Mind Houses Language: An Innate Endowment Facilitating Language Acquisition

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ABSTRACT

Language, is a unique capacity of humans and undoubtedly the most sophisticated product of human mind. This biologically grounded instinctive capability in humans results from special purpose cognitive faculty, inherent in all normally functioning human beings. Language has been credited to the miraculous generative ability of human mind, which gets activated by environmental input. A structured and rule-governed mechanism in human mind facilitates language acquisition. The domain of human mind dedicated to language acquisition is biologically linked to age by the critical period hypothesis. Language works in human mind, helping us to associate meaning with the sounds of language and thus, enabling us to acquire, use, comprehend and produce utterances. The evidence of the intimate association of language and mind is further provided by language handicap resulting from brain damage. The present paper is a descriptive attempt towards proving that mind is indeed a reservoir of language. The paper enlists facts pertaining to the universality of language acquisition, the complexity of human language systems, the exceptional ability that children demonstrate in acquiring these systems, and the comparative performance of adults in attempting the same task.

Keywords: Acquisition, Language, Mind, Cognition

INTRODUCTION

Language is an impressive and fascinating human capacity. Human language is a strikingly powerful and a rule-governed complex system. These rules are parametric, which accounts for differences between one language and the other. In the functional domain, language is a strong marker of identity, society and culture. Language is one of the most sophisticated products of human mind. So complex is this product, that till date little is known about the way the brain controls and processes language. This has acted as an impetus for a great deal of contemporary research on language and mind.

The great Classical Greek philosopher, Plato, was troubled with the logical problem of language acquisition. He pondered over the fact that how do humans know so much given so little! This directly hints to an inbuilt capacity that programs us to speak. Charles Darwin (1871) proved that babbling comes naturally to a child but a child does not know how to bake, brew and write naturally. Man has an instinctive tendency to speak, which has been substantiated by the following research propositions:

CHOMSKY: GENERATIVE FOUNDATION OF LANGUAGE

Chomsky (1965) propounded that language capacity in humans is biologically grounded. All normal human beings are biologically hardwired to learn Language.(1) This automatic learning process is innate and intrinsic. Chomskyan Generative Foundation of Language laid that language from interactions and real
world constitute INPUT from surroundings and is highly critical for making this biological capacity active for learning a language. Generative theory explained that language learning is not a matter of habit or practice. The OUTPUT of language is not proportionate to INPUT. On the contrary, OUTPUT of language is much larger than INPUT. The INPUT from immediate society which acts as a stimulant for learning language is fuzzy, inadequate and limited. What then amplifies this poor Stimulus resulting in a sophisticated output? How do language learners in varied linguistic environments unearth grammatical nuances that exhibit universal similarities?

The 'Innate Hypothesis' accounts for how imperfect stimulus is responsible for perfect learning in language. The 'Poverty of Stimulus' is supplemented with the unique generative capacity of human beings. The human mind houses the language acquisition device (LAD) and the rules of Universal grammar (UG) which accounts for the fast, effortless acquisition of a special-purpose cognitive ability called Speech.

LAD generates a complex system of generative capacity which acts as a facilitating factor for the recognition of patterns and rules in a miraculous way. UG consists of a set of genetically innate, abstract linguistic principles which govern what is possible in human language. Larsen, Freeman and Long (1991) opined that these principles cluster around Parameters which are set of properties of a language that vary in certain restricted ways.\(^{(2)}\)

Chomsky's theoretical framework of 'Principles and Parameters (P&P)' do not need to be learned by exposure to language.\(^{(3)}\) However, Parameters get triggered to adopt the correct setting by exposure to language. The interaction of these Principles and Parameter settings produces all known languages in the world Lexicon of language is hence, built in mind. The knowledge of language (KOL) is thus acquired contains grammatical and infinite rules. It is the tacit language which grows in the human mind, enabling us to speak unheard sentences and differentiate grammatical from ungrammatical utterances. These are the underlying rules that we know but we do not know that we know them! It activates the generative mechanism of native speakers, qualifying it to be a special kind of cognitive activity and not merely an outcome of stimulus-response.

Linguistic computation and human cognition uses social-culturally grounded context. It governs the combination of sounds into words and combination of words into sentences.

**Foundations of Language Acquisition**

- LAD (hypothetic and inbuilt)
- UG (set of Principles and Parameters)
- PRINCIPLES (what is possible in language)
- PARAMETERS (how languages differ)
- KOL (dormant; it takes no time to identify whether a word belongs to our language or not)
- GENERATIVE CAPACITY (creates underlying rules)

The instinctive tendency to speak is very different from learning to write. The process of learning a language requires recognition of patterns (mental grammar), which in turn aids in the capacity to add and combine words and phrases together.

Noam Chomsky introduced the terms I-Language and E-Language. The I-language or the internal language constitutes the form of language. It is the linguistic knowledge in the mind of the speaker and grants competence to recognize the underlying patterns of the set of rules that govern language. Mental grammar is a theoretical construction referring to a specific capacity to make all patterns of language. The E-language or the external language implies USE of language; the way language works in society and the appropriateness of its function. So, the observable linguistic output is E-language.\(^{(4)}\)
The fascinating biological capacity to acquire language has been subjected to an ensuing debate in Linguistics. The theory of 'Critical Period Hypothesis' links biological process of acquisition of language to age. The hypothesis lays that there is an ideal age to acquire language in a linguistically rich environment and this ability of language acquisition starts to decrease after the critical period - AGE 13. Learning beyond the critical period is weak and takes time because the access to universal grammar decreases beyond this age. Also, the articulation of the speech sounds of a language is contingent on figuring features of sounds involved and their places and manner of articulation, via a pulmonic egressive airstream mechanism. Research supports that the conditioning of the vocal tract is active before 10 years of age. Language acquired before critical period with sufficient access to universal grammar is termed as First language and the one acquired with no/limited access to Universal grammar after critical period is called Second language. This explains why there is a high possibility to sound as if you are speaking your first language, if you try to learn a new language after 13 years of age. The study of accent proves that most older learners of Second language do not reach a native-like proficiency level.

Ray Jackendoff, an American Linguist, in 'Patterns in Human mind' acknowledges that despite great advances in neuroscience, we currently have little knowledge about how structure of brain determines the ability to use language. Nevertheless, there is evidence for a specialized sound signaling system, which seems to be genetically programmed to develop in human beings. Human language is culturally transmitted; a latent inbuilt potentiality becomes activated only through long exposure to language. It is so great a capacity that all human languages of the world do not have more than a few dozens of sounds, which result in infinite utterances. The evidence of constructed grammar is provided as the children understand much more than they imitate. However, children also come up with novel patterns signaling the existence of mental grammar. For Jackendoff, language learning is unlearning!

The English past tense verb marker (ed) does not apply regularly. How does the child then acquire 180 irregular past tense verb forms in English?

<table>
<thead>
<tr>
<th>REGULAR VERB FORMS</th>
<th>IRREGULAR VERB FORMS</th>
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</thead>
<tbody>
<tr>
<td>Present</td>
<td>Past</td>
</tr>
<tr>
<td>Talk</td>
<td>Talked</td>
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<tr>
<td>Push</td>
<td>Pushed</td>
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<tr>
<td>Work</td>
<td>Worked</td>
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<td>Hate</td>
<td>Hated</td>
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<tr>
<td>Present</td>
<td>Past</td>
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<td>Go</td>
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Source: Author’s own compilation

Language acquisition will here invoke learning regular past tense patterns followed by a general application of the past tense rule to all; recognizing irregular patterns and through unlearning the rules not for all forms but for the selected ones. Hence, language ability is a special purpose Cognition. It is quite distinct from general purpose cognitive functioning.

As language rests in mind, language handicaps result when specific areas of the brain are impaired. A brain damage may leave non-linguistic abilities intact and only damage linguistic abilities. This condition of language impairment is termed APHASIA; a language disorder signaling that there is a physical area in human brain dedicated to language.

Damage to an area in the left frontal lobe, adjacent to the area which controls motor movements of vocal tract, results in Broca's Aphasia (Paul Pierre Broca, 1864). However, a damage in the corresponding right hemisphere shows little effect on speech. Broca's area stores memories of how to pronounce words and thus,
these aphasics can understand and their comprehension remains unimpaired but they have difficulty in finding and articulating words.

Another significant area dedicated to language in the left frontal lobe, near the area involved in hearing is termed as Wernicke's Area (Carl Wernicke, 1874). This area stores auditory memory of words and thus, Wernicke aphasics have difficulty in understanding and making meaning. There is no difficulty in articulating words but these aphasics are in a rush and use several words making their speech incomprehensible. Brain damage and its consequences on human speech behaviour therefore, supports hemispheric dominance and localization of language function in the brain.\(^{(7)}\)

The onset of Brain Damage can be traced in adult life as well. It can lead to Dyslexia (reading disorder) and Dysgraphia (writing disorder), in people who have previously been literate.

**CONCLUSION**

There are two dominant patterns in linguistics to understand language learning. The psychological standpoint views language as a matter of behaviour. We learn language when we interact with society. Noam Chomsky rejected language as behaviour as finite rules result in infinite number of well-formed sentences. He stressed the role of human mind in learning. Chomsky credited the productivity of language to the specific capacity- LAD containing UG; forming a very explicit system of rules specifying what constitutes the basic elements, and resulting in structured sentences. Hence, explaining the apparent gap between linguistic knowledge and linguistic competency. Thus, Human Mind is in Action in Language Acquisition; It Generates Language!

**REFERENCES**