

## **Chapter - 7**

***Noam Chomsky on : Language as a  
Mirror of Human Mind.***

## **Noam Chomsky on: Language as a mirror of human mind**

### **Introductory**

A new horizon of the nature and constitution of human mind has opened with the publication of Noam Chomsky's works. Chomsky has analysed language as unfolding the innate capacity of man. The philosophy of the human mind is enriched by Chomsky's analysis of language. It has been shown that the human mind has not only the unique capacity for acquiring linguistic competence. Chomsky has discovered also that the origin of language does not take place outside the human mind, but is really conceived by it. Accordingly Chomsky concludes that the study of syntax is the study of human mind. The physiological constitution of man manifests itself in so many of habits, instincts and practices. Of these the most interesting perhaps is the construction of language. The aspects of cerebral physiology, again, does not surface of themselves. That was the reason why Strawson had to discover the conceptual scheme by an elaborate examination of the ordinary use of words. On a similar ground, Chomsky has to examine some aspects of language in order to find out man's innate linguistic capacity. The central theme of Chomsky's cognitive psychology is that language is the mirror of the human mind.

### **Section II: Language and the human mind: A shift from epistemology to psychology**

Chomsky's commitment that *language is the mirror of human mind* drives our attention from epistemology to psychology. He considers language

as worthy of philosophical attention not because it reveals reality for us but also for going a long way to tell us about the human mind . Accordingly, his linguistic analysis is supposed to be a psycho-linguistic analysis. Chomsky aptly puts the cases: "language as the sub-field of psychology."<sup>1</sup> He, however, re-christens linguistics as a *branch of cognitive psychology*, and he holds that linguistic psychology and philosophy should not be separated; rather they should be interlocked. This means that these two branches can no longer be regarded as separate and autonomous .

Chomsky's epoch-making attempt is to show how language helps us to understand the human mind. In answering the question : why do we study language ? Chomsky says, "One reason for studying language- and for me personally , the most compelling reason - is that it is tempting to regard language ... as a 'mirror of mind' ."<sup>2</sup> Chomsky is of the opinion that the study of language should reveal things about the nature of the mind . In this context we may recall James Beattie's comment that the principle of grammar (i . e . , language) form an important and very curious part of the philosophy of the human mind . But this remark of Beattie is nothing surprising and without precedence. If we look back to the history of philosophy, we shall find that even among the philosophers of seventeenth and eighteenth centuries, the relevance of language as the manifestation of human mind was duly recognised. Leibnitz, for example , says, "I truly believe that languages are the best mirror of human mind , and that an exact analysis of meanings of words would reveal the operations of the understanding for better than

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<sup>1</sup>Chomsky, N: **Language and Mind**, New York, 1968, p.24.

<sup>2</sup>Chomsky, N.: **Reflections on Language**, Fontana/Collins, 1976,p.4.

anything else."<sup>3</sup>

- Chomsky does not study language merely as a means of communication bearing meaning and expressing thoughts and feelings ; it is studied with a view to getting an insight into the focal point which controls the functions of language. But this focal point should be understood neither as a concept, nor a thought , nor a feeling ; but as the heart of the human understanding that integrates all concepts, thoughts and feelings. It is presupposed that there are some underlying principles which govern all our thoughts and feelings. These abstract principles are understood as the product of the human mind and they are reflected in language. A human language is a system of remarkable complexity. Understanding of human language seems to be an extra- ordinary intellectual achievement for man. A normal child acquires the linguistic device without requiring any specific training . She just follows some specific principles of grammar , and subsequently succeeds in creating innumerable sentences. Her linguistic capacity is not confined to the sentences that she previously learnt, used or understood. Instead, she develops the capacity of generating new sentences, meaning new things, and exploring what these new sentences mean.

Language is characterized as 'compositional'. Language is compositional in the sense that it is constructed as well as comprehended by a *conscious mind* - with minimal effort. It also controls as well as supervises the entire process of communication. It is , however , not revealed or manifested in the surface level of grammar ; it lies embedded in the deep structure of grammar. In Chomsky's words, "Thus language is a mirror of mind in a deep and significant sense. It is a product of human intelligence,

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<sup>3</sup>Gross, P. G.: **Analytic Philosophy**, Oxford IBH Publishing Company, 1970,p.10.

created anew in each individual by operations that lie far beyond the reach of will or consciousness."<sup>4</sup>

It is important to note that the clue to Chomsky's mentalism lies in the background of the traditional rationalists of 17th and 18th centuries. Searle says, "The most spectacular conclusion about the nature of the human mind that Chomsky arrives at in linguistics is that his results vindicate the claim of the seventeenth century rationalist philosophers. Descartes, Leibnitz and others.<sup>5</sup> The human mind as a repository of innate ideas was admitted by these philosophers, particularly Descartes and Leibnitz. Leibnitz has made the point that: "Primitive truths ...do not come at all from the senses or from experience ....and this is what I mean in saying that they are innate ...it must be admitted that experience never perfectly assures us of a perfect universality."<sup>6</sup>

Chomsky claims that the acquisition of language is the most startling intellectual capacity of human being. But this acquisitional device is made possible if it (i.e., language ) is attained through the *construction of grammar*. Because, to be a master of language, one has to be a master of grammar . Chomsky, however, uses the word ' grammar' not in the usual sense in which it is used in the context of natural language . In his, *On the Notion 'Rule and Grammar'* Chomsky says, "*By a grammar of the language*. I will mean a device of some sort ( i . e . , a set of rules ) that provides, at

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<sup>4</sup>Chomsky, N.: **Reflections on Language**, op. cit., p.4.

<sup>5</sup>Searle, J. : "Chomky's Revolution in Linguistics", edited by Gilber Harmen **On Noam Chomsky:Critical Essays**, Anchar Press/Doubleday, Garden city, New York, 1974, p.19.

<sup>6</sup>Glanvill, J.: **Essays upon Several Important Subjects in Philosophy and Religion**, London,1976, p.6.

least, a complete specification of an infinite set of grammatical sentences of language and their structural descriptions."<sup>7</sup> In his definition of grammar, the word 'structural' bears a good deal of significance towards understanding Chomsky's mentalism. By the word 'structural', Chomsky means the syntactical structure of language. It is claimed that Chomsky's mentalism can best be understood through the syntactical structure of language, since he believes that *the study of syntax is the study of human mind*. On Chomsky's point, Searle in his article *Chomsky's Revolution in Linguistic* comments, "I believe, the desire to keep syntax autonomous springs from a more profound philosophical commitment : man for Chomsky, is essentially a syntactical animal. The structure of his brain determines the structure of his syntax, and for this reason the study of syntax is one of the keys, perhaps the most important key, to the study of human mind."<sup>8</sup> Accordingly, the syntactical structures of human language are thought to be the outcome of innate features of the human mind .

### Section III: Grammar, Creativity and Competence

Chomsky characterizes his notion of *grammar* as universal as well as transformational generative grammar. He defines *universal grammar* as "the system of principles, conditions, and rules that are elements or properties of all human languages not merely by accident but by necessity- of course , I

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<sup>7</sup>Fodor, J. A., Katz, J. J.: *The Structure of Language: Reading in the Philosophy of Language*, Prentice-Hall, Inc., 1964, p.119.

<sup>8</sup>Ibid., p.119.

mean biological , not logical , necessity ."9 In this sense universal grammar is supposed to be the *essence of human language*. The rules and principles of universal grammar are thought to be invariant . Universal grammar plays the all-important role as the significant component of the learning theory of human language. A language is learnable in the strict sense, if conforms to universal grammar .If we construct a language that violates the rules and principles of universal grammar, then this sort of language cannot be learned by the learning theory of human language.

Chomsky considers universal grammar as a transformational generative grammar. A grammar is held to be transformational, he says, if it provides an adequate measure for establishing philosophy of language within the horizon of mentalism. This kind of grammar is primarily concerned with what Chomsky calls the *creative aspect of language* . Thus it appears that transformational generative grammar is a sort of creation that enables one to understand new sentences. Chomsky is of the opinion that the most striking aspect of linguistic competence is what we may call the 'creativity of language', that is the speaker's ability to produce new sentences, sentences that are immediately understood by other speakers although they bear no physical resemblance to sentences which are familiar.

For Chomsky, language is a colony of sentences. A Grammar is a recursive definition of the entire set of sentences. A grammar is recursive in the sense that it creates an indefinite set of sentences out of a definite set of sentences. If the grammar is to consist of a finite set of rules operating upon a finite vocabulary and if is to be capable of producing an infinite set of sentences, it follows that at least some of the rules must be applicable more

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<sup>9</sup>Chomsky, N.:**Reflections on Language**, op. cit., p.29.

than once in the generation of the same sentence. The rules and structures so generated, are called recursive. In this sense transformational generative grammar is understood as the mental representation of human beings. It is a theory of mental states underlying the production and comprehension of utterances. It is a system of rules that a speaker has unconsciously internalised. It seems that the grammar of language has no existence apart from the speaker's knowledge or belief about it. In this sense language is supposed to be subjectively constituted in the strong sense. It has no existence apart from mental representation. Chomsky holds that the properties of grammar "must be those that are given to it by the innate mental processes of the organism that has invented it and that invents it anew with each succeeding generation."<sup>10</sup>

Thus it is clear that understanding of grammar is the first requisite in acquiring the linguistic device. Grammar in this sense is held to be generative since it projects the creative aspect of language. It is transformational since it generates only grammatical sentences by applying few rules. It is important to note that a generative grammar can generate an infinite number of sentences, but this does not mean that it is dealing with an infinite set of rules to produce an infinite number of sentences. A grammar has only a finite set of rules out of which an infinite set of sentences can be issued. Application of rules helps one to make and understand new sentences which are not encountered before. In this sense language can be spoken of as creative. The normal mastery of language, says Chomsky, involves the ability to understand immediately an infinite number of new sentences. The said mastery of language is also called the creative aspect of language. Creativity

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<sup>10</sup>Chomsky N.: **Topics in the Theory of Generative Grammar**, the Hague, 1966, p. 11.

is an ability through which a speaker can make and understand new sentences that he has never encountered before, and which may indeed never have been uttered before by any one. Chomsky in his **Current Issues in Linguistic Theory** defines *creativity* as the "ability to understand immediately an infinite number of entirely new sentences."<sup>11</sup> Creativity is revealed through linguistic competence. Linguistic competence is essential for understanding the mechanism of creativity. The linkage between linguistic competence and linguistic creativity yields a good enough explanation for the connection of grammar (the theory of language ) and the generation of new sentences.

Our sketch of Chomsky's position makes it clear that in order to understand his mentalism three key concepts require to be examined - such as *grammar, creativity and competence*. Transformational generative grammar, as we have seen, elevates one to a higher level of language, called the creative aspect of language. Again creativity enables one to acquire linguistic competence. Thus there obtains a hierarchical process in between grammar and competence.

#### **Section IV: How is internalisation made possible?**

But how does a linguistic acquire creativity? Behaviourists have claimed that the creative aspects of language can not be explained by virtue of linguistic analogy. One can understand a new sentence by comparing it

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<sup>11</sup>Chomsky, N.: **Language and Mind**, op. cit.,p.95.

with other sentences that one has previously heard, since it is observably similar to the previous sentence /sentences. We know the sentence 'Ram eats a mango' ,since it is observably similar to another sentence previously heard - 'Shyam drinks water.'

But Chomsky does not agree with this line of thinking. He repudiates the behaviourist's proposal by saying that "knowledge of language cannot arise by application of step by step inductive operations (segmentation, classification, substitution, procedures, analogy , association, conditioning and so on ) of any sort that have been developed within linguistics, psychology or philosophy."<sup>12</sup> Language should not be understood as a set of generalised stimulus - response connections, since it is an internal process of a set of rules and principles that transformational generative grammar has sought to explain. The construction of sentences is a mental representation of grammar. In this sense grammar is supposed to be the mental states in which a process of internalisation keeps going on. Accordingly, the grammar has no existence apart from the mental representation. Chomsky, however, justifies himself by saying that it would be the mind's apriori innateness that articulates man's inner system of internalisation . He defends himself on following grounds.

It is a matter of general perception that within a very short time and on the basis of relatively few utterances, a child can acquire the device of constructing various sentences and eventually become a master of language. But how does she acquire this device ? One may presuppose that the child is acquiring this device as a mere consequence of inductive generalisation of language that she had already met with in the past . But Chomsky does not

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<sup>12</sup>Chomsky, N: "Recent contribution to the theory of innate ideas", Synthesis, 1967, p.11.

agree with this explanatory move, because he believes that if inductive generalisation were at the root cause of the acquisition of linguistic device, then a group of children belonging to the same environment would have been able to acquire the same linguistic ability. Or if inductive generalisation is taken to be the clue of language acquisition device, then it would be possible for someone to become a master of chess after having witnessed a few games of chess. Or it would be possible for someone to be a superstar after having seen a few films. But this is not actually the case. So one requires to presuppose 'human ego' or 'I' which controls the entire process of communication. In this sense language is claimed to be the mirror of the human mind.

Secondly, it is true that the input (i.e., the grammar) of the 'AD' (Acquisition Device) is degenerated. A child acquires different utterances and most of the sentences she hears may be ungrammatical owing to the inability on behalf of the speaker. But if language acquisition is supposed to be a mere inductive generalisation; then the possibility of linguistic competence would be difficult to attain. If we do not admit the process of internalisation within the human mind then the input as well as the output are claimed to remain the same. But a marginal imbalance is found between input and output. Who is responsible for this imbalance? Certainly, it would be the human mind or human ego which creates the imbalance and helps man to acquire the device of linguistic competence. It is man's apriori innateness which acts on to turn the output in an intelligent manner.

Chomsky makes a distinction between competence and performance by saying that competence is a process of interaction between the speaker and the hearer about their knowledge of language; but performance is the actual use of language in a concrete situation. Chomsky is of the opinion that

actual linguistic behaviour, or what he called "performance" does not always reflect the competence of the speaker. Performance normally involves deviations from rules. Accordingly, Chomsky holds, we need to make an abstraction at the level of performance which would provide us with, what he calls 'ideal performance'. This ideal performance would reflect the speaker's competence. Chomsky says, "Linguistic theory is concerned primarily with an ideal speaker-hearer, in a *completely homogenous* speech community, who knows its language *perfectly* and is unaffected by such grammatical irrelevant conditions as memory limitation, distraction, shifts of attention and interest ...in applying his knowledge of the language in actual performance."<sup>13</sup>

It appears from the passage cited that Chomsky's concepts of *competence* involves two notions - that of perfection of the knowledge of the rules of language, and the homogenous speech community. Knowledge of language; i.e., competence is primarily concerned with the rules and principles functioning in sentence construction and interpretation. It also enables both the speaker and the hearer to make and identify grammatical sentences. In this sense grammar is  $\bar{q} \rightarrow$  matter of competence. Chomsky, however, is inclined to believe that competence or the knowledge of rules comes to be concerned with the creative aspect of language and by linking creativity with competence he focuses on how a linguist can acquire a clear understanding of human nature. He further admits that a hearer's understanding is made possible only by his internalising the abstract generative grammar of his language. Internalisation is an abstract and unobservable process that underlies the deep structure, and

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<sup>13</sup>Chomsky, N.: **Aspects of Theory of Syntax**, The MIT Press, Cambridge, Mass, 1965, p.3.

it has no close point to point correlation with the phonetic aspect of language. This is how Chomsky interweaves competence with creativity.

Linguistic competence in Chomsky's view is primarily concerned with the structure of language. He maintains that if anybody wants to find out something significant about the nature of language, he will have to look not at its use, but for its *structure*. The so-called structure of language is abstract and it is revealed or communicated in and through the deeper level of grammar. It reveals something about the human mind.

Chomsky's account of linguistic competence has been considered to be inadequate. It has been criticised for the suggestion that linguistic competence is 'fed by social experience, needs and motives'. This observation reminds us of the later Wittgenstein who emphasised the importance of use in mastering linguistic competence. We must concede that without rules of use, rules of grammar must be inadequate. One cannot acquire linguistic competence if he neglects the rules of use and concentrates only on grammar.

So far as creativity and competence are concerned there underlies a continuous process of internalisation of the rules of language. Internalisation of the rules of language is made possible by tacit knowledge of grammar that constitutes our competence. Accordingly, the study of grammar is supposed to be the study of mind, because rules are part of man's intellectual equipment. But is there any mental equipment which is needed for the process of internalising the rules of grammar? Chomsky would say that man is in possession of some basic equipments prior to experience. Consequently, we must attribute to the mind an a priori and hence unlearned complex structure in order to account for the process of internalisation. Internalisation of language is **nothing** but a total consequence of the collaboration of

linguistic competence and linguistic performance . David Copper thus aptly says , "...the person's acquaintance with a set of rules such that, of the rules are applied in ideal circumstances, the person will produce only grammatical sentences and interpret any sentence properly. Thus the output of language AD is the internalisation of the set of rules ." <sup>14</sup> But Chomsky reminds us that it could be the case that people are not always conscious of what they have internalised. Accordingly, internalisation should be postulated not on the basis of introspection (understanding ); but on the basis of observed behaviour. Wittgenstein in the **Philosophical Investigations** expresses the same conviction. Hacker and Backer in their article *An Analytic Commentary on the Philosophical Investigations* makes it clear that one cannot observe the understanding of another. Understanding, Wittgenstein observes, is the mental phenomenon of which behaviour is the symptom. Behaviour is the linguistic device for expressing something (introspection or understanding ) in such a manner that the hearer can best be apprehended if he is to be the master of language. This leads us to hold that people do have internalised a system of rules of which they are unconscious.

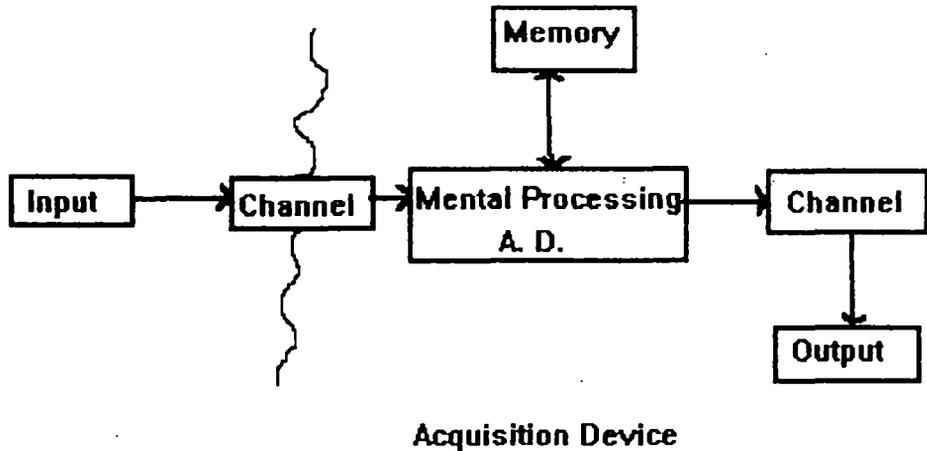
## **Section V:Nature and function of Acquisition**

### **Device(AD)**

Let us explain now the nature and function of AD (Acquisition Device) of language which would explain the process of internalisation. A diagram may be drawn to represent this mechanism.

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<sup>14</sup>Copper, David E.:**Philosophy and The Nature of Language**, London, Longman, 1973,p.143.



In the above - mentioned picture the term 'AD' stands for *Acquisition Device* of language capable of receiving the input and of producing the output. It functions just like a computer receiving and giving informations. We regard human mind of 'I' or the language user just like an 'AD'. It receives input (i.e. some rules and principles of grammar) and generates the output (i.e. a set of new sentence that a speaker did not encounter before). This requires an internalisation between input and output. 'AD' is supposed to do this job.

Before making it clear what internalisation means, it is , however, necessary to explicate the nature of input and the nature of output through which internalisation is made possible . It is difficult to specify what is included as an input to the language 'AD' ,but one may at least safely include what a child , e. g. , has heard in his environment, especially those which his parents have said. Output to the language 'AD' ,on the other hand , is the sum total of utterances which a speaker makes. Now, if the human mind ('AD' )has no function of internalisation between input and output, then one may have to presuppose quite reasonably that the input would remain the same as the output. But it seems clear that there remains a marginal imbalance between

be explained only if we admit that the mind has an innate capacity to enrich its system of knowledge. That there is such a capacity of the human mind has been endorsed by many philosophers of the past. Aristotle, among the ancients, admitted that the human mind organises sense perception so as to produce full-fledged knowledge. Among the moderns Kant has acknowledged the organising capacity of the human mind which acts upon the discrete data of sensation. The discovery of the categories of the understanding by Kant is a kind of epistemic innatism. Chomsky's innatism is the discovery of man's linguistic capacity. It is not so much a capacity to organise experience, as an ability to organise language. The syntax that characterises our language has no other source than the human mind itself. Chomsky's position of course is that he does not, like many others, consider syntax to be dictated by logical necessity. Syntax of language has, of course, its logic. But it is guided by a capacity of man which is really more biological than logical. Or else it may be said that, for Chomsky, logic has its roots in human biology, just as some modern ethicists hold that the sense of good and bad, right and wrong is ingrained in biology. This biological foundation of the syntax of language is an innate organisational capacity of man, and this is a discovery which, as Searle comments, is Chomsky's greatest contribution to philosophy.

But how do we accomplish such a rich system of knowledge? In this regard different ideas have been suggested by different philosophers. From the Aristotelian standpoint, one might presuppose that the world is so structured in a certain way that the mind is able to perceive this structure. The human mind abstracts in the process the knowledge of universals from the perception of particulars. But the attainment of such knowledge requires a hierarchical process, since the mind begins with particulars and via

particulars to species, then to genus - it eventually arrives at the knowledge of universals. In the hierarchical process of learning a pre-existent knowledge is required to be presupposed, as it only can be obtained through different stages of knowledge. But how do we apprehend these different stages of knowledge? These stages can be apprehended through an active participation of an innate capacity of mind. Again how are these stages organised? These stages are organised through sense perception. Then are these stages organised without an organiser? This question can best be answered by acknowledging the mind (AD) as an organiser. It is the human mind which organises these different stages of knowledge through sense perception. This should lead one to admit that there underlies a system of organisation or a process of internalisation that is latent in the mind. Accordingly, what we come to know of or what we come to believe in rests on a specific experience that has been evoked by the cognitive system of the human mind. So what we know is determined by the modes of conception in the understanding of the cognitive system of human mind. The human mind is equipped in such a fashion that it enables one to bear innate power. It has an innate cognoscitive power, says Cudworth. In possessing this power it provides all necessary ingredients that help to organise knowledge. Cudworth says, "...sensible things themselves (as for example, light and colors) are not known and understood either by the passion or the fancy of sense, nor by anything merely foreign and adventitious, but by intelligible ideas exerted from the mind itself, that is, by something native and domestic to it ..." <sup>17</sup> The human mind has some sort of exciting and awakening powers of its own. It applies those powers to understand an object through sense

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<sup>17</sup>Cudworth: *The Intellectual System of the Universe*, Cited by Love Joy, 1908. Quoted from N. Chomsky: **Reflections on Language**, op. cit., p.5

experience via language. Human eyes, i.e., sense experience perceive objects; but it is the human mind which enables us to compare, to analyse the various cause-effect relations. It gives a comprehensive idea of the whole. It is the eye through which a book can be read, but it is the function of the human faculty, i.e., the mind which apprehends the theme of the book; the intellectual essence of the book .

Chomsky says, "The primary objects of science and intellection, namely, "the intelligible essences of the things," exist nowhere but in the mind itself, which are its primary objects, does it know and understand all external individual things, which are the secondary objects of knowledge only."<sup>18</sup> Like Chomsky , Wittgenstein makes a similar remark. He says, "It seems that there are certain definite mental process bound up with the working of language , processes through which language can function I mean the process of understanding and meaning. The sign of our language seem dead without the mental processes, and it might seem that the only function of the sign is to induce such process, and that there are the things that we ought really to be interested in ..."<sup>19</sup> Wittgenstein appears to believe that mental contents are an abstraction from the use of a sign in one's awareness. The meaning of the sign is inseparable from capacities developed in the real life context. Thus, although one begins by using techniques which relate to actual objects, one can derivatively use those techniques for defining the mental content in the absence of the objects concerned. Gillett says the following in his article *Wittgenstein on the Mind*: "In reality there may be no present object,...., not an internal or Cartesian one, but the content forming

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<sup>18</sup>Ibid., p.7.

<sup>19</sup>Gillett, Grant.: "Wittgenstein on the Mind", in *Inquiry*, Vol. 37, 1994, p. 109.

one's thought may nevertheless essentially relate to an object (through its normal context of use) . These considerations force a certain reading of the idea that one can 'have an object in mind'. "<sup>20</sup>

## Section VI : Remarks

We may be taken to have enough by now for concluding that language is the way of expressing thoughts. But what is a thought? Thought is a blanket term. It comprises belief, desires, wants, hopes and the like . In this sense the concept of thought is supposed to be the behaviour controlling states. Davitt and Stanley say, "...thoughts are inner states of people (and possibly other things) that have their causal powers partly in virtue of their representational content and partly in virtue of the attitude people have to them ."<sup>21</sup> In this line of thinking thought is also to be claimed as 'propositional'attitudes'. It is the inner representation of a human being. It may also be held that our system of inner representation and our system of linguistic representation are one and the same, because what is represented is being represented by language. There can be no thought independent of language. In this sense our 'language of thought ' means our 'language of talk'. Thought, in this sense , is intimately intertwined with language. Language is correlated with cognitive capacities of human being, since the ingredients of thought such as belief, desires, hopes, fears etc. are nothing but cognitive units of human

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<sup>20</sup>Ibid., p.109.

<sup>21</sup>Devitt, M. and Kim Sterelny: **Language and Reality:An Introduction to the Philosophy of Language**, Basil, Blackwell, 1987, p.116.

capacities. Thought, along with the help of cognitive units of human capacities, controls the entire process of human behaviour. And it is in this way language is relevant to philosophy not only in the sense of knowing some aspects of reality in particular, but also in the sense that it helps us to know men, the human beings, the universe as such. Searle says, " In the long run, I believe his (Chomsky ) greatest contribution will be that he has taken a major step toward restoring the traditional conception of the dignity and uniqueness of man."<sup>22</sup>

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<sup>22</sup>Searle, J. op. cit., p.31.