

# Exploring the Role of Brain in Language and Creativity

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## Abstract

*This paper attempts to find an acceptable solution to the controversy of mentalist and behaviorist approaches to the language learning, supported by clear evidences from the ancient scripts and very carefully managed observations carried out for this very study. This study does not simply support the mentalist approach on the basis of evidences found during the study but goes beyond the mentalist approach, adding new epistemological facts and new terminology to the repertoire of the linguistic vocabulary to express the newly discovered concepts. The study does not totally reject the role of the behaviourist approach in the socialized progress of the language learning process but is treated as complementary. The study premises that there is a basic and commonly shared linguistic code which comes with the human beings with their birth. This argument has been elaborated, explained and supported by evidences and new terminology has been invented for this purpose because the traditional terminology fails to express this phenomenon fully. This is a case study and follows the techniques of the Observational and Archival Methodologies.*

**Keywords:** Language learning, Mentalist, Behaviourist, Linguistic code, Motor language, Vocal language

## Introduction

The controversy between the mentalist and behaviourist approaches has crossed the boundaries of modern era into the Postmodern. Consensus between the two linguistic worlds seems to be improbable. This research project looks at the role of the brain in the language and creativity and is clearly tilted towards the mentalist approach. The project looks at the issue from a novel perspective. It will first discuss the mentalist and behaviourist approaches. Then the Quranic ideas of the relationship between mind and language will be presented. The textual analysis has been examined in the light of a case study. The analyses have been carried with the following research questions for considerations.

- How do children produce “Creative Expressions?”

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- Why a child weeps right after birth even if s/he has a changed environment, why not she smiles or laughs to express feelings of changed environment? Who told him/her to do so?
- Why not a child, 'moving on four', moves in a reverse direction and moves ahead?
- Why does a child express surprise/wonder at a new thing or event?

### Literature Review

This study premises that there is a rudimentary or fundamental language as an in-built part of the human nature right from his/her birth. This native language is universal to all human beings which the researcher term as 'Lingua Nativus.' I have coined this term with the assumption that this terms best expresses the universal language code present in the brain of all human beings. According to Chambers 20th Century Dictionary the term 'Lingua' means the tongue. The etymology of the term shows that it is from the Latin origin 'lingua' which means the tongue.<sup>1</sup> As far as the term 'Nativus' is concerned, the etymology of the term 'Native' says that it is from the Latin origin 'nativus' coming from 'nasci' or 'natus' meaning 'to be born'.<sup>2</sup> So, the term Lingua Nativus is the native rudimental code of all human beings which is built into their nature. The Primary Linguistic Data or PLD is a part of it. In addition to this term I have also attempted to introduce two other new terms or combination of terms in a new way or new meaning. These are: 'Motor Language' and 'Vocal Language.' Let us assume that Language is motor language plus vocal language. This can be expressed explicitly in the following equation:

$$\text{Language} = \text{Motor Language} + \text{Vocal Language}$$

By Motor Language I mean all those expressive gestures which a child or an adult Homo Sapiens exhibits. The Vocal Language is the vocal expression of the feelings of Homo Sapiens.

In the Surah LV, Al-Rahman, meaning The Beneficent, Verses 3 and 4, God says: He hath created man. He hath taught him utterance. These two verses of the Holy Quran very clearly show that the utterance is an inbuilt capacity of the human. This means that when man was created he was gifted with language. So, language is an innate potentiality or skill of man. These two verses in the Holy Quran support the Mentalist School of thought as far as language is concerned. This idea is also supported by the Surah Al-Baqarah. In Surah II, Al-Baqarah, meaning, The Cow, Verse 31, God says: And He taught Adam all the names, then showed them to the angels saying: Inform me of the names of these, if ye are truthful. This verse also supports the innate idea of the

human language. These verses also suggest that the first ever teacher of language is God. He taught Adam the language, that is, utterance at the time of his creation. These verses clearly support the Chomskian ideas of mentalist theory of language learning and acquisition. This idea was presented by the Holy Quran long before Chomsky or any other Mentalist theorist. The Holy Quran presented this idea around fifteen centuries ago. The Holy Quran is not just giving the mentalist approach, although it is fundamental. At some places the Holy Quran is also giving importance to the 'Socialization' in activation, polishing and utilizing the innate language. The innate is like a 'Package'. It means that after birth the Homo Sapiens cannot be left alone in a jungle or isolation for beginning the talk. He needs to utilize his senses in order to "Activate" this "Innate Language Package". The study will hereinafter call it ILP. Surah Al A'raf verse 179 supports this idea in the following words:

*"Already have we urged unto hell many of the jinn and humankind, having hearts wherewith they understand not, and having eyes wherewith they see not, and having ears wherewith they hear not. These are as the cattle- nay, but They are worse! These are the neglectful."*

Avram Noam Chomsky, the leading figure among the mentalists created a great stir among the linguists of the Northern America when he announced his mentalist ideas. His theory of Language Acquisition Device or LAD in the brain was an iconoclastic idea in the field of linguistics in the 1959. Chomsky had the following two criticisms for the behaviorist ideas:

- i). The behaviour of the rats is irrelevant to human language.
- ii). Skinner fundamentally misunderstands the nature of language.<sup>3</sup>

*"By studying the properties of natural languages...we may hope to gain some understanding of specific characteristics of human intelligence."*<sup>4</sup>

According to Smith,<sup>5</sup> Chomsky has provided the best evidence in existence for innateness of some aspects of our knowledge of language and hence for Cartesian rationalism. Humans have grammars in their heads. That's why we can produce and understand unlimited number of sentences; interact with other things inside our heads, like memory and vision and moral judgment and when we suffer damage to our heads, it often results in losing language in whole or in part. Furthermore, PET scans show increased blood flow in particular bits of our brain when we carry out linguistic tasks under experimental conditions.

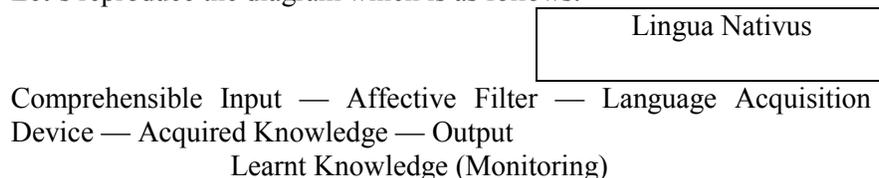
*"All human knowledge begins with intuition, goes from there to concepts and ends with ideas."*<sup>6</sup>

*"A language is a corpus of teachable things."*<sup>7</sup>

*I-Language*

B.F. Skinner<sup>8</sup> thinks about language as a verbal behavior and in no way different than other human behaviours; it does not involve any mental computation. But here our hypothesis is that the language is native to man as the Holy Quran categorically says and the approach of Avram Noam Chomsky support this very clearly. The socialization of Skinner plays its role in the development of language but in the later stage. The inbuilt mental package and socialization are complementary of each other in the acquisition of language. If we study the Input Hypothesis Model of second language learning and production for our purpose in this study we can see the innateness and *Lingua Nativus* are at work.

Let's reproduce the diagram which is as follows:



The above Language Acquisition Device is the part of that *Lingua Nativus* or in other words the mechanism of *Lingua Nativus* which enables man or *Homo Sapiens* to speak and later on helps in the social adaption and modification and moulding of the human language.

**Procedure of the Study***Methodology*

The Methodologies of this Research are Observational and Archeological.

*Population and sampling*

A Case study of a 10-Month Child.

*Research Instruments*

The research instrument or tool for obtaining data is observation sheet.

*Procedure*

- Observation.
- After the observation a kit of analysis was produced for the data.
- A frame of strategies was determined.

## Observations

### *The Child Case (Age: 0-10 Months)*

Here in this case study of the child I observed and studied the development of the child and came to know that child could act ‘Independently’ and attempt ‘Self- thought dependent’ ‘Options’. This he could do before ‘Socialized Actions.’ This selection of different options independent of the surrounding and socialization support show that the child could ‘Create’ options for his own facility and in many cases these option- selection was clearly untaught.

In the following picture the child attempted to get onto the bed but he could not do so in the beginning. He then applied different options. He was not guided or supported by anybody. After applying different options to facilitate himself, he at last succeeded in getting onto the bed. During this whole struggle and process his different expressions, in other words ‘Different Languages’ or ‘Linguistic Utilities’ were very much visible. He expressed his ‘Dislike’ and ‘Anger’ when not successful. This dislike or anger was his ‘own’ and created by him. This was his choice to select this “‘Item’ from his In-built treasure of ‘Language options’”. This is actually provided by the *Lingua Nativus*, the universal language base or code present in the brain of every *Homo Sapiens*. The facial expressions, the gestures and the vocalizations are all manifestations of this language. I call these gestures as the *Motor-language* and the vocal expressions as the *Vocal-language*.



The child does the following when “Performing the linguistic actions”:

Crying \_\_\_\_\_

Cooing \_\_\_\_\_

Babbling \_\_\_\_\_

Vocalization \_\_\_\_\_

Talks \_\_\_\_\_

Gesturing \_\_\_\_\_

Muscular Expression \_\_\_\_\_

Movements \_\_\_\_\_

All these are Expressions  
and thus Language

During their struggle and all the mentioned vocal and motor activities the child thinks and my observation during this study reveals that the children do something which they have not been taught. These thought supported activities are creativity. It means that the *Lingua Nativus* has come to the help of the child.

Thought supported movements = Creativity



Child — Making — Creating something during his movements, gestures.

Child observed on:

Ground — Stairs — Bed — Different Places

Certain Questions:

If... child selects different choices, why?

Big Ifs.....

Why a child does this?

Because of the Mind

There are big ifs. If he selects different options:

He/she is creative with an innate ability.

So, the Mentalist point of view.

Look at the following pictures of the child carefully:

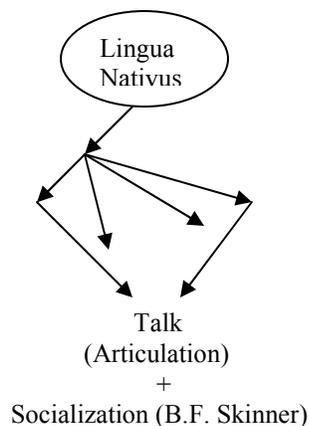


*Language, Thought and Intelligence in Children*

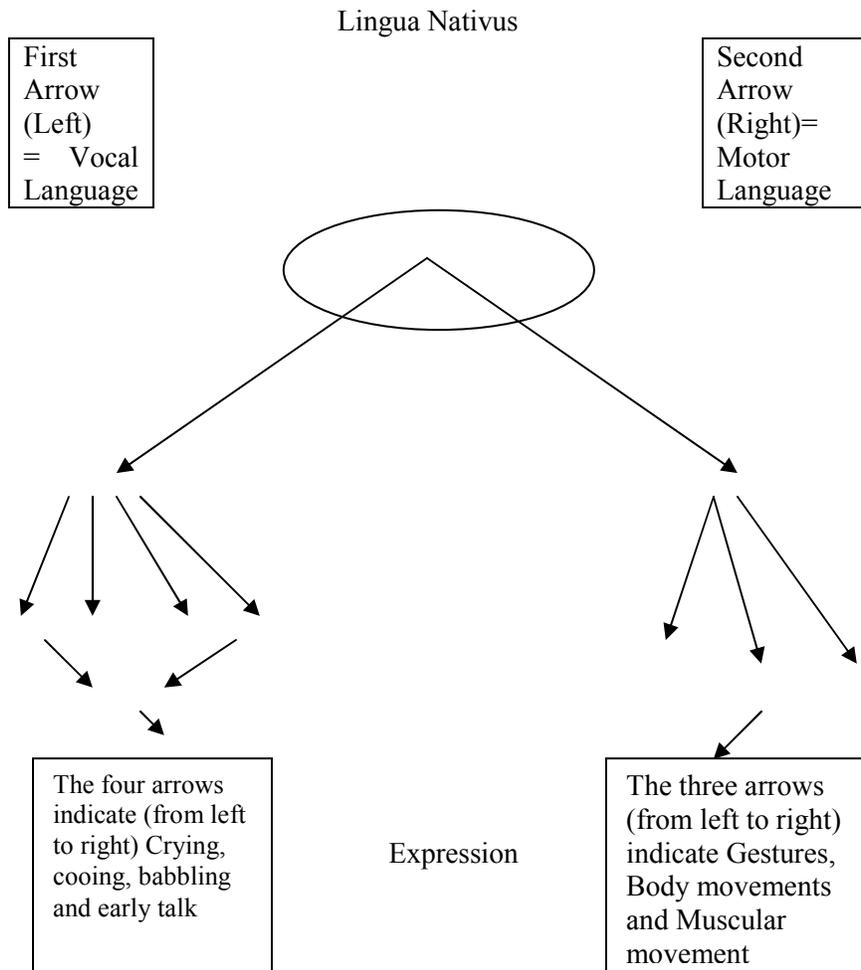
...some members of the behaviorist school of psychology regard thinking as subvocal speech. They have pointed out that during thinking, movements of the throat and tongue are observable, and therefore that thinking may be termed “internal speech.”...Animals cannot speak in the usual sense of the term, but there seems little doubt that they engage in some forms of thinking.<sup>9</sup> It clearly shows that human beings have innate ability of language and the animals [or for that matter even the angels do not have this ability. This is the uniqueness of human mind]

Here, in these pictures, the child takes the language as activity. When they do something during these doings and performances, they make something. And this ‘making something’ is creativity/conceptualization/naming things out.

Language=Expression

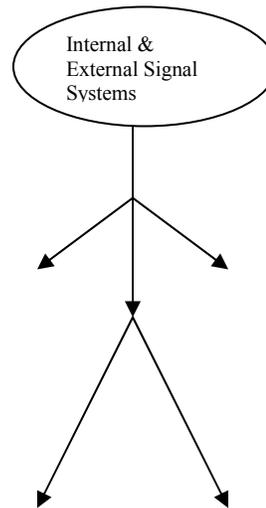


In brief, man is endowed with the potentiality for creative and conceptual knowledge whereby he names things out & preserves & promotes knowledge. This conceptualization and creativity is unique characteristic of human mind. Angels & animals do not have this potentiality; hence can not compete with man in the field of knowledge.



All Homo Sapiens have Basic Language Code. This is In-built Proto-language, like Operating Language, analogous to Operating System of a computer system. There are also the following two systems that play their role in the linguistic activities and they are unique to man in this regard. These are:

- Central Nervous System
- Peripheral Nervous System



The language of man depends on the internal and external signal systems.

Smith discusses the variation of language and the private language. He also discusses the rationalism of Descartes and the empiricism of Quine and the innateness of language. The poverty of stimulus, which says that you know more than what you have been taught has also been discussed and language as the essential and defining property of man. These ideas find detailed discussion here.<sup>10</sup>

There is an internal signal system and there is an external signal system in man. This is unique to man. Both these systems are actually the two aspects of language. The observation of the child showed this very clearly. Actually the Human machine is dependent on signals and communication. And the combination of this is language.

So, Signal + Communication = Language.

[Signal = Motor /Physical communication]

[Communication = verbal or language]

### Conclusions

So, by close observations we find that the mind has a very great and fundamental role in the production and development of language. The unique thing about the human language is that it has been given by God to man and denied to other living beings in the same manner. Man has the ability of language as part of his body just like other body parts.

What I mean here is that language is the essential body part just like the other body parts.

Our study has revealed the following facts:

- The child thinks.
- The child considers different options while he does some thing.
- During his performance s/he makes something new.
- There are many things that are not taught to the child but s/he can perform those.
- Language is not only the name of vocal sounds; it is the name of gestures too.
- Language is the name of expression.
- Expressions can be Motor or Vocal, that is, there is a Motor Language and a vocal language.
- Lingua Nativus is a broader concept and Language acquisition device is the part of the Lingua Nativus mechanism.

### **Recommendations**

There should be deep and serious research from the Quranic point of view of the human language. The Holy Quran gives the basic and clear concept of language which fundamentally directs us towards the innate nature of language but at the same time as I explained with support of the verses from the Quran, the role of senses is also very important in language development.

## Notes & References

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<sup>1</sup> E.M. Kirkpatrick, *Chambers 20th Century Dictionary*, New ed. (Edinburgh: W & R Chambers Ltd., 1983), 1007

<sup>2</sup> Ibid.

<sup>3</sup> Noam Chomsky, "A Review of Skinner's Verbal Behaviour", *Language*, 35 :1 (1959):26-58.

<sup>4</sup> Quoted in Neil Smith, *Chomsky: ideas and ideals* (London: Cambridge University Press, 1999), 49

<sup>5</sup> Ibid.

<sup>6</sup> Ibid., 99

<sup>7</sup> Ibid., 116

<sup>8</sup> B.F. Skinner, *Verbal Behavior*, (New York: Appleton-Century-Cripts, 1957).

<sup>9</sup> R. Lamb, *Guiding children's language learning*, (Iowa: W. M. C. Brown Company Publishers, 1972).

<sup>10</sup> Neil Smith, *Chomsky: ideas and ideals, op.cit.*