language in the broad sense is shaped by natural selection (Jackendoff & Pinker 2005: 213). However, this inconsistency does not really hold, because if one endorses the distinction between language faculty in the broad sense and language faculty in the narrow sense then Chomsky's argument about the pointlessness pertains to the latter.

### 5. CONCLUSION

Although Chomsky argues that there is an innate language faculty in the human mind, the contents of universal grammar have changed significantly. It is predictable that Universal Grammar will be subject to critical examination. The minimalist theory of Universal Grammar, however attractive and plausible, is far from established for the time being. This is the normal course of scientific development and UG theory is comparable to all scientific theories that try to understand the natural world. Though there is no definitive answer, the concept of Universal Grammar has greatly enriched our understanding of the nature of natural language in the last 60-odd years and will continue to do so.

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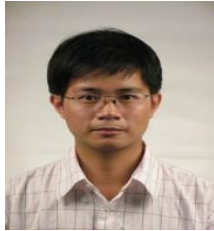
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