The Language of Thought Hypothesis: A Critical exposition of Jerry Fodor's Theory

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By

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CONTENT

INTRODUCTION

Man stands nowhere without his language. It is, in fact, our ability not only to communicate but to do so in a complicated system accessible to all of us which distinguishes man from animals. There is, evidently, no literature, philosophy, or science without language and most significantly there is no society or civilized life without language. Therefore, language is the essence of human life. But is it something we possess alone? We observe that animals and birds also communicate. How do they do so without a language? How do after all children communicate? How do children acquire linguistic skills so fast? These questions with many others have compelled philosophers to try to understand the nature or function of language from early times. Different philosophers have raised different questions. There have been arguments, debates, agreement and disagreement. But, all these arguments put together, we stand before one big question: is language just a medium of expression? Or a psychological necessity without which thought is impossible? Does thought have its own language? These are some of the questions which the present thesis is going to address.

Let us, therefore, first try to understand why after all we should bother to consider something such as 'language of thought'- a phrase that itself sounds to be an absurd possibility. Can a common man ask whether thought has language? Is it not that we think before we write or speak? This has been, indeed, our common sense understanding till date. But of let, some philosophers have labored hard to raise a slightly more difficult question. The question is: how do we speak or write about thoughts which we do not understand ourselves? Here the common man will say, "Who told you we do not understand our own thoughts?" Of course, we do. But how do we do it? Do we understand our own thoughts while they are not communicated to ourselves? Now if they are communicated to ourselves, how will such internal communication be possible without a medium? This medium, according to some philosophers, is language of thought.

Of these philosophers, Jerry Fodor, an American philosopher, introduced the term language of thought, and in the present investigation, we shall deal with his basic claims regarding language of thought which have been elaborated in *The Language of Thought* published by Howard university press, in the year 1975.

There are two distinct ways to approach Language and Thought as concepts. First the traditional view is that thought comes before language. Second, thought and language are

simultaneous operations. If we accept the first view, we support the claim that thought is already in complete formation before it finds expression in language, while if we accept the second view, we contemplate language and thought to be just patterns of behaviour, one complimenting another. Fodor rejects both these approaches. In what follows, we will first discuss these two approaches regarding the relation between language and thought and after that we will put forward a brief account of Fodor's position in this regard to bring out the history of the development of the current issue.

According to the traditional view, thought comes before language. Of the advocates of this traditional view the first person who can be mentioned is the rationalist philosopher Descartes. Unfortunately Descartes did not give any direct account on the relationship between thought and language. But from his classical view of thought it comes out automatically that thought is primary and language depends on thought. The second view is completely opposed to the Cartesian view. According to the Cartesian view even if someone is not a member of any linguistic community then also he will be a member in the group of intelligent being by virtue of the fact that he can think. According to Descartes some concepts are innate and the thinker is not only equipped with the concepts but also with the notion of interrelation and compatibility between these concepts. These innate concepts are sharable among all rational minds. But Descartes never said that the concepts are present in ready form in the mind from birth rather the mind has the innate disposition or ability to become aware of these concepts if certain conditions are satisfied.

Though Descartes did not explicitly discuss the relation between language and thought, he has given ample hints to indicate that language and thought are interconnected. He will make a distinction between real speech and mechanical communication. In other words he will make a distinction between human communication and mechanical communication and in that sense though parrots can be trained to talk they cannot use real speech. Only humans have real speech which involves the capacity of the use of words and signs, and which is not just an effect on natural impulses. Many animals communicate through the expression of anger, fear, and hunger or of any other bodily movement. But, according to Descartes these communications do not involve thought or intellect. In his opinion such movements, sensation and passion mechanically occur both in humans and other animals. All natural languages share some pre-existing concepts. Learning a language means expressing the concept. An infant is born with the ability to understand a concept. He can express his thoughts in the language he learns. Learning a language does not mean that one begins to

learn concepts, first he understands the concepts and then expresses them in one's own native language.

Descartes claims that communicative behavior of the animals does not involve the mind because their communication is totally mechanical. Accordingly they do not either have thoughts or have language; because we express our thoughts through language. So, they don't have thoughts, they don't have language as well because we express our thoughts through language. If thought precedes language then we can assume that languages are creative because thoughts are creative. Basically thought and language both involve representation but in a different way. Language is used through external public signs or symbols. But it is difficult to explain how far thought exists without language.

If we summaries Descartes classical view of thought it is as follows:

1. He supports the internalism view about thought.
2. Thoughts are internal acts or inner mental states.
3. Thoughts are ontologically prior to any linguistic behaviour.
4. Thoughts are always intentional.
5. Intentionality of thoughts is dependent on their representational content.
6. Thoughts are logically prior to any linguistic utterances and determine their meaning.
7. The content of thoughts can be grasped individually and independently of the mastery of language.
8. Thoughts are epistemologically transparent.
9. Thoughts are essentially private and introspectable.
10. Knowledge of one's own thoughts is incorrigible. [1]

Now we will discuss the traditional view of Plato about thought and language. It is a direct assumption of Plato's philosophy that any experience including linguistic experience is very limited but we can produce or utter unlimited linguistic expression which we did not even learn before. According to Plato 'how we can know so much, given our limited experiences.' Plato explained the relationship between knowledge and experience in the *Meno* dialogue. He also asked how is it possible to know something which we have never learned before? Plato believes that we are born with some innate knowledge and it is prior to any knowledge which we gain through our experience. This innate knowledge is also important in the context of

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[1]Alanen , 1992, p.19-34

language acquisition. We have some ideas in our mind before learning any language, and thought is private. Thought is an internal activity of the mind through these internal and as well as innate ideas. Thought expressed through our speaking language. Socrates said in *Meno* that there is no such thing as teaching. It is all about recollection of knowledge from our past lives. One possesses a priori knowledge. This can be derived from the belief of Socrates that the soul existed in the past life and the knowledge of past life transfers to present life. One has a wealth of knowledge before gaining any experience. Thought presupposes this knowledge. Thought is internal and the use of language is external. Both presuppose the a priori knowledge. According to Plato thought represents things. Without belief thought is not possible.[2]

In contemporary time Piaget says that speaking is a function of thinking. He says that language is determined by the developmental stages of the child's 'nonverbal logical structures'. A child has the ability to translate his reality into the symbolic proposition by this structure. Piaget mentions three stages of cognitive (logical) development.

1. Sensory motor stage : from birth to two years
2. Concrete operations stage : two years to eleven years
3. Formal operations stage: eleven years to fifteen years

Piaget explains how thought comes before language and how going through these three developmental stages a child adopts a language to express its thoughts. In the sensorimotor stage thought is directly related to reality. At this stage the child starts to learn how reality becomes physically structured. But a very limited portion of its experienced reality gets encoded in the word of a language at this stage. Moreover up to the age of two years logical abilities of a child are purely inductive. A child in the early phases of this stage has sensory thinking: for example when it wants food then its mouth opens by itself. This sensor motor thinking is more about sense organ and motor organ dependent thinking as distinguished from cerebral thinking.

In the concrete operational stage a child can translate reality to proposition. Most of the propositions reflect that portion of reality which is given in the child's immediate time and space. About the age of eight years the child's logical ability includes hypothetical reasoning. The whole thought process of the child is determined by given objects and given things. With

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[2] Wald, 1975, p. 51-60

the development of thought process the child becomes able to think about the things which are very similar or related to given things. The early phase of this stage the child thinks that the world is egocentric and everything will be as he thinks the things to be. In this stage the child also thinks that all the objects of the world are animated. Response patterns of the child are the same as the response pattern of their parents. This type of thinking is a rudimentary thought type with minimum linguistic concern. No concept of self is created at the early stage of this stage but in the later stage the concept of self will be developed.

 The final stage is the formal operational stage. In this stage the child can think deductively. They can think about propositions directly without being determined by the limits of time space. Also at this stage a child can deal with abstract thinking. All these stages have their roots in the sensorimotor period. Language is also developed through these non-visible logical developmental stages.[3]

Sinclair – de – Zwart (1969) tries to experimentally substantiate this point that language presupposes thought. He studies the relationship between language and thought on the basis of a child's verbal capacities of comparatives. He presents two different kinds of pencil. One is long and thin and the other pencil is short and wide. He asks children of the same age group what the difference between two pencils is. They all gave the same answer. However as regards the choice of words they differ. Some of the children used comparatives such as thicker, longer, and wider. But 90% of the children used absolute terms like thick, big, long. But, all the children understood the task correctly and gave the correct answer. There is no difference in thinking but there is a difference in the use of language. From this experiment Sinclair concludes that thinking dictates or precedes the use of language.

Slobin (1970) describes the development of language. Slobin says that a child is equipped with a general structure and function of language. The child has a preliminary internal structure to assimilate linguistic and non-linguistic inputs. Slobin would claim that the children understand the speech of others by the intentional activity of those speakers. He holds that the speech production rules are formed by speech perception strategies. With the development of age of the child the computation space and storage also increase in inner linguistic structure and as a result, according to Slobin, linguistic intention becomes understandable. The general principles of cognitive organization enable the child to recognize the complex internal structure. Slobin holds that these factors work as a prerequisite of

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[3] Trigg, 1979, p. 59-77

development of grammar. Language acquisition consists in expressing intentions in a given context. When a child learns language he attends to both speech and the context in which speech occurs. In Slobin's opinion, when a child listens to other speakers it tries to understand those speakers' intention. Whatever intention the child feels it tries to express the same. The linguistic and cognitive discovery procedure available to the child formulates the structure to relate linguistic and non-linguistic data and it enables it to know from intentions to utterance.

Another Piagetian Cromer (1968, pp- 218-219) nicely describes this process. Before the particular development of cognitive ability a child faces some very high frequency forms, structures and words and they failed to acquire these high frequency structures or words. A child is unable to produce perfect terms before a certain age. But after the child has developed his cognitive ability it uses the word frequently but before that cognitive development it uses those words in a limited particular way to refer or express new ideas. When the cognitive ability develops, children search actively to acquire new words/forms. The forms/words that the child has been exposed to for a long time become part of his language.

Another follower of Piaget Bruner (1964) says that thinking is an ability to process and integrate information and it makes foundation to language or symbolic representation.[4]

Now we will discuss the view of empiricist philosophers who hold that thought and language are simultaneous operations. We will start with Ryle. According to Ryle, thinking is not symbol manipulation. He says that words, phrases, and sentences are not symbols. Thinking is not any kind of occult inner process or use of inner language. One can start talking even without thinking. Ryle's claim is that thought is nothing but speech, or thinking is saying something to oneself. According to Ryle there is no such mental concept which is beyond public behavior or behavioral disposition. 'Thinking' refers to both belief and opinion. Ryle talks about theory and theorizing. Theory is 'products of pondering' that the thinking subject comes to possess. We can elaborate this point with an example. This process is done through natural language .A couple wants to bring a new carpet for their home. That's why they take measure of the floor, choose the appropriate color for the floor according to wall color, and select the design which is suitable for their house. When everything is done properly, they order a carpet. This is the product of the whole process. Another example is there are many

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[4] Trigg, 1979, p. 59-77

experiments that are done for cancer drugs but until the medicine for cancer is available, it is not a theory. Thinking is a journey which is solely made by achievements. Ryle compares thinking with a journey. There is a difference between thinking and thought. Thinking is about a person engaging with an action. And thought is the result of this action. In The Concept of Mind (1949), Ryle's position is that mental acts cannot be private. Thinking is an activity, which is a state of being prepared for a performance. Ryle thinks that mind is really just the intelligent behavior of the body. Ryle argued that the traditional view of the human mind is that it is an invisible ghostlike entity occupying a physical body. Ryle shows that it is possible to dispense with the language of mental life and translate the speech on the mind in terms of behavior. He ultimately relies on the ordinary language and he thinks that it is free from unnecessary jargon. [5]

J. B. Watson (1923) says that speaking is identical with thinking. In Watson's classical behaviorism production of language is the result of stimuli that produce formation of linguistic habits. Initially children always speak loudly about their problem solving strategy and their restrictions on speaking about those strategies. And it has nothing to do with introspection because introspection is too subjective. He rejects the idea of introspection. Only reliable material for scientific analysis is the observable facts of behavior. Here one question is important, is there any such process as thinking? This question is important because we cannot directly observe the process of thinking. The behaviorists do not answer such questions and are only able to make observations upon what subjects are doing under a given stimulating condition. Thought is a subdued vocal behavior. Thought is all about the behavior gained when we are conditioned.

In his behaviorism (1924) thinking is considered as an internal speech or sub vocal talking. Watson says thinking as an abbreviated form of speech which involves many body parts, acts implicitly. It is not specified by Watson whether thinking was imageless or not. He discussed that thinking is a form of implicit behavior, not an explicit behavior. It is to be noted that implicit unlearned behavior does not include thinking. Thinking is all about talking to oneself loudly. Children also talk to themselves loudly when they are trying to solve a problem. Even adults also whisper to themselves while thinking when they are trying to solve any problem. Implicit use of language is thought. Watson says mental activity is never observed by anyone. In Watson's theory, the mind is eliminated. His theory is all about physical behaviorism and

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[5] Das, 2011, p. 206-207

it can be explained by stimulus response patterns. Language production is the result of stimuli that produce a formation of a habit.

In contemporary philosophy empiricist philosopher Whorf has an important place in the philosophy of language. In the Whorfian theory language influences thought. In the empiricist tradition we observe two views. One is thought cannot exist independent of language. Second is: we cannot separate language from social interaction, so in the different cultures, we notice different thought patterns. Thought is determined by the language structure of the cultural community. Without language we would be thoughtless or mindless. Whorf's claim is that we cannot understand a concept without associating them with a language. And different language users think differently. According to Whorf (1956) words and the syntactic structure of a language are determined by how the speaker perceives the world. Language influences one's experience, emotion and thought before his realization. If some words are absent in some language then the speaker of that language is unaware of those objects which are represented by the words. For example, one language has no use of the term 'I' or 'we' and experiment shows that the speakers of this particular language do not develop the sense of 'community' or 'feeling'. Let us take another example. In English there are two different words for blue and green. But in Zuni there is only one word for both the colour blue and green. On the other hand in English only one word is used for snow but Eskimo have many. And in the English language there is discrimination between cold, snow, ice. There are many more such examples. Now the question is whether a linguistic culture really determines how a speaker would think? As per Whorfian hypothesis once structure of language determines how he perceives the world. It directly implies that language determines or influences one's thought.[6]

There are different psychological studies on this issue. Lenneberg and Roberts (1956) have a study which proposes an answer to this question. According to this study, just because there is no word in a language for any particular concept does not imply that thinking is not possible with the help of those concepts. But when a speaker has words lacking in his language for any concept then he must have difficulty recalling such concepts because he is less efficient at coding and storing. This finding observes a weak version of Whorf's strong determinate hypothesis. That is language predisposes rather than determines how a speaker thinks about the world. Even if there is no language in any suitable situation, only predisposal

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[6] Trigg, 1979, p. 59-77

and reinforcement will be required. For example if anyone tells someone to explain what white colour means, then he understands what white means. Without using any language by the appropriate predisposition one can learn to differentiate things. Reinforcement is a kind of learning which does not require any language. So, the capacity for thinking will increase without any proper use of language but the predisposition of any language is necessary for thinking. Whorf mentioned that thinking consists of syntax or word arrangement. But from this weak version it can be said that if language does not dictate thinking then also it predisposes one to focus on a different relationship with reality. There is a tendency to think in terms of language, but that does not mean that there are certain types of thinking about reality in terms of the language. It may be possible to think without the use of words.[7]

Fodor offers us a third option. Language (in a special sense) comes before thought or rather thought is self-communicated before thought becomes thought ready to find 'expression in a natural language'. Indeed, according to him, thoughts must be 'thought about' before it may be called thought proper. This is, of course, no mere tautology. This is, so far as Fodor is concerned, a genuine possibility. We have no difficulty understanding communication of thought between two persons. But Fodor claims that any thought must be understood "before" it is communicated. Now, if so, how is, after all, thought understood, unless some sort of internal communication precedes external communication? And, how, after all, communication is possible without a medium? This medium of internal communication in which, according to Jerry Fodor, thoughts are couched is the Language of Thought. The language of thought is a 'language' in the sense that it has a number of structural similarities with the natural languages. But, at the same time, it is also distinct from a natural language as far as its fundamental cognitive operation is concerned.

The Language of Thought does not communicate 'thoughts already in complete formation'. Basically, it does not communicate (here the term 'communication' is used in the ordinary sense, that is, it is taken to be communication with others) anything at all; it 'represents and computes' a situation for the mind to understand it. It is important to note here that while developing the 3rd position Fodor uses the notion of thought to include both conscious and unconscious thought. Analysis of language, according to Fodor, reveals language to be guided by structures that are but thought patterns. Therefore, in Fodor's view instead of separating thought from language we may consider them to be part of a single system.

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[7] Trigg, 1979, p. 59-77

It is important to understand that language of thought is a concept of more philosophical possibilities than a well defined concept itself as it is not empirically verified. In his own words, the language of thought is no more than a 'speculation', empiricist philosophers Ryle and Wittgenstein completely oppose this view with their strong arguments in favor of the commonsense concept of language. But, from the 1970s onwards, some philosophers began to raise a number of questions. Not only did they raise some significant questions but also suggested that such questions being adequately answered had the potential to change the very concept of language itself. Chomsky is one of them, and Fodor has borrowed many of his arguments from Chomsky's observation that grammar is universal.

But, what Chomsky has to say, or Fodor has to say about language cannot be appreciated unless we have a clear idea about what these two philosophers are trying to counter in their philosophy. To be precise, to understand Jerry Fodor, it is necessary that we understand the letter Wittgenstein because it is the letter Wittgenstein whom Jerry Fodor is trying to prove misleading in his writing. So, before dealing with the language of thought hypothesis, we must understand Wittgenstein's concept of language. Then, once we are done with Wittgenstein's empirical concept of language, it is easier for us to figure out the inconsistencies in it and the loopholes; Though before Wittgenstein many philosophers did investigations about language Wittgenstein stands out as being most convincing, partly because his arguments appeal rather strongly to commonsense and partly because he almost 'invented' an altogether different explanation so far as human language is concerned. This created an aroma which eluded not only philosophers of his time including Russell but also himself. And, consequently, the loopholes of his philosophy remained undiscovered for an unreasonably long time. But what did he say that was so interesting after all?

The point Wittgenstein wants to emphasize regarding language consists in the notion of linguistic uses, by which he intends to understand nothing more than 'use of words' and these uses cannot be described by a single comprehensive formula. One single word has many possible uses which upon being critically analyzed reveal how its meaning is conditioned by its use. So he rather hastily concluded that understanding the meaning of a word is 'not a mental process' but 'social behavior. According to him, language does not consist of 'names'; when we use a name of any object in our language that does not mean we mean the name only. The understanding of a name depends on the situation when we use the name. For example, when a labor makes a house and produces the word 'brick' that means he asks for bricks. Here 'brick' does not mean only the name of brick. Understanding a word is all about

understanding how it is used in a particular situation. According to Wittgenstein there is no place for private language. There is nothing different about thinking than using language. There is no such separate thing or mechanism as thought.

This is of course, not an elaborate account of Wittgenstein's philosophy. This is indeed, only a partial view, though it sufficiently clarifies one point, namely language is all about words and their usage. Wittgenstein is not ready to consider language as anything beyond words and their usage. His view is very clear. Usage attaches certain meaning to sounds as such sounds become meaningful words by human convention and such meaningful sounds or words remain meaningful in a particular sense unless and until such words are used in a different sense approved by human convention. This very philosophical approach of Wittgenstein availed wonderful benefits. One of them was that it did not require him to define his own subject, because when a philosopher believed nothing can be analytically defined without creating confusion and misleading philosophy, it is but apparent that he will not bother to define his own subject of investigation, including the term he uses. No wonder, Wittgenstein did not define thought. But, though apparently applying solutions to philosophical problems, Wittgenstein fails to answer a number of questions.

One such question, which was raised by the Fodorian, relates to linguistic purposes. The question is: why do we, after all, need a language? Wittgenstein himself admits that language is a vehicle of expression. But, what do we after all express? Evidently, following his line of thought, we express thoughts. But, then, are thoughts just meaningless emotions? Thoughts must have meaning and according to Wittgenstein, such meaning is derived from use of words. But, if we consider a situation in which neither a word nor its specific designated use is present, we wonder how communication is possible in such a situation (for instance, the case of Preverbal child and animal's communication). The fact is that communication is quite possible in such a situation, and what is communicated in such a situation, evidently and understandably following Wittgenstein philosophy, cannot be the meaning of something derived from usage. Then as per Fodorians what is this meaning all about?

Is this meaning, then not about understanding a situation or circumstance by psychological reasoning? This is where Wittgenstein and his philosophy goes against the views of Jerry Fodor and also Noam Chomsky from whom Fodor derived many of his arguments. According to Fodor, if it is thought, it has to be meaningful, and usage cannot be the only possible source of meaning. Fodor would claim that Wittgenstein fails to understand that

understanding a word, being understanding its rules, is also about understanding a given situation psychologically represented as a mental state. In simple words every experience has a parallel mental state in order to be an experience for understanding. So what we understand is a mental state caused by an experience, and, unless, therefore, an experience is psychologically represented as a mental state, understanding by mere usage is impractical and beyond comprehension.

The cardinal question, therefore, which Wittgenstein should have an answer and which all of them avoid to an extent is: are thoughts linguistic in nature?

Even conventional linguistics claims that certain ideas must be put together for the language to start. But we know that such ideas with which a language starts must be arranged in a particular order to achieve the purpose of communication. Now what are these rules that are required for this order? Or, are these the rules that construct a language? Apparently, these are linguistic rules because we find them in a language. Then do these rules come before or after the birth of language? If we believe that language and thought both follow a common sequence then we have to admit that the same rules operate in between language and thought, and if we have to say that they are linguistic in any possible sense, we can only say that they are linguistic being an intermediary between abstract concepts and their concrete expressions in language. So, according to Fodor without such rules being already in existence, we would not be able to arrange the ideas to achieve the purpose of communication.

These rules, when they are applied to concepts, for a certain linguistic arrangement in a natural language, the purpose is external communication. According to Fodor, when these rules are applied for necessary modification of materials that constitute thought, the purpose is internal communication. In short, whether the purpose is external communication or internal communication, these rules are indispensable. Of course, the behaviorists do not accept that such internal communication is at all possible, because gross commonsense does not approve of the possibility of the communicator and the person communicated to be the same person. But if we accept such a gross commonsensical point of view to understand mental operations, in Fodor's opinion it would be a mistake. Fodor has pointed to animal behavior to substantiate the point. There are, in fact, a hundred instances to be found in daily life indicating that thoughts are being thoughts even without linguistic expression. For example, while one is engrossed in thought, it is an absurdity to believe that one is equally engrossed in a linguistic process involving natural language. In other words, it is not that we

translate our thoughts into some sort of linguistic expression in order to convince ourselves that we are thinking. So, a person who is deaf and dumb can think, and no one can reasonably say that he is thinking linguistically (natural language), for the simple reason that linguistics itself is beyond his imagination.

After this point, therefore, apparently it is clear that thoughts can exist without deliberate use of language. But the problem is that besides believing that thoughts do not require a language to be thoughts, we also believe that language is a vehicle of thought, which is questionable, because if thoughts are nonlinguistic by nature, it is next to impossible that language should convey, communicate, and become a vehicle of such completely nonlinguistic abstractions. This primarily gives birth to the philosophical doubt that most probably thoughts are arranged just in the way ideas are usually found arranged in a sentence. And, if so, thought as a process must be as much linguistic as language itself: hence the possibility of some sort of a language being constantly in operation to produce thoughts that find themselves expressed in a natural language. So, in a gross way of analysis we have two languages: one for internal communication and the other for external communication. Common sense view is correct as far as it observes that the rules of linguistic expressions are subject to conventions that depend on contextuality. But then what are the rules of internal communication subject to? Evidently contextuality cannot determine the rules for a language which is itself beyond all contextuality being universal in nature. Indeed, there cannot be any such rules that are subject to change and modification because of situational variations. Then, if such rules do exist they can only exist by virtue of being in themselves invariables of their own kind. So, the mind remains outside of influence of all contextuality, hence any rules or set of rules for thought to govern thought process must be innate.

It is to be noted here that Fodor's Language of Thought is nothing innate in the Platonic sense. But, in what precise sense then, is it innate? Fodor seems to argue that it is innate in the sense that it is beyond contextuality being so 'intimately personal or private'. It is a 'rule unto itself' – a sovereign mechanism of the mind outside all external influences. There are, Fodor argues, systematic connections among the ideas an individual can entertain. For example, if you can entertain the idea that x is y, then you can also entertain the idea that y is x: Systematicity looks like a crucial property of human thought and so demands a principled explanation.

The representational states and processes that figure in high-level cognition have certain fundamental properties: thought is productive and systematic; inferential thinking is systematic. The states and processes have these properties as a matter of nomic necessity: in short, it is a psychological law that they have these properties.

According to the Fodorians, if the Language of Thought has to be innate, it can only be innate in the sense that the fundamentals of cognition, called propositional contents otherwise, are innate. Thoughts, according to the Language of Thought Hypothesis, can only relate to thoughts, thoughts being in reality a series of interconnected mental contents. While it is argued to oppose Fodor that whoever speaks in English thinks in English, the Fodorians will claim that we cannot altogether deny the possibility that complex thought is present even in those who do not possess a public language (e.g. babies, aphasics, and even higher-order primates), and therefore according to Fodor some form of mentalese must be innate.

Now, though in Fodor' point of view it is no more than just an assumption, the claim here is that thought, as a process, both at psychological and cognitive level, is independent of the natural languages which we assume to communicate thoughts. In other words, thought as a process may well operate even without a natural linguistic medium to communicate.

Of course, it is not an unjustified observation that thought once communicated appears to be more organized than thoughts we experience being consciously a part of introspective analysis, but such may be an illusion, particularly in the light of the observation that such conscious thoughts, whether or not they have been communicated, already bear linguistic properties of the language of the individual consent.

Let us try to understand the nature of conscious thoughts a little more in detail, so that it becomes clear that Fodor is not at all dealing with them. First of all, it is necessary to understand that as anything that may be thought about may communicate, anything that may be communicated may also be thought about without actual communication. In both the cases, whether it is thinking or communication, the activity is linguistic in nature, because, in both the cases, we are using sentences. For example, if I can say 'this is a beautiful morning'. I can also think this is a beautiful morning, and in both the cases I am using propositions, and, therefore, in both the cases, I am 'linguistic' but only in the conventional sense. Basically whenever I am saying something to myself, knowing that I am doing so, I am not really thinking', and it is, as already pointed out, as much 'external' as when I am saying it to

somebody else. In short, my thoughts are not only propositional in nature but propositions themselves.

This eliminates one of the strongest objections against Jerry Fodor that thoughts may be internally communicated by means of a natural language. No they are not thoughts in the Fodorian sense. They are sentences, conventionally and linguistically constructed, ready to be written or spoken. Two individuals who speak two different natural languages may express a single common idea differently. This, however, does not mean that they are thinking differently, suggesting that 'thinking may be done in a natural language' only when the mind is entertaining thoughts already organised into propositions.

But Fodor is not at all dealing with such so-called thoughts. Rather, he is dealing with such thoughts as requiring a medium to be communicated to the mind for interpretation enabling understanding leading to actions. This actually takes place entirely at the cognitive level [brain states], and, understandably this is the same for both humans and the animals. This medium is called language of thought. Here, at this cognitive level, we do not have natural language sentences but only language of thought or mentalese – one state of mind maturing into another and thereby framing a change of abstractions producing understanding.

Moreover, whatever has been stated above in order to logically countered the argument furnished by philosophers who mentioned that thoughts may occur in natural language, as also to defended by Jerry Fodor in his exposition of language of thought, is apparently in vehement contradiction with Fodor's own point of view that the natural languages spring from the language of thought. But, as just stated, this is only an apparent contradiction borne out of complete misunderstanding. Fodor's points out that any natural language, whether English or French, has constructional peculiarities indicating that they have a root somewhere at the cognitive level.

Fodor tells us,

"We want to make room for the possibility that there is some sense in which you can use one part of a language to learn other parts, and we want to make room for the possibility that there is some sense in which having a language might permit the thinking of thoughts one could not otherwise entertain."[8]

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[8] Fodor, 1975, p. 84

Fodor further claims that certain structural similarities between languages which cannot be explained or accounted for without assuming that such similarity follows from a cognitive arrangement almost linguistic both in nature and operations. While it is true that every language has its own structural peculiarities, it is also observed that some such peculiarities or characteristics are found common in all natural languages, suggesting that these peculiarities are more than simple linguistic characteristics and are such invariables that they can be reduced to atomic form in order to reach a point where contextuality is rendered completely irrelevant and where linguistic structures are but a rule governed system of interpretation independent of experience. Fodor argues that if there were no such internal code to operate as a system of interpretation, the natural languages of daily conversation would not share structural similarities so crucial to communication, hence we come to the conclusion that though the language of thought is distinct from the natural languages, the natural languages would have been impossible without the language of thought being already in operation.

It has been observed by many contemporary philosophers including Chomsky that thought is impossible without representation. These philosophers have also confirmed that every simple thought is basically a state of mind, and what we experience to be our thought is nothing but such states of mind arranged in a sequence. Now, while Fodor accepts the representational theory of mind, he takes one step farther and claims that the representative states of mind do require a medium for this representations to be communicated to the mind in the first place, and until and unless we accept the possibility that such representation is carried out through a linguistic medium, we cannot explain the process of thought formation satisfactorily to a reasonable mind.

In Wittgenstein's view, use of a word in a particular context can be meaningful by human convention about such use. He will explain understanding of meaning in terms of understanding of use. Fodor's opinion is different from Wittgenstein. To discuss what does understanding consist of he proposes a different notion of understanding. According to Fodor, we need to first clarify what does it mean to 'understand' something? Understanding as a process depends on an innate faculty involving an innate mechanism which is called language of thought: there is a mechanism in the cognitive level and it is an internal mechanism. According to Fodor's view, any external situation can be understood only by psychological representation and the mechanism of the brain which makes this representation possible is called language of thought.

Fodor explains his mentalese with a machine analogy. A Machine has two languages: one is input- output language and the other is machine language. Machine only understands its own machine language, and others communicate with the machine through input- output language. For us the brain understands the stimulus through mentalese, and on the basis of this understanding we communicate with others, we exchange our thoughts to others through natural language (input- output language).

It is important to note that if basically language understanding is a psychological process, understanding and any communication can be possible even if words and their uses are not present. For example, in the case of photography and music, there is no use theory of words. So using theory and language (games) cannot always explain linguistic understanding. It can be possible according to Fodor by an innate mechanism. What would we communicate? We communicate our thoughts only. On the other hand thought is about psychological processes, to carry forward this process thought must be represented in the brain. This mental representation is possible because of language of thought. Fodor claims that if the brain, life, and consciousness exist then there must be a representational model, without this model it is impossible for the brain to understand mental activity (thought) in cognitive level. A medium is necessary to represent thoughts.

The philosophical position that a natural language will be treated as the language of thought is the direct outcome of the epistemic position that thought and expression are either identical or simultaneous psychological activities. Do we think before we speak or we think as we speak? This is the main question. The philosophers who believe the natural language of man to be his language of thought are convinced that thought and an expression occur together, and so if they have to accept the possibility that thoughts are communicated to the mind through a linguistic medium, they assume that it can be done only through a natural language. What they understand by Fodor's expression 'thinking about thought' is basically a rehearsal of thought. But as per supporters of mentalese rehearsal of thought and thinking about thought is not just two distinct phrases but two altogether different psychological activities. When I am telling myself that the earth is round I am simply repeating a well formed idea or thought either for the purpose of confirmation or vindication or conviction. This is, of course, not thinking about thought, not at least, in the sense in which Fodor has used the expression. This, at best, may be rehearsal of thoughts so far as such rehearsal does not reach up to the cognitive level. but thinking about thoughts, as the phrase goes, in Fodorian concept, is an entirely distinct concept: more than a psychological activity, thinking of thought is a

cognitive ability, and when an organism is involved in thinking about thought, it is considering thought presented to the mind as problems and trying to reach a possible solution from a number of options available to the mind. Therefore neither introspection and soliloquy nor even rehearsal of thought may be an adequate argument on the basis of which the language of thought hypothesis may be rejected.

On this point it may be held that if we admit language of thought hypothesis then the picture of the mind becomes very complicated because we would be required to admit that our thought is first encoded in an internal hidden language and then translated in natural language for the purpose of communication. To over complicate an issue cannot be our philosophical goal. This is to say that if something can be explained by our common experiences, unnecessary over complication does not lead to anything except confusions. To further clarify the point, systematicity and productivity which characterize thought (sophisticated thoughts) can be well explained by natural language, and if it is so, it is unnecessary to imagine an internal code for representation to carry out at the cognitive level. After all, all the syntactic structures that we find in human thought are the same syntactical structure which we find in a natural language. Therefore, it is useless to speculate how thoughts are represented to the mind, particularly when we know that structures both at the linguistic and cognitive level are basically the same.

According to Fodorians only because we can explain systematicity and productivity by a natural language, it does not follow that the whole representational model is a fiction, and as long as the representational model stands, a question remains how such representation is carried out at the cognitive level. The animals and the preverbal children do not enjoy the benefits of a well formed vocabulary. Then how do they communicate? Their communication indicates clearly that they have atomic expression identical with representations of the concern though at the cognitive level. Naturally, what atomic expression indicates their psychological counterpart at the cognitive level, cannot be explained by the use of the natural languages, either practice or convention because neither preverbal children nor animals are subject to such conventional practices.

At times it may appear that the whole of the representational and computational model with the possibility of a mental language included is in itself such a complicated design that its execution at the cognitive level must be consuming much longer a time than an organism is allowed for its responses or reactions. According to Fodorians this is however a baseless

apprehension because as long as we accept that some representational mechanism is at work at the cognitive level, that such representational mechanism whether true mental language or natural language must be consuming the same amount of time. There is no doubt that Fodor is offering us a very complicated cognitive design. But there is no reason to apprehend that because the design is complicated, its execution must be time taking.

Fodor, a supporter of mentalese, acknowledges the role of natural language in shaping our world view.

"...I am not committed to asserting that an articulate organism has no cognitive advantage over an inarticulate one. Nor, for that matter, is there any need to deny the Whorfian point that the kinds of concepts one has may be profoundly determined by the character of the natural language that one speaks".[9]

This is a good way to showcase the importance of natural language. But for Fodor's theories to hold, the natural language concepts need to be translated to mentalese to get integrated in one's thoughts.

Arguing in favor of natural language some philosophers hold that thoughts enjoy a strong possibility of being represented in a natural language because we are sometimes intuitively aware of such processes being consciously carried out, in natural language. Hence it is pointless to assume that such processes basically reflect a deeper mental operation parallel to it at some cognitive level. In short, the argument here is that if a natural language can be used to represent thought to the conscious mind, a parallel representation to the unconscious mind becomes logically unnecessary: hence the language of thought hypothesis fails to stand the test of reasons. This criticism, however, is basically a result of misunderstanding Fodor. Fodor does not say that thoughts cannot recur in a natural language. His point is that thought occurs in the language of thought. The occurrence of thought is an assumption whereas the recurrence of thought is an intuitively verified experience. The two are completely different. The philosophers who fail to distinguish between occurrence and recurrence of thought fail to see that I can only tell myself of an idea that has been already represented to the mind and only thoughts so represented to the mind can find expressions in natural languages. So all that I tell myself in a natural language is not thought but a reminder to the mind for the purpose of conviction. When I tell myself that 'my mother is a good woman'. I may be using a natural

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[9] Fodor, 1975, p. 85

language. But such self communication is not representation. All that I can tell myself is all that I already know. But how do I know all that I tell myself? That is the question Fodor is asking. If I have to know, I have to think, if I have to think; thoughts have to be represented for the mind to understand them, and because we find thoughts to bear structures similar to linguistic structures, it is very safe to assume that the representation of thought to the mind must have been a similar linguistic process.

It is an important objection against Fodor that locating mentalese itself or its implementation in the brain is seemingly impossible. Moreover, the very occurrence of this system-wide, innate operational language of thought via the evolution of the brain remains untraceable. But surely, as per Fodorians, it's worthy to believe in Fodor's claim that thought features are well-explained considering thinking as sentence manipulation. Inference and reasoning evolve into thinking, a creative, systematic and productive process. Possible alternatives such as map or image representations don't contain these features and might lead to a non-creative and inflexible mind.

Now we will move towards the main discussion of language of thought hypothesis introduced by Jerry Fodor:

According to the language of thought hypothesis, when a person has a thought like 'sky is blue', the content is illustrated by the mind through a sentence. However, Jerry Fodor (1975) suggests that this sentence is an innate language of thought and completely different from the natural language sentences like English or Bengali. This innate language is mentalese, which comes with an important feature- we are born with this and don't learn it through experience)[10]. Furthermore, mentalese underlies our thought process and has similar structure like natural languages, designed by certain rules of syntax. These rules determine the formation of sentences rendering a semantic (or meaningful) content. The language of thought hypothesis provides an analogy between thought and computation. Similar to the digital computational process, construction and manipulation of mentalese sentences lead to higher cognitive functions. This operates in the same way as inputs from the outside world to a (video camera) computer which transform into strings of symbols that represent input data. These symbols collectively form the computer's internal language and get structured to convey specific meanings. Fodor's hypothesis states that the mind acts in the same way. Inputs acquired from the environment are converted into mentalese symbols that can be

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[10] Fodor, 1975, p. 70

structured by the processes of the brain. These structures and the manipulations thereafter are governed by a set of rules. Thus, the content of 'sky is blue' is acquired by the brain in the form of a string of mentalese symbols, or simply put, a mentalese sentence. The basic symbols here act as the words of the natural language sentence where the meanings remain unaltered.[11] Hence the symbol that stands for 'sky' will always represent sky only. The computer language symbols work according to physical on/off switches. In the case of mentalese, the brain has far more complicated functional systems. Discovering the brain's symbol system is thus not an easy task. But, as Fodor adds, it cannot be denied that the (one point is certain – the brain must contain or instantiate a symbol system.

"There must be mental symbols because ... only symbols have syntax, and ...the only available theory of mental processes ... needs the picture of the mind as a syntax-driven machine".[12]

According to Fodor, symbol manipulation based on a set of distinct rules depicts a rational mental life perfectly. Alternatives like associationism fail to explain our reasoning capacities. It is basically a habitual system and not governed by rules. It represents our thoughts in terms of association with other thoughts or external factors. In an associationist way, my decision to drink coffee can be a result of seeing a picture of a cold place reminiscent of coffee. Fodor doesn't negate this concept but feels that thoughts are often more reasoned. Purely associative thinking can lead to impulsive actions instead. Each thought might be associated with multiple other thoughts but would seem disorganized unless it is structured by certain rules. Considering that the mind functions through transformation of symbols helps us explain the process of reasoning. As per Fodor, shapes of mental symbols fit into mechanisms that are sensitive to those shapes. These specific mechanisms are responsible for the possible manipulations of these strings of symbols (or sentences) that would rely on other mechanisms. Fodor suggests that my decision to drink coffee might be a result of being thirsty, having several coffees earlier and the decision to not fall sick. Logical reasoning is the key point here. Here the symbols included in mentalese sentences are possibly instantiated in the states of neurons and neural pathways that exist in the brain. If mentalese exists, we can expect future cognitive scientists to analyze how the basic symbols or words that form mentalese sentences are implemented in the neural circuit of the brain. We have

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[11] Braddon-Mitchell & Jackson, 1990, p. 164

[12] Fodor, 1990, p. 23

stated before that mentalese sentences should be formed based on certain rules. Thus, they must have a syntactic structure that determines how the words should be combined to arrive at a grammatically correct sentence. How mentalese words look like is an unknown concept but the importance of having syntax is understandable, as it is in the case of natural language sentences. For instance, while the English sentence 'The flower is red and beautiful' is correct, the rearrangement 'beautiful and flower that was red' is not rightly structured. But not just syntax, mentalese sentences must also have a semantic content, like natural language sentences. Look at the following English sentences-

The man was tall and dark. And
The smell was tall and dark.

Both the sentences are structured by the same rules. But are they both meaningful? No, the second one is not. Thus, despite having identical syntactic structure, only the first sentence offers a semantic content. This happened because the words of the second sentence didn't cater to its context. The use of the word 'smell' made the sentence meaningless. Thus, both the syntax and semantic content are important, where the sentence gets the content from not only the meanings of the words used but the syntax used to connect them.[13] Now consider the sentences:

'Robert loves both his car and Geny.'
'Geny loves both Robart and his car.'

In spite of having the same words, the two sentences convey different meanings. This is created by the different combinations of the same words. This particular feature of sentences is termed systematicity of language by Fodor. Generally, if one understands the sentence, 'a loves b', he will also understand the sentence 'b loves a'. Both the sentences are meaningful, even after the rearrangement. Another feature of language of thought is productivity. As Fodor states, new sentences with different meanings can be created by simply adding another word to a sentence, as per a syntactic rule. Thus, given the finite sets of English words and English syntactic rules, an infinite number of meaningful sentences can be created. For example, from the sentence 'I think that Robert loves both Geny and his car', I can arrive at the sentence: 'John knows that I think that Robert loves both Geny and his car.' I can further reach at 'Nobody cares that John knows that I Think that Robert loves both Geny and his car'

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[13] Crane, 1995, p. 139

and so on. Any number of sentences can therefore be generated and understandable as long as they are constituted of words from the language being used and are structured on the basis of syntactical rules of the same language. The apparent way in which thought evolves through reasoning can be hence explained by postulating the existence of a language of thought. Consider an inference about Covid 19:

If covid existed then a vaccine was required.
Covid exists.
Therefore, a vaccine was required.

According to Fodor, many of our thoughts evolved from this kind of systematic and logical reasoning. He compares the process to the inferences that happen within computational devices.[14] Here the idea is that a formal rule is applied to the symbols included in the first two sentences to arrive at the third one. This particular rule is a part of logic and takes the form:

If P, then Q.
P.
Therefore: Q.

The language of thought theorists believe that thought processes are best explained by this logical structure. Moreover, the successful employment of this process in digital computers is evidence of its workability. The language of thought theories does explain the reasoning within the thought process. The productive and systematic nature of human thought can also be explained by supposing that thinking occurs through operations upon sentential structures. We will therefore explain the thesis, focusing into three major areas.

First, it'll be shown that human thinking requires a language of thought. Consequently, how Fodor assumed this language as innate and hidden will be highlighted. The nature of mentalese and the basic arguments behind its linguistic representation will be briefly introduced too. Moreover, we will attempt to distinguish the language of thought from the natural language, which obviously is an important aspect of mentalese theories.

The next part of the thesis will elaborate on evidence of the claim that mentalese is the operational linguistic model, highlighting the ones resulting from psychological research, whereas the third part will deal with the criticisms of the concept of mentalese. The final

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[14] Fodor, 1990, p. 22

portion of the thesis will examine the major arguments against the natural language being the language of thought. Here, the target is to establish that those arguments don't entail mentalese to be a well-formed language; neither do they trace any similarity between language of thought and natural language. The thesis will end in explaining mentalese as the language of thought, providing answers to the arguments.

The thesis won't target to refute the existence of natural language as our language of thought. Rather the goal is to prove that the mentalese is more suited as the language of thought. The conclusion will align with the significant explanations of both mentalese and the natural language and provide the logical choice. But natural language supporters think that mentalese is indeed difficult to trace and requires the brain to expend a significant amount of resources to support its existence and that of natural language. Both the languages offer the same level of explanatory power, thereby making it easier to mark natural language as the language of thought. But we will see at the end of this research that Fodor's language of thought hypothesis is more reasonable from all sides.

To cut a long story short, therefore, understanding as a process is all about coming into terms with a particular or a series of particular inter connected states of mind. This is the position held by not only Chomsky and Jerry Fodor but also by some eminent psychologists of our time including Murphy. Fodor's characteristically unique question is: how do we, or for that matter any organism, come to terms with its own state of mind? Jerry Fodor maintains that it is done through a process similar to linguistic operations. So, according to him, it is a language, and in it are couched all our thoughts. The difference between a natural language and the language of thought does come out clear. A natural language is the vehicle of expression and the language of thought is the vehicle of thought. But it is not yet understood why Fodor claims that it is a language. After all, every process similar to psychological operation is not required to be a language. In the present thesis this is one of the vital questions that have been dealt with for an authentic answer. Questions concerning certain duality of thought, infinite regress argument, objections from supporters of evolution and pure science have also been given due attention. The cardinal point, however, as always being Jerry Fodor and his exposition on language of thought, where as in the final chapter different views expressed in the instant research work have been synthesized in order to reach a reasonably logical conclusion regarding how much of Fodor's claim in favour of the language of thought can be accepted without objection.

Below is given a summary of each chapter dealing with a separate and distinct aspect of our enquiry:

In chapter 1, our aim is to explain the claim that thinking involves the manipulation of sentences that perfectly explains the distinct features of human thought. Manipulation of sentences is a lot more flexible, compared to other systems of representation. This chapter will also target introducing mentalese as the possible language of thought. Mentalese is an innate language that operates in the background and we are not consciously aware that it exists. The Language of thought is carried out at the cognitive level and the psychological operation involved in the process includes two specific operations: representations and computation. In Fodor's view representation becomes possible through computation. By computation Fodor understands the ability of the mind to analyze a situation and thereby represent it as a problem and seek out its solutions from a number of options similarly presented before the mind as possible solutions. In short, according to Fodor, thought becomes possible because it is computed, because there cannot be any representation without computation. Fodor's claim is that a natural language is distinct from the language of thought. A natural language, whether it is English or French, expresses or conveys certain ideas or thoughts. There is, however, a parallel linguistic operation at the cognitive level that represents such thoughts or ideas to the mind for mental understanding. Therefore, Fodor claims, the two, the natural language and the mentalese, share a number of structural similarities, giving rise to the assumption that the natural language in all probability is modeled after the language of thought. In the next section of this chapter we have discussed the main arguments of Jerry Fodor in favor of the language of thought including arguments from cognitive learning process, linguistic skill development of children, productivity, systematicity and last but not the least the question of animal language. By all such arguments, Fodor has sought to establish that the language of thought is a cognitive possibility which may be explored from our common observations of life and, most significantly, that no natural language would have been possible without a linguistic structure peculiar to the construction and operation of the mind.

And after that in chapter 2, we will discuss the nature of the language of thought. We will focus on the nature of concepts that form the primitive parts of language of thought. We will also try to find Fodor's answers to some very rudimentary questions, like, what does language express? Does it express thought? If it expresses thought, is thought different from other mental activities which, though not thought, are usually believed to constitute thought?

What does Fodor mean when he says that something is innate? Do we mean that it is simply inherent or that it is naturally and constitutionally present in the being?

In chapter 3, we will discuss the psychological evidence provided by Fodor in order to establish his theory and support his contention that the language of thought is a cognitive possibility. The cases in the presence of the evidence are all basically experiments conducted by contemporary psychologists and philosophers to indicate a representational model of mental operations. These experiments include the Broadbent-Treisman experiment, Garrett-Lackner models, and Experiment conducted by Mehler. However, in dealing with these experiments, for the purpose of our investigations, we have raised questions regarding the relevance of these experiments in the philosophy of Fodor and we will also try to see whether or not the representational model may be a logical prerequisite for the language of thought hypothesis. And we have been obliged to acknowledge that some sort of a representational model does operate at the cognitive level which is conducive to the process of thought formation.

In chapter 4, Fodor has tried to establish that the language of thought is not just a simple linguistic operation but a language in itself with a system of vocabulary peculiarly its own. Through reduction from a meaningful word to its atomic form, he has tried to show that the atomic ideas eventually arrived at as a cognitive representation that are so unique but they cannot be an innate representation. These innate representations, according to him, constitute a vocabulary on which the language of thought functions. However it has been observed by many critics of Fodorian theory that the vocabulary Fodor himself has used to establish the existence of the vocabulary of the language of thought is the English language, and, therefore, what he has eventually rediscovered is a natural language vocabulary, not the vocabulary of the language of thought. But as per Fodor's opinion it is not true. Fodor tells us how the vocabulary of mentalese is as important as the vocabulary of the natural language.

In chapter 5, we have tried to develop a critical estimation of Fodor's theory. There are strong criticisms against Jerry Fodor and his language of thought hypothesis. Some of the important arguments against Fodor have been dealt with here include private language arguments, regress argument, argument from language evolution, and argument against innateness, against the content of language of thought. Some of these arguments show that mentalese is not required and some of these arguments are designed to show that though language of thought hypothesis may well indicate certain linguistic operation at the cognitive level; such

hypothesis does not necessarily establish that the language of thought is a language in itself distinct from the natural languages. This will help moving on to the final chapter that would offer evidence to support natural language as the language of thought.

In the concluding chapter, the views of some contemporary philosophers, and particularly of Peter Curther (1996) and Smith (1995), have been discussed. These two philosophers have suggested the possibility that natural language may as well act as the language of thought so far as the process of thought formation as a cognitive activity is concerned, and, therefore, no innate language of thought as a distinct linguistic model is required. This chapter would include partially objection against Fodor and as well as also support in favour of Fodor. In other words, there's a debate between the two approaches of the language of thought theory. According to the first one, the best candidate for the language of thought is mentalese, an innate, hidden and behind-the-scenes language. The second line of theory claims that the language of thought for a person is his/her natural language of communication- i.e., English for English speakers, Hindi for the Hindi-speakers or Bengali for the Bengali speakers. Theorists like Jerry Fodor and Pinker (1975) argue in favour of mentalese. Pinker's (1944) claim is that thoughts are independent of natural language. In Pinker's view the human mind can't be fundamentally shaped by the natural language, whereas, according to the second view, thoughts are constructed from natural language sentences. Sapir and Benjamin Whorf believe in dependence of thoughts on natural language. They would claim that thoughts themselves are not feasible without natural language. There are enough cases of evidence of the involvement of natural language in thinking. Most of them arise from introspection and attempt to support the natural language of thought theory, though they are negated by mentalese theorists. Our introspection shows thinking is done in natural language that comes across as inner speech. Here mentalese supporters would claim that thought occurs only when the inner speech is translated to mentalese. Natural language theorists would be inclined to reject the mentalese theory on the ground that there is no point in admitting a complicated process of translation for explaining the understanding of thought when thinking occurs in natural language itself. This debate will be discussed in detail in the conclusion.

The next section of conclusion will focus on Pinker's argument in favour of the mentalese view where arguments will be presented to show that mentalese can explain certain thought phenomena, which stay unexplained by the natural language. Pinker will try to show that if we do not admit mentalese then thought cannot be explained and we will conclude this chapter with a positive note that in favour of mentalese view against natural language of

thought hypothesis. For instance, the tip-of-the-tongue situation is explained by mentalese supporters as a difficulty of translating a mentalese thought into natural language. Here, the feeling is like you know what you want to say, but lack the right words to express it. Here the thought is perfectly formed in something other than the natural language and hence leads to this particular sensation. As per the mentalese theorists, the tip-of-the-tongue phenomenon can be avoided altogether, if thinking is carried out in natural language. But there is a possibility that the mentalese theorists are wrong and such phenomena is explainable through natural language. It could be the case that the tip-of-the-tongue sensation is experienced when we simply fail to form a thought or figure out what exactly we want to say. Before we start the debate, it's important to understand well the differences between natural language and mentalese. Further we need to understand why a language is necessary for human thinking. This chapter will aim to provide clarity on these preliminary issues.

The final section of the conclusion will focus on the hypothesis that thoughts occurring in an inner language, or "mentalese", continues to gain acceptance in both philosophy and cognitive psychology. Following J. A. Fodor (1975), mentalese is often conceived as a language that, while closely related to natural languages in content, is distinct from all natural languages. We will clarify and critically examine the idea of a language of thought. We will argue-contra Fodor that it is plausible to suppose that spoken or natural languages are also responsible for those mental states that have complex, linguistic content.

CHAPTER 1

LANGUAGE OF THOUGHT HYPOTHESIS AND FODORIAN ARGUMENTS FOR THAT

What is language? A common answer is that language is a medium of expression. But what is language as a process or mechanism? This question, in order to be properly answered, demands that we look at it from structural points of view. The structure of any language, whether it is English or Bengali, is such that it invariably indicates a complex mechanism or process at work.

It is a complex mechanism though we are not aware of its complexity as long as we are not using the language. Someone says something, and we say something in reply, and so a conversation is initiated. It appears to be a simple process, but at the psychological level, it is more complex than we find it to be in our experience. An example may make the point clear. One single emotion, which is basically a state of mind, may find expression in language through a hundred different ways or types of sentences. It may be simple, complex, compound, superlative, comparative, and positive, affirmative, negative. But why? Is not one single sentence enough? What do these forms that contribute to the complexity of a sentence that can be used to make a statement suggest or point to?

Jerry Fodor's answer to the question is that they point to a process, and Jerry Fodor tells us that it is a computational and representational process. Representational theory of mind is a theory that explains the nature of mental contents, such as, concepts, ideas and a mediator between mind and object of the world. And according to the computational theory of mind, the human mind is an information processing system that is realized by neural activities in the brain. The representational theory of mind and computational theory of mind both require the mental states to be representational. A mental representation is a hypothetical internal cognitive symbol that represents external reality. Fodor also tells us that the theory of propositional attitudes plays an important role in mental representation. Mental representations have semantic properties. To believe in a proposition is to carry an appropriate relation to mental representation whose meaning is that proposition. For example, if a thinker believes that the mental representation of x is y, then that thinker believes y, and y means x. Each and every propositional attitude corresponds to a unique psychological relation with this proposition. From this analysis it can be said that mental representations are

direct objects of propositional attitudes. It is compatible with the view that propositional attitudes have a relation with propositions. A person who believes 'x means that y' that means, it is involving a relation between x and a proposition expressed by x. To put it clearly, x stands in a psychologically important relation to the proposition expressed by x. This is Fodor's approach that mental representation has a connection with propositions.[15] Mental representations are manifested by mental events. If you believe that 'cats are innocent' then your belief is a tokening of a mental representation whose meaning is that cats are innocent. According to Fodor, thought consists of a bunch of mental states and that occurs in mental representations. Thought processes are causal sequences of tokening of mental representations.

Now, it is to be noted that Jerry Fodor is basically trying to develop a whole "Representational Theory of Mind" and not just a language and he crafts his arguments accordingly. The point of issue, therefore, is that thought as a mental activity is a computational process which is defined over mental representations that are physically realized in the brain. Fodor believes that these mental representations are internally structured, much in the same manner as sentences in a natural language, where they have both syntax and a compositional semantics. In a way, then, Fodor is trying to explain that mental states have internal, constituent structures, and the content of mental states is determined by the content of their constituents and how those constituents are put together. And, he is also trying to indicate that a mind that is able to entertain a certain thought, is also capable of entertaining logical permutations of *the same idea*.

Here, let us first try to understand what a representational system is and also how Fodor understands it. We can begin with an observation that the world is not exactly as it is understood, there is a gap. When a child has a thought that the sun rises in the east, he is basically thinking a lie to utter throughout his life, because the sun really doesn't move. But 'the rising sun' and 'the setting sun', and 'the sun coming overhead'- such expressions fill our daily conversation because we actually believe in such possibilities, knowing them to be false. But why then do we believe in such possibilities knowing them to be false? A probable answer to this question is that we believe in such a possibility because of the way they are represented. Of course, here the representation occurs at a perceptual level. But Fodor says that such representation definitely occurs at a deeper psychological level also. Such

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[15] Fodor, 1987, p.17

psychological representation induces thought processes that eventually lead to actions. This is very similar to linguistic operation. How we understand a state of affairs is how it is stated (represented in a language). Similarly, how a situation is understood by the mind is how it is represented to it, and in both the cases we require a medium for such a representation to be made. In the former case, it is natural language, and in the latter case, it is the language of thought. According to Fodor, we have to accept that cognitive processes or operations come to a standstill unless some sort of a language supports the same.

Fodor tells us that natural language becomes possible because of an internal process that is computational or representational in nature. And, as Fodor himself holds, the theory of mental language is 'speculative psychology' because in the case of the domain of mind, many things about the activities of mind cannot be clearly explained through empirical study only. He writes:

"This book, in any event, is unabashedly an essay in speculative psychology. More specifically, it is an attempt to say how the mind works insofar as answers to the question emerge from recent empirical studies of language and cognition."[16]

In introducing mental language, Fodor's purpose is not to burden linguistics with another language, rather he is trying to formulate a theory about 'mechanism of thought', and in doing so he mentions a number of pieces of evidence which clearly show a process. This process, he finds, is similar to a process of computation and representation, resembling linguistic operations. Apparently, even for a common man, he puts on a number of bewildering questions which, though considered seriously by scientists and philosophers up to his own time. The questions are like does a preverbal child communicate? Now, if he does, does he have a language? If he has a language, is it a language he has learned or born with? If he is born with it, does it throw light upon linguistic operation at some deeper level? And if it does, then does it conform to a mechanism, which later on becomes his tool for language for skill development? Fodor, in his own words, wants to "provoke discussion on these points".[17] Fodor calls it an innate mechanism of thought or mental language; though he himself admits that it is not exactly language, but something that 'presupposes a language' as it shares 'a number of characteristic features of real language'. This language of thought has linguistic syntax and also semantic content like natural language.

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[16] Fodor, 1975, p. viii

[17] Fodor, 1975, p. ix

Fodor introduces the concept of internal mechanism to his theory of language, strongly drawing from innatism which he found particularly interesting in the speculative philosophy before him, and more particularly in the philosophy of Augustine. In modern times, Fodor finds Piaget to have understood the problem of internal mechanism or private language, though in a different way, and gave some valuable observations which Fodor quotes, explaining what the private language must be like "In exact proportion to the progress of intelligence in the direction of differentiation of schemata and their reciprocal assimilation, the universe proceeds from the integral and unconscious egocentrism of the beginning to an increasing solidification and objectification."[18] Although Fodor has used the term 'private language' he used it in the sense of language of thought, not in a conventional sense. Now, to understand Fodor's position, we will discuss Piaget's point of view, which Fodor himself has mentioned in his book *The Language of Thought*.

In Fodor's presentation of Piaget's view we find that Piaget says that development of intelligence, though a given observable fact, is not a simple process which can be explained only with reference to skill development by way of interaction between a child and its immediate environment. Piaget tells us that development of intelligence requires a number of adjustments between "the child's demands upon the environment and the environment's demands upon the child."[19] Fodor tells us that, ".. the function of intelligence is to affect an increasingly realistic Correspondence between the actions of the organism and the objective features of the world on which it acts."[20] But, how is such correspondence possible without a representational system? Seeking an answer to this question Fodor argues, every organism reacts to a situation, and when a situation may be an external stimulus, it may be in a way such as to cause numerous internal situations to be born, and these are the situations from which an organism selects one particular option or options to reach the desired end in the form of consequence. However, when he speaks of situations', he does not in any way try to indicate that such situations' are all practical situations' possible in real life, but that such situations' are all outputs of an organism finding themselves in a particular situation with a reference to their desired consequences. Fodor emphasizes the distinction between practical possibilities (to which an organism is exposed in real life) and psychological possibilities (idealized by the innate capacity of the representational system) because we shall fail to

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[18] Fodor, 1975, p. ix

[19] Fodor, 1975, p. 90

[20] Fodor, 1975, p. 91

understand the implications of his theory if we confuse between the two. A particular situation may be one, but, the responses of the mind, it may not be just more than one but infinite because of the infinite capacity of the representational system itself. It follows that the mind and brain both are understanding and responding only through a system of representation computed to it, as, otherwise, the brain has no way to access the environment. Then what does it all come to? Fodor tells us,

"This is not, of course, to argue that the practical possibilities are literally infinite. Just as there is a longest-sentence-that – anyone-can-utter, so there must be a most- complex-situation-that-anyone-can-act-upon. The infinite capacity of the representational system is thus an idealization, but it is not an arbitrary idealization. In both cases, the essential point is the organism's ability to deal with novel situations."[21]

A situation leads to an endless number of options, and we choose only one of them because we want our action to be fruitful in a particular way. This whole process is computational and representational, primarily because it follows a well defined model (operational pattern) but chiefly because it involves finding a solution to a problem - just in the way we try to find an answer to a question. Fodor holds that the expressions 'computational and representational' are more or less closely related.

$$\text{Stimulus} \longrightarrow \text{Number of Internal Situations} \longrightarrow \text{Action}$$
$$\Downarrow$$
$$\text{Computational Process}$$
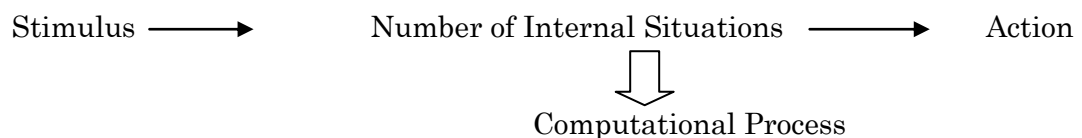
Fodor has discussed computational and representational processes to clarify his language of thought hypothesis. This language of thought is also called mentalese. It is to be noted at the very beginning that **language** and **language of thought** are separate fields of investigation. Of course, they have much in common and even they may be, Fodor tells us, causally connected, but they are not the same phenomenon. Mentalese, in the opinion of Fodor, is basically a topic of psychology, though, at the same time, it cannot be understood without a direct reference to language and language patterns.

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[21] Fodor, 1975, p. 31

Now, how is mental language constructed? Mental language is basically a mental process, because it involves a representational system of the mind. It is a hypothetical internal cognitive symbol that represents external reality. For example, when a person arrives at a certain belief that his car needs to be cleaned, the representational system of his mind forms a mental representation that represents the car and its state of cleanliness. It involves a situation in which one finds himself face to face with a number of options relating to his action appropriate in relation to his desired consequence. To be precise, once we are in a particular situation, we try to find out from an endless number of options the best action for us, and we do so by keeping in mind what precise consequences we want our actions to produce.

Here Fodor is telling us something completely different from the accepted idea of an action. What is an action? What we have been told so far by the behaviorist psychologists is that an external stimulus causes an organism to act. Of course, he does not deny the possibility that the external stimulus presents a situation for the organism to act, but he holds that the organism acts ultimately because of such a volition in which he is involved in a choice to decide which action will bring about his desired consequences. In a way, therefore, Fodor militates against the idea that environmental causes produce an action. Fodor says,

"What everyone knows, but the behaviorists methodology won't allow him to admit, is that at least some actions are choices from among a range of options contemplated by the agent. The behaviourist cannot admit this because he is committed to describing actions as the effects of environmental causes."[22]

This needs some clarification. After all, how are responses generated? Behaviorists tell us that responses are generated by environmental causes. There is a clear difference between behaviorist and cognitive scientist. Because, cognitive scientists on the other hand, wonder how such an action is possible by only an environmental cause unless it is computed or represented, and how computation is possible without a medium in which to compute. Fodor also tells us the same. But, unlike the cognitive scientists Fodor too did not restrict the notion of representation to explanation of action only accordingly he says,

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[22] Fodor, 1975, p. 33

"My point will be that not only considered action, but also learning and perception, must surely be viewed as based upon computational process; and once again, no computation without representation".[23]

In short, the behaviorists offer us a model of behavior in which the agent is exposed to the environment directly which interacts with itself to produce responses. Fodor contradicts them, and argues that it is not that a kind of stimulus gives rise to a kind of response. Rather, it is a matter of common observation that one single stimulus gives rise to an infinite number of responses, indicating the infinite capacity of the infinite system in which the stimulus is computed by the mind.

Fodor observed that the moment an organism finds itself in a situation which demands a response, it considers an infinite number of possible responses, and it chooses only one of them which ultimately turn out to be the real action. This leads Fodor to believe that the response of an organism does not only depend on the nature of the stimulus it is exposed to, but also on the question how the organism understands the stimulus. Therefore, according to Fodor there is no stereotypical causal relation between a stimulus and a response. Of course, the stimulus triggers the response, but the response is the final outcome of how the stimulus has been perceived and such perception has been represented to the organism.

Of course this may appear to be a simple mental process initiated for response settlement, but it is not so. How is response possible without a stimulus? And how is response settlement possible unless the stimulus is represented, that is a question. And how is representation possible without a medium? This medium is something Fodor finds similar to a language; the difference is only that this medium is more rich and diverse in its capacity as a language used for daily conversation.

Fodor, having established that an action cannot be produced only because of an external stimulus, proceeds further to outline what a thought may be in a very rudimental sense. This is, in fact, the point from which he begins to turn towards proposing or at least assuming some sort of a medium or language already in operation which has nothing to do with natural languages, it is a mental language.

Another important thing is that nowhere in his whole sketch of investigation does Fodor say that 'mental process' is a language in itself. What he really says is that he has found some

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[23] Fodor, 1975, p. 34

similarities between linguistic operation and cognitive operation, so much so that at some point they become almost connected. For us to understand the point better, we can put in front of us a very simple question. Do we think as we speak? And, if we speak as we think, thought and speech become so intricately associated that they invariably indicate a common platform on which both stand and perform.

So we see that Fodor is, directly or indirectly, suggesting that cognitive process is impossible without mental language. He says;

"It is, I take, an empirical question whether psychological processes are computational processes. But if they are, then what must go on in perception is that a description of the environment that is not couched in a vocabulary whose terms designate values of physical variables is somehow computed on the basis of a description that is couched in such a vocabulary. Presumably this is possible because the perceptual analysis of an event is determined not just by sensory information but also by such background knowledge as the organism brings to the task."[24]

Now, it is common scientific knowledge that sensory information is nothing more than neuro impulses generated because of an organism being exposed to a specific environmental condition which is external and may be called a stimulus. But, such sensory information in order to be 'understood' has to be perceived. The organism, performing the task of such perception, often brings into the task some background knowledge. This background knowledge may be some similar previous experiences but not always so, because the possibility of the organism being exposed to a stimulus never encountered in the past cannot be reasonably denied. Now, if this is the case, the perception will still take place, but the background knowledge will include something other than the experience. Fodor believes that the background knowledge helping perception in the present case is a type of innate capacity of the mind to represent and compute such sensory information to itself.

Though Fodor, does not tell us elaborately what thought is, but from the above observations it is apparent that if thought is to be at all understood as Fodor understands it, it is a basic operation of the mind that can be marked all the way from an organism finding himself in a given situation to his final choice of an action from the sea of options presented before him with a reference to what he wants his actions to produce.

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[24] Fodor,1975, p.47

Whether or not Fodor is willing to define thought, he is, one way or another, conceptualizing thought to support his argument, and we have no difficulty understanding that thought for him is an *unconscious process* by which an organism in a given situation determines its course of actions, with the desired consequence in view. Whether such a definition of thought is at all a fitting argument to support his own philosophy is something we shall consider later. For the time being at any rate it is sufficient for us to understand that Fodor believes thought to be couched in a language, very similar to natural language and yet distinct from them as it does not depend on experience but is a kind of propensity, and innate tendency peculiar to all organisms.

Thought is a computational process that has been known since long. Of course, 'computational' and 'representational' are two terms Jerry Fodor may be using for the first time. But they are age-old philosophical concerns. Kant discussed them at length. Kant, indeed, at least in some ways, appears to be a close kin of Jerry Fodor, because, apparently, Fodor is dealing with perception along the Kantian line. He believes perception to be a computational process. Much in the fashion of Kant, he accepts that an external stimulus is necessary to set an entire perceptual process in motion. But he differs with Kant on one point. Basically, here Fodor differs with all philosophers and scientists before him. How does the mind perceive? Fodor has a simple answer. Mind perceives through a language.

Let us first try to understand what Kant has to say regarding knowledge as a process. Kant says that there is at least some difference between what the world is and how it appears to the mind. It is because of this difference that most perfect knowledge about the world is never really possible. Whatever the mind perceives is an object of mental construct, implying that though there is a real world, the world which is an object of our immediate knowledge is totally a mental construction. To be precise, the world which we perceive is the world we construct mentally. The question is: how do we after all perceive? What is special there about perception which is capable of changing this reality into a mental construction? Kant mentions some forms of intuition and categories which he believes to be innately associated with the process of perception such as time, space, and causality and he claims that these are the forms and categories that basically change the reality in a way so that it becomes intelligible to the mind. If we can think a little deeper, we shall see that what Kant is indicating here is basically a computational process. Of course, it is not a computational process in the sense Fodor takes it to be. But whenever reality is believed to be changing, for the mind to understand, it involves computation, because if anything is computed, it is

presented or represented in a particular form and not otherwise. But Kant did not explain any kind of mechanism such as computational and representational process, and it is where we find Fodor. He does not clearly bother about concepts because he understands that there may be a hundred other ideas similar to concepts which do not really explain the process of thought formation. As we already mentioned His basic question is not what thought is, but how it is communicated to the unconscious mind, and he maintains that if thoughts are at all required to be communicated to the mind unconsciously, they cannot be communicated unless they are linguistically arranged. On analyzing natural languages and their structure Fodor understands that though it is commonly believed that language is the vehicle of thought, thought itself would not have been possible unless it were couched in some sort of a language different from natural language. Here lies the importance of Jerry Fodor. He is navigating into a direction which is philosophically unexplored till date.

Before we proceed on to consider the main argument to establish the possibilities of the language of thought of Fodor on the logical plane, we must pause to consider all that he has said so far and try to understand its contribution to contemporary philosophy, because, besides strongly insisting on the possibility of a private language being in operation, he has defined the language of thought and distinguished the same from speech.

The generally accepted idea of language is that language is something which we can speak by the use of natural language symbols. But Fodor tells us, language is something which helps us to understand our internal mental state too through the representational system. And our thought occurs in this representational system on an unconscious level and when that thought *expresses itself in a language*, we use natural symbols. Fodor explains his point with a reference to computers and how computers use language. Since Fodor explains the point with absolute clarity, I am quoting his exact expression:

"Real computers characteristically use at least two different languages: an input/output language in which they communicate with their environment and a machine language in which they talk to themselves (i.e., in which they run their computations). Compilers mediate between the two languages in effect by specifying biconditionals whose left-hand side is a formula in the input/output code and whose right-hand sight is a formula in the machine code."[25]

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[25] Fodor, 1975, p. 65

Fodor advances his view with the argument that machine language runs parallel with input-output language, and machine language is constructed in a way that is peculiar to the construction of the machine itself. These two languages, machine language and input-output language may appear to depend on one another; but they are distinct in nature, this is because machine language is a language the machine alone understands. Fodor says,

"My point is that, though the machine must have a compiler if it is to use the input/output language, it does not also need a compiler for the machine language. What avoids an infinite regress of compilers is the fact that the machine is built to use the machine language. Roughly the machine language differs from the input/output language in that its formulae correspond directly to computationally relevant physical states and operations of the machine: The physics of the machine thus guarantees that the sequence of states and operations it runs through in the course of its computations respect the semantic constraints on formula in its internal language."[26]

Fodor uses an elaborate argument to explain language of thought. One word can better explain and serve our purpose of understanding the language of thought that is constitutional. In other words, Fodor believes that an organism, if capable of deciding its own course of action from options presented by a particular situation, is "capable of thought operation". And because thought must be couched in some language before natural language acquisition, thought has a language which is distinct from natural languages. We understand that constitutional language is a very important point in contemporary philosophy. Here using the expression 'constitutional' in the sense we say that x, y or z has a very strong constitution, meaning a state of being. One contention of Fodor in support of his theory is that internal communication or language of thought is constitutional in the same sense that language of a machine is mechanical.

Fodor's point is that mechanical language is something which directly flows from what a machine is, whereas input/output language of a computer is the function of a software deliberately installed, as the computers understand the input/output language because of the machine language, a child understands a natural language because of the language of thought which he already possesses.

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[26] Fodor, 1975, p. 66

Fodor argues that when we understand something said in a natural language, we are simply translating it to what we understand in a private language. In his own words:

"On this view what happens when a person understands a sentence must be a translation process basically analogous to what happens when a machine 'understands' (viz., compiles) a sentence in its programming language."[27]

We can understand this particular (translation process) argument of machine analogy in a comparatively easier way. When I press the enter button in a computer, my choice is part of an input-output language which, in order to be processed for the best output, has to be represented to the computer, and it can be represented only in a language which the machine understands. To be precise, the computer does not understand the language in which one chooses an input. And the input has to be processed, it has to be computed and later on it is to be represented to the computer in a language which the computer alone understands. This language is the machine language, and a machine language cannot be separated from the machine itself, as long as the machine operates. Similarly, according to Fodor, a situation in order to be intelligible to the mind has to be represented to the mind in a way which the mind understands. Now the question is whether the mind can understand a situation without representation or not? This seems to be difficult because the external world cannot be directly in touch with the mind. There has to be a medium of exchange. This medium of exchange or interpretation is the medium of thought which has nothing to do with experience.

In short, therefore, Fodor opines that an organism is a computational system, and as every computational system must have a language to operate, the organisms must have a language. The best evidence he furnishes in support of his claim is parallel to Neurological events and Psychological states. That we will discuss later.

If we explain further, his main point is that thoughts are impossible without languages, and as because thoughts are present in the mind before the natural languages are learned, thoughts must have a language of their own. According to the language of thought hypothesis our thought has a language. The content of thoughts are represented in the person's mind by a sentential structure.

What we find in a language is a structure and a specific content. Now whether it is the structure or the content which we call the language is the dilemma. Apparently, there is no

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[27] Fodor, 1975, p. 67

content without a structure and no structure without a content. This is something we realize as we look at the natural languages. Fodor tells us that language of thought has a similar structure, but it may not have similar content. The reason for this belief is not very difficult to understand. Semantic properties of language are always directly or indirectly associated with our experience. Language of thought, as Fodor perceives it, is an internal mechanism, and it has semantic properties, but they may not be the same semantic properties as we find in a natural language. But the structure of the language of thought, the same structure we find in logic and mathematics, does not depend on our experiences. This, evidently, becomes possible in his philosophy because he has already told us about structural similarity between private language and public language. To understand the structure of the language of thought we should understand machine language.

This is significant here that unless we understand how language of thought is similar to machine language, it is difficult to comprehend how thoughts are arranged in a system similar to how thoughts are linguistically constructed, even though such thoughts are not thoughts as we commonly understand them. So, by way of an analogy he tells us about machine language. Here machine analogy is important. As we already discussed, as machines have their own language, the mind also has its own. A machine has its own input language and it is mechanical. Only machines can understand this language. Similarly the mind has its own language for the thought operation and as long as the mind operates, it must generate thoughts, and thoughts can only be generated if they are represented to the mind, and because no representation is possible without a medium, the mind must also have a medium through which the content of thought are brought unto itself. This medium is language of thought. Nowhere did Fodor really define what thoughts are. But it is apparent that thought which finds expression in a natural language is very different from thought which is computed and represented for the mind to comprehend it. The basic question here is: how do we, after all, know that whatever is computed and represented to the mind is thought. But, there is no clear answer to this question, as the only way to find out about a psychological process is being aware of it, and we are not aware of language of thoughts being psychologically represented or computed to the mind. Then how do we know that there are thoughts? This is of course, a natural implication of Fodor's philosophy, because if thought has to be communicated to the mind before it is expressed in a natural language, it has to be an unconscious process, for otherwise we are left with no other options than coming to the absurd conclusion that unexpressed thought and expressed thought are similarly constructed,

though while we are intuitively aware of the one group, we are unaware of the other. Thoughts that are communicated to the self are often communicated in a natural language. For example, when I am debating whether to kill my opponent or not, all my arguments are arranged in a natural language which is just another version of soliloquy. But Fodor is not talking about soliloquy. Fodor is clearly talking about an internal process which grows unnoticed by the mind. Now, if I do not know intuitively those thoughts are after all there, even before they find expression in a natural language, we generally think that we have no reason to believe that they exist. But unexpressed thoughts exist, before they find expression in a natural language. That we already discussed. Now, to understand the nature of unexpressed thought we have to understand the difference between expressed thought and unexpressed thought. Thoughts enjoy a strong possibility of being represented in a natural language because we are sometimes intuitively aware of such processes being consciously carried out, it is our expressed thought. Natural language can be used to represent thought of the conscious mind, Fodor tells us about unexpressed thought that is a parallel representation to the unconscious mind. Fodor does not say that thoughts cannot recur in a natural language. His point is that thought occurs in the language of thought. The philosophers who fail to distinguish between occurrence and recurrence of thought fail to see the difference between expressed thought and unexpressed thought. So our unexpressed thoughts before being translated into natural language and thoughts expressed through natural language internally or externally must be different. Fodor's claim is that unless thoughts are linguistically arranged before they find expression in a natural language, linguistic expression itself must have been impossible. There is no empirical evidence that such thoughts exist, and if they do, we have no way to find out how they are. But Fodor tells us although there are differences between expressed thought and unexpressed thought, there are some similarities. They must not be very different from the thoughts that we express, and because expressed thoughts are linguistically arranged, unexpressed thoughts must also be arranged following a linguistic structural pattern.

But then arises the question: If a language is, after all, absolutely necessary, we cannot understand why a natural language, English or French, fails to serve such a cognitive purpose. Fodor argues that before learning a natural language we have some sort of an innate system which couches our thoughts later expressed in the natural languages. This innate system stands for what Fodor considers private language. For establishing that private language is distinct from natural languages Fodor argues that, mentalese or language of

thought is a private language in the sense that it is not a language to communicate one's thought to others. It is, on the other hand, a language through which some sort of self communication is carried out outside conscious awareness. Self communication does take place, but, at the psychological level the purpose of such communication is not just communication but understanding. In other words, according to Fodor, though we are intuitively aware of thought in natural language, we are not aware of such thought process being supported by the language of thought for the production of conscious thought, and yet, on reflection, we find that without assuming a medium to represent situations and circumstances to the mind we cannot explain the thought process itself.

Our common belief is that language is a medium of communication. This is a position of ordinary language philosophers who wholeheartedly supports language as a vehicle of expression but, for Fodor, the purpose of language is not confined to communication. For him, language is the vehicle of representation and computation too. The language of thought, if it at all has any communicative purpose, is self-communication for the mind to understand the sensory information by way of generating thoughts. Here lies the difference between the natural language and the language of thought. Natural languages express thought. The language of thought generates thought and thereby paves the path for such thought to be expressed in the natural languages.

Basically, Fodor's point of view is that thought (in his sense) does not use language, if language means ordinary language such as English. But thought is ordered and arranged in an internal system of computation which is very similar to lingual operation and therefore called language of thought. Philosophy of language more or less, has one common point – language presupposes thought, i.e. thought comes before language. Fodor believes, and does so not without reason, that language comes before thought. This language is not skillfully developed by an individual but is an innate system without which both thought as a process and public language as a process of skill development is logically impossible. In Fodor's words "…..you can't learn a language unless you already know one."[28] The purpose of public language is external communication. The purpose of private language is communication which an organism carries out to communicate to oneself and understand its position or situation in a given circumstance. That is why Fodor compares the private language of an organism with the mechanical language of a computer, and he further argues that as a mechanical language

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[28] Fodor, 1975, p. 64

is peculiar to the construction of the machine, the private language is peculiar to the constitution of the organism. To put it in other words the only reason behind a mechanical language to be in existence is the machine. Similarly, the only reason behind a private language to be in existence, according to Fodor, is an organism capable of having a thought.

In a nutshell, according to Fodor, if an organism has to act, it has to understand its thoughts, which can be possible before learning a natural language. And understanding is impossible without medium; thought must have a language- that is the language of thought. So the language of thought must be different from natural language. Although natural language is different from the language of thought, it is also true that natural language understanding is impossible without the language of thought.

To explain this point better Fodor uses a complicated terminology, but the central point of his claim, though presumptive in nature, is quite easy to understand. How do we, after all, understand any term or expression in any language with which we are not acquainted? The answer, of course, is that we translate – from the language unfamiliar to the language familiar – and all for the simple purpose of understanding. Then the question that arises is, if we, though unconsciously, also "translate" when we have to understand something said in a familiar language. To explain this point better, we will try to explain the difference between natural language and internal language in the sense of orthographic description.

Fodor tells us that every natural language is an orthographic description. When we use such an expression as "the dog", and when we use such an expression for the purpose of communication directed to a third person, the hearer understands what the speaker intends to say primarily because the expression 'dog' has an orthographic description. But 'what is intended to be communicated' by such an orthographic description has no orthographic description of its own. No wonder, if a single word has more than one orthographic description, the communication between the speaker and the listener, particularly in absence of context, will be either incomplete or confusing. Intention itself has no letter or punctuation mark. Therefore, so far as intention is concerned, the dog is always a contextually defined dog. Fodor tells us,

"My point is that though what I write when I write 'the dog' has a true orthographic description, what I intend to communicate when I write 'the dog' has none. In fact, there is a sense in which I cannot even use the orthographic language to refer to what I intend to refer to when I write 'the dog' since symbols in the orthographic language denote letters and

punctuation marks, but what I intend to refer to when I write 'the dog' is neither a letter nor a punctuation mark but some contextually defined term."[29]

So the point is that 'the dog' has a meaning in the natural language which every speaker of such language understands, and every speaker of such language understands what a 'dog' means from his or her own contextuality. If we can imagine an organism who has no way of verifying what is told to it, then communication with such an organism is an absurd possibility. We have to remember here that we understand what we are told in a natural language because it is always confirmed by contextuality. In other words, there is a parallel between what I have been told and my contextuality confirming what I am told.

After all, such expressions as 'the', 'on', 'into', etc. have no specific meaning, and even the spaces we use between every two words have no meaning as such, unless they are used in a 'context specific' system of symbols. And on the other hand the content Fodor talks about, which is thought in its most basic form, demands a medium which the internal code supplies to the mind for the purpose of understanding. According to Fodor, while words have meaning only in terms of their contextuality, how do we understand the context? contextuality has no such meaning at all, though it may be 'intelligible' because of an innate system of 'self-communication' through an innate system of internal code for self communication.

According to Fodor, if there is no internal code; the message in the natural language cannot be properly represented. Anything that we hear or speak becomes intelligible because it is first translated or decoded/encoded in a private language, for otherwise, there is no theory that can adequately explain how natural languages work.

To be more precise we can say, as we already mentioned, if I do not understand French language, and if I want to understand certain French words, we try to find out what they mean in my own language. In the same way, we understand the message conveyed through the natural language because of an internal process in which such messages are encoded and decoded in our private language.

It seems to be a valid point in his argument and quite in agreement with some of the questions he raised earlier – the question of preverbal children. We cannot deny that a child who can only utter sound that has no meaning to us is also communicating, and at such stage of early development, he cannot be said to be aware of the fact that he is, after all, communicating,

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[29] Fodor, 1975, p. 104

though, basically, the task he is involved in, is communication, and such communication can only be held in a language which he himself understands before it shapes his speech. Fodor, therefore, does not say that what he uses is speech but language, because language may not be orthographic, whereas speech, a system of natural symbols, has to be orthographic.

From the above discussion it comes out clear that private language by nature is such that if it has to exist as a psychological reality and not just as a logical stipulation, it can only exist in a form which does not depend on orthographic description. Language of thought is a psychological reality in the sense that it depends on systemic operation and even though it operates without our self being conscious of it, it does not involve operation of natural language symbols. One may wonder how after all this representation is possible without natural symbols. The answer given by Fodor is as follows. According to Fodor, representation as a mechanism is far different from natural symbolic representation as a system. The reason is not far to be sought. Linguistic representation which we find in a natural language becomes possible because of a correlation that the mind forms between a sign and a state of mind. The entire process here basically depends on experience and the ability to infer the correlation. This doesn't however happen in the case of psychological representation of which Fodor speaks. It is a mechanism identical with the operation of the mind itself. Therefore, private language, according to Fodor, is possible even without orthographic description without which natural language is impossible. Natural language, if it has to operate, must use orthographic description. These symbols may be pictorial representations of reality, articulate sounds, or articulate sounds represented by signs. But some sort of a symbolic system is a must. On the other hand, private language has no such natural kind of symbolic system, and yet, Fodor tells us that it is a representational system, and, therefore, in a nutshell, private language is basically a non natural symbolic representational system.

Fodor in fact believes that the representational system is the private language itself, and if we are trying to understand its terms and factors, it is not sufficient that we only try to make out how they relate to public events. If we assume that a particular factor in the operation of mental language is x, then, evidently, we cannot understand what it is only with a reference to what it means in the public language in connection and association with a particular event. To explain, if something is crucial or significant to a representational system, it naturally appears that such factors must have a parallel representation in natural linguistics, especially when Fodor claims that natural language developed out of language of thought. But, logically at

least, such attempts to trace parallels between language of thought and natural language may appear as wrong attempts, because representations and computations are such private activities that they cannot have parallels except in a privately organized experience. Language of thought, though triggered by external influences, is a private event in itself. And if we have to find its parallels we can only do this with our private organized experience. This however does not exclude the possibility that natural language may be modeled on private language, because natural languages are found to possess such qualities that it naturally indicates a structural base. How can a language, which is just a collection of sounds, have a definite structure unless what is expressed in it also has a similar structure. Now, thoughts can only have structures, if the content of thought is so represented to the mind that it develops structures that can be computed through a medium which understands structure. Therefore, Fodor claims that the structural peculiarities that make language possible are the peculiarity of thought couched in a medium sensitive to such peculiarities. And as a consequence natural language bears a structural resemblance. Fodor tells us,

"Now, an internal representational system of the sort that I have hypothesized would be a private language... it is certainly true that the applicability of terms in the putative language of thought is not determined by public conventions, though there is no particular reason to suppose that what such terms apply to must be private events; they might apply to numbers, or chairs, or predicates of English, or people with red hair, etc."[30]

This point may be clarified if we try to judge the limitations of a natural language of choice, be it English or French or any other from a strictly impartial scientific view. It is but a matter of common observation that we often doubt if our language in the particular instance is representing properly and well. This happens because the symbolic system of natural language is representing a state of mind which has been formed because of an internal situation. But in Fodor's opinion our private language is richer and more perfect because it is representing a situation to oneself which is the outcome of a computational process dealing with possibilities.

After the above discussion Fodor, tells us that no modern theory to explain thought process is convincing unless the neurological and psychological perspectives are seriously considered, and this brings into his discussion some sort of neurological and psychological parallelism. And so, in every case, we find two theoretically relevant descriptions:

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[30] Fodor, 1975, p. 69

1. Physical description by virtue of which they (thought) fall under causal laws.

2. Psychological description by virtue of which they (thought) constitute steps in the computation from the stimulus to the response.

Jerry Fodor believes that the aim of cognitive investigation is to find out and explain from psychological perspectives the propositional attitudes, and because propositional attitudes ascribe to a system, they must have a language if the system has to operate. Fodor says that,

". . if we are willing to ascribe propositional attitudes to a system, then we can make sense of the claim that that system uses a language, and we can do this whether or not the system is a person and whether or not use of the language is mediated by conventions, and whether or not the language used functions as a medium of communication."[31]

Propositional attitude is a mental state towards a proposition. It is said that it is the basic unit of thought. Propositional attitudes are relations between subjects and mental representation. This particular point becomes intelligible if we consider that consistency, if we are at all searching for it, is itself no more than a way to arrive at one or the other conviction regarding the task at hand. For example, we may use sentences such as 'The sky is blue', 'It is a blue sky' or 'The color of the sky is blue' etc, not to point out what a blue sky actually is, but what we believe a blue sky to be. So the important point is "a certain correspondence between the propositional attitudes and the linguistic practices of the speaker/hearer". Propositional attitudes can be interpreted through a computational relation to mental representation. Stimulus represents itself in the computation process in a mental language. Only a propositional attitude can give a successful explanation of our behavior. Fodor better explains the point in the following statement:

"I am saying, roughly, that someone uses his language coherently when there is a certain correspondence between what he believes and the form of words to express his beliefs."[32]

Another important point is that Fodor employs an interesting instance to clarify his conviction that the language of thought has a logical biological base. In other words, if a rational point of view or hypothesis based on purely biological analysis has to be appreciated,

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[31] Fodor, 1975, p. 77

[32] Fodor, 1975, p. 72

it has to be understood rationally; there is no ground to altogether deny that a biological possibility does exist.

Fodor tells us:

"Imagine a man doing sums, and suppose that he has no way of assuring himself that the number that he was using the numeral 2 to refer to five minutes ago was the same number he is using the numeral 2 to refer to now. Then surely he could not use the numeral to affect his computation. But, surely, he could. The soundness of inference is not impugned by the possibility of equivocating but only by instance of actual equivocation. Of course, if the poor man became convinced (say by reading bad philosophy that he might in fact be using the numerals at random, his faith in his computation would be correspondingly shaken. If, however, there is a language of thought, it(s) does not rest on faith. We use it the way we do not out of philosophical conviction but out of biological necessity."[33]

Here we see that Fodor brings in biological necessity only in order to substantiate his point that whether or not private language is consistently arranged, and irrespective of the question if such arrangement is at all intelligible or logically justified, the ultimate evidence in support of his theory is but that it is operational, and unless it operates in the mode specified, it is next to impossible to assume the functionality of the public language, Fodor said that:

"Even in the case of public languages, coherence does not require a stable relation between the way the terms are used and the way the world is: what it requires is a stable relation between the way the terms are used and the way the speaker believes the world to be"[34]

This is a new concept of language altogether that Fodor introduces and here lies the philosophical significance of his theory. Language, viewed from this angle, is not just a linguistic operation but a constitutional operation peculiar to every biological organism. This code system is innate not in the sense we generally understand the expression 'innate' in common philosophical discussion, but in the sense that it is internal and constitutional, and though such a code shapes speech, the code itself remains a private one and gradually erodes with the systematic development of speech.

But, in the whole discussion, Fodor deliberately avoids two points:

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[33] Fodor, 1975, p. 70

[34] Fodor, 1975, p. 71

1. Definition of Thought after his very own understanding.

2. The longstanding issue concerning the question if thought shapes language or language shapes thought.

Because we have already thrown some light on the first point, we can turn to it later in our discussion in the next section on how logically Fodor crafts his argument. It is apparent that Fodor, in order to establish his philosophical claim that some sort of a mental language does exist, invents a whole system of internal mechanisms altogether.

Presently, we shall focus on the second point and try to see what Fodor contributes to the controversy. For the convenience of discussion, we shall quote from *A textbook of Psychology* by Edward Bradford Titchener who represents the controversy best without any attempt whatsoever to include his own views.

"There is a long-standing controversy, in psychology, on the question whether thought is possible without language. And it hinges, like many other controversies, upon the ambiguity of the question itself. If we take the human adult, as he is, and appeal to his introspection, the answer comes plain and definite: thought and reasoning, define them as straightly as we may, can go on in terms of internal speech, in terms of conscious attitudes, the 'wordless summary glimpses of relation and direction', and in terms of images. The attitude is as symbolic as the word and the image may be as symbolic as the attitude; all that thought requires is a symbol of mental symbols. But this very statement suggests another reading of the question in discussion. Thought requires symbols; language is a system of symbols; and we have no reason to suppose that, in the history of mind, it supervenes upon or to the place of any previous system. Thought and language, in other words, appear to have grown up side by side; each implies the other; and in this sense it is true to say that there is no thought without words; reason and language are two aspects of the same phase of mental development."[35]

On one hand, traditional thinkers accept that "...if we take the human adult, as he is, and appeal to his introspection, the answer comes plain and definite: thought and reasoning, define them as straight as we may, can go on in term of internal speech, in terms of conscious attitudes, the "wordless summary glimpses of relation and direction", and in terms of images...", while, on the other hand, they refuse to admit the possibility that thoughts which

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[35]Titchener, 1909, p. 143

remain unexpressed or inaudible are really thoughts. It clearly marks a type of self-contradiction in the traditional philosophical approach to the controversy.

Then, are we supposed to believe that unexpressed thought that we get in introspection is not thought? Then, again, are we to conclude that "wordless summary glimpses of relation and direction" are not thought in nature? Then, furthermore, are we to reach the absurd and purely solipsistic position where thought has to depend for its meaning on some other definitions? This is exactly the point Fodor hammers on.

This is a very important passage in the present research because it clearly marks a type of difference between the traditional philosophical approach and Fodor's theory of mentalese. There is a difference because it is traditionally believed that thought comes before language but, in Fodor's philosophy, it is not so. According to Fodor behind the conscious thought there is an unconscious thought and it has as its constituent unconscious language. So thought in a Fodorian sense and thought what we generally believed are different. Basically thought and language of thought are but two ways to understand a single process in Fodor's philosophy.

Indeed, the acceptance of the fact that the "wordless summary glimpses of relation and direction" do exist and the human child does act in accordance with them, it is sufficient to impress a rational mind that they are but thoughts and are capable of producing action to cover and combat a situation in the form of response.

But Fodor has something more to say. He does not really believe that "wordless summary glimpses of relation and direction" constitute the internal speech as the author in the above passage submitted. Fodor argues that these "glimpses of relation and direction" are distinct from the internal speech in which they are couched; they are not synonymous either as psychological realities or as logical expressions.

So, in a way, Fodor avoids the controversy whether thought shapes language or language shapes thought. Why Fodor does so is not very difficult to understand. First of all, the "wordless summary glimpses of relation and direction", if they are just sensations, and are not thoughts, and if we do say that they are thoughts, then we are basically saying that sensation is thought – which cannot be. The question arises how "wordless summary glimpses of relation and direction", and in terms of images" can lead to action which is, in

most of the cases, an instance of encountering a problem and a solution? If it is not thought then it is unable to produce action because actions cannot be produced without thought.

Evidently, some factor is responsible for the association and analysis of these glimpses, and we cannot just leave off with the shortcut answer that it is just a neurological process. After all, what is that factor? If we leave Fodor aside for the time being at any rate, we get an answer, of course, though the answer is very simplistic and too generalistic in so far as it is given in terms of 'ability' or 'propensity'. To be precise, one can say that the mind of an organism has the ability to associate and analyze any idea or ideas presented to it. But how can it be possible? We cannot deny that many animals, not at the level of humans, are recognized by science as intelligent animals. Now, if we say that though they are intelligent, they cannot think, we are certainly saying something quite absurd, because we measure their intelligence, we do so by judging their actions, and actions cannot be produced without thoughts, and we have to accept also that if they think, they do so without any language, and, therefore, language, at least in their case or in the case of the preverbal children, does not shape thoughts. Thoughts, originally, shape language, though thought must be ordered in a system so as to be logical in the linguistic sense but not in the orthographic sense.

Now we will discuss some arguments in support of Fodor's language of thought hypothesis.

1.1. MENTAL LINGUISTIC REPRESENTATION:

We understand from our common sense that, belief, desire, thought, perception, imagination all of these are mental states. Mental states have intentionality and they refer to the objects, which are evaluated by their properties. Representational theory of mind defines intentional mental states as states which have relation to mental representation. For example, 'John is happy' as a statement must be related with a mental representation whose propositional content is 'John is happy'. 'John is happy' as a desire must be related to a mental representation and 'John is happy' as a thought, also related to a mental representation both are involved in different relations with the same mental representation. Representational theory of mind can explain all mental processes like thinking, reasoning, and imaging as a sequence of intentional mental state. For example, we can imagine 'the sky is pink'. Here we entertain a series of mental images of the sky. Again we can take another example: if someone infers a proposition p from the proposition q, one ought to have a sequence of thoughts of the form p; if p holds then q holds.

In recent times, mental representations have centered around the existence of propositional attitude and existence of phenomenal properties, their relation to the content of thought and perceptual experience. In cognitive science, however, these mental states and mental processes are defined by features of the brain and central nervous system, particularly the computational architecture of the brain.

Mental representation can be pictorial. It is possible to have a pictorial representation or map representation, which is not similar to linguistic representation. Pictures are not semantically compositional. They do not have any well-defined part that can form an abstract picture. The whole picture does not depend on these parts either. But we can make a picture using some lines, colors, shapes and shades, while painting we are aware of all those parts but we cannot interpret those parts separately from the whole picture. Because after becoming a complete picture, we cannot separate the parts from the whole.

Language of thought is different from any other theory of thought. Language of thought is one formation of the representational system. From our common sensical view, thought is a kind of wish, expectation, desire, fear, love; it can be considered as inner speech. So, basically thought might cover all the psychological states. According to the language of thought hypothesis, thought can occur in an inner linguistic code. Thinking process includes linguistic structure and also meaning or content. Thought has complex content so it needs a symbolic medium like language to represent it. Thoughts or their complex contents can only be represented through words in a sentence. Apparently, a picture or an image or any other code cannot handle this complexity of content. The semantic or content complexity makes thought complex. Any medium other than the word or sentence may not render the exact or well-formed meaning as a language does. In other words, only linguistic representation is semantically compositional and combinatorial. So, Fodor claims thought is linguistic in nature. Therefore, the language of thought is the best way for explaining thought, as long as no other medium is available.

If we say, all mental representations have a linguistic structure – it is a strong version of the language of thought. If we say at least few representations are linguistic, then it is a weak version of the language of thought. But before we move forward, let us check an alternative for the sentential theories of thought. Here, the map hypothesis is claimed to be a plausible option. Let us see whether Fodor can take it as an alternative approach.

1.2. The map hypothesis:

While sentential structures explain thought in a tight and effective way, it's also important to remember that there are many other structured processes of representation available. Some of these systems lack the scope to elaborate on the nature of human thinking. But the map-hypothesis is indeed a rival explanation that rightly stands a challenge to the sentential theories. The map-hypothesis suggests that mental maps play the same role like mentalese sentences in thought. It's not that a map literally exists within the brain, but the mental states act the same way. This map representation comes with an array of information and is able to represent any empirical world feature, but differs from the way sentences represent thoughts.[36] For instance, the sentence 'Kolkata city is near the Bay of Bengal in the north east of India' offers a specific piece of information that can't be extracted simply by looking at a map of India. But alongside, if we pin pointedly look at Bengal on the map, we are instantly aware of a lot of other information regarding its approximate size, shape, geographical position etc. all these can be derived from just looking at a map. But surely it needs to be mentioned that mental maps are not as accurate.

According to Armstrong, mental mapping includes errors, oppositions, fantasies and even blank spaces. This occurs because the mental maps form as we move ahead in our lifetime. With novelty and experience thus gained, mental maps continue to develop sophistication but can't do away with errors automatically. But the map alternative lacks intuitiveness compared to the language of thought hypothesis. Its inability to represent all the thought features may be the cause of it. However, it can't be dismissed for this sole reason. The map alternative can, in fact, explain the versatile human thinking. For example, producing an unlimited number of distinct thoughts can be feasibly explained by the map hypothesis if we allow unlimited possible arrangements of elements within the map. This works the same as a map of earth on a globe. Here let the unlimited thoughts be like- one can scan the surface of the global map and trace Kolkata, Delhi, Bombay one by one. Alternatively, one can scan the surface a number of times and mark out one place or a combination in each attempt. Moreover, any of these scans can be reversed as well.[37]

The map hypothesis can also explain evolving thoughts over time. This acts in merging two maps together or updating an existing map with new information. A map with this sort of

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[36] Braddon-Mitchell & Jackson, 1990, p. 172

[37] Armstrong, 1973, p. 3

functioning will evolve with the updating of data and corresponding new rules to incorporate them. Let us suppose the existence of rules that correspond to formal logic applied to sentential structures. Hence a map-hypothesis system has a rule that is analogous to modus ponens and leads to appropriate transformations in mental maps.

But there are some difficulties with the map hypothesis. Consider the way in which the elements in a map are interconnected. This hinders us from reducing the complexity of a mental map into simpler elements and meanings. Think of a very small example like the map of one's personal study table. It offers information on the number of objects on the desk and the free space available. This can't be separated into simpler elements, i.e., the amount of free space availability can't be revealed as an isolated information without simultaneously considering the objects on the desk. But that is possible if we use sentences instead.

Another trouble that might crop up is the problem of representing complex thoughts or thoughts involving negations through a mental map. Take the English sentence 'It is not sunny.' It can be captured by a weather map depicting no sunny symbols over the city. But would that carry the same meaning conveyed by the English sentence? The answer is no. Because, to do that the map should represent the sun and attach a negation to it, which is possible only if it combines with a sentence. A map with no sun symbols doesn't depict 'It is not sunny' and instead just merely represents the city with no information on the sunny part.

A major drawback of the map hypothesis is its inability to support our systems of belief and the lack of connections within. Consider the example: Bob believes that Merry has two cars but does not have the belief that the number of Merry's cars is the smallest prime.[38] As per the map hypothesis, all the information regarding the map is connected. Hence, Bob should believe that the number of Mary's cars and the smallest prime are the same. Simply put, if Bob believes that **X** holds, and if **X** implies **Y**, then Bob believes that **Y** holds. This is not the case in the sentential thought process. Here the fact that Bob knows the number of cars Merry has is not connected with his possibility of knowing the smallest prime number and associating them. The sentence "Merry has two cars'' can be there in Bob's head without the sentence "The number of Merry's car is the smallest prime" also being in there. Of course, with all the appropriate information, Bob could easily reach the belief of Merry's car being the smallest prime, but that's not mandatory. Here's another example, Bob believes that Merry lives in New York City. Now, if Bob lives in New York, he will have to travel east to

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[38] Braddon-Mitchell & Jackson, 1990, p. 191

visit Vermont. In a map-like thought process, Bob should believe that Merry must travel eastwards to reach Vermont. This happens because all the required information is available and can be clubbed in a mental map. But clearly this doesn't match the way humans form their beliefs. Bob can possibly believe that Merry lives in New York and Vermont is towards its east. But that doesn't imply Bob should believe Merry must travel east to visit Vermont. Thus, while his beliefs consider that the inference can hold, it doesn't guarantee that it would happen. Computer scientists are working on representation systems that resemble this mapping.[39] If anyone asks, the mapping system offers exciting designs for computers and robotics. But surely not all aspects of human thinking are captured through map theories, which are better explained by the sentential structures. Now we will discuss some arguments in favor of the thought hypothesis.

1.3. ARGUMENTS FOR LANGUAGE OF THOUGHT

1.3.1. ARGUMENTS FROM PRODUCTIVITY OF THOUGHT:

Productivity of thought is an argument for the linguistic representation of thought. At first we need to understand what is productivity of thought? Thought has its productivity before learning a native language. As we all are finite beings and we cannot have infinite resources to produce infinite thought, but we can have infinite thought content and it comes from finite compositional capacity. From this finite capacity, we are able to produce an unlimited number of thought content through compositional medium. Primitive thought content can be combined with other thought content and make complex thought content. In this way we can explain compositionality, and Compositions of new thought content can be produced from the limited number of primitive thought contents. However, one can doubt that it is not possible to produce and understand an unbounded number of thoughts from a finite base. But it happens with language and it is an empirical fact that one can cope with new sentences, from a finite base of finite sentences by developing the ability to produce and understand infinitely many sentences.[40] The same way there is no logical inconsistency about an infinite number of thought formation from a finite base.

Native speakers use this productivity in their language to produce new sentences. For example, those who can produce and understand 'The book is on the table' can also produce

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[39] Braddon-Mitchell & Jackson, 1990, p. 173

[40] Chomsky, 2011, p. 40

and understand 'book and pan are on the table', 'The book, the pen and the laptop are on the table', 'The book and the pen and the laptop are on the red table' and so on. Thought has its productivity and it is not possible without any language because we know from our experience that language is productive so the question is how can thought be productive without any medium or language? Is it necessary to presuppose a language so that thought can be productive too? But as per Fodor's opinion our thoughts are productive even before knowing any natural language. Deaf and dumb people can also think and their thoughts also have productivity. Another thing is that natural language was not developed very long ago, even before that people used to think. The productivity in their thinking can be understood by looking at their various inventions. So there must be a language before learning any natural language and thoughts are couched in this language and according to Fodor, this language is called language of thought. According to Fodor, thoughts occur in a language which is different from our empirical language, without knowing any natural language we can think and our thoughts occur in an unconscious language: it is similar to our natural language but it is not a natural language. Before expressing any thought in our empirical language, the unconscious level of mind needs to understand its own thought and, to understand its thought mind needs a medium through which thought can be represented. This medium in Fodor's language is called mentalese. Anyone can think in this language, but we are not aware of this language. Language of thought has productivity and for that reason our thoughts are productive. We can produce an infinite number of thoughts from a finite base. We can see natural languages are productive and the origin of their productivity is the language of thought. In Fodor's opinion natural language is productive because the language of thought is productive.

In short, according to Fodor, This productivity of thought process is possible because the process of thinking begins in our mind, even before we learn the natural language through mentalese or the language of thought. And productivity of natural language is possible because of the mentalese, this thought formation is an unconscious mechanism and our conscious language has no role to play here. This thought formed by a language other than natural language; thought couched in a language, this language has productivity. So, in our psychological level there is a mechanism of thought process, but we are not aware of this process, this mechanism is called language of thought. Natural language presupposes language of thought. We can learn natural language for this meta language. And the features of the natural language are coming from the language of thought. Our natural language is

productive because the mentalese is productive. Fodor thinks that new thought production may be based on semantic knowledge and grammatical structure. If, one can produce and understand,

John is a good boy,
He can also produce or understand, Bob is a good boy
But not that, Tree is a good boy
Or, Book is a good boy.[41]

A fluent speaker's mastery of his language exhibits itself in his ability to produce and understand the sentences of his language, including many independent thoughts that are wholly novel to him. The emphasis upon novel sentences is important. The most important characteristic feature of language is its ability to make available the infinity of sentences, from which the speaker can select the appropriate and novel ones according to the requirement. This is to say, the quality of a fluent speaker is not the ability to produce or understand immediate or previously heard sentences, but rather his ability to produce and understand sentences, never encountered before.[42]

According to the language of thought, mental representations are sentences in a mental language. We can entertain an infinite number of novel thoughts. But we are finite creatures; we cannot possess an infinite number of novel atomic mental representations. So, in the unconscious level, we must possess a language of thought that allows for the construction of an infinite number of thoughts from the finite atomic parts. The only hypotheses mentalese is a kind of language with combinatorial syntax and compositional semantics. This language of thought must possess those features of productivity.

1.3.2. ARGUMENT FROM SYSTEMATICITY OF THOUGHT:

It is another important feature of thought, and can be a good reason to say that thought is linguistic. Natural language is very much systematic. But the question is where does this systematicity come from? To understand this we need to first discuss what is meant by systematicity. According to Evans, systematicity is "It seems to me that there must be a sense in which thoughts are structured. The thought that John is happy has something in common with the thought that Harry is happy, and the thought that John is happy has something in

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[41] Fodor, 1961, p. 73-77

[42] Katz and Fodor, 1963, p. 170-210

common with the thought that John is sad".[43] According to Cummins, "whenever it can process a sentence S, it can process systematic variants of S, where the systematic variation is understood in terms of permuting constituents or substituting constituents of the same grammatical category".[44]

We can have the experience of systematicity in natural language, for example, who can understand 'John loves Merry' can also understand 'Merry loves John'. But the question is where does systematicity come from? It is also true that our thought is systematic too. Now the question is how thoughts become systematic? Is it that thought ordered and arranged in our natural language so that they become systematic? Or, are they systematic before learning any natural language? Fodor will claim Thoughts are systematic before knowing any natural language and we have reason to say so. Who cannot hear or speak they can also think and their thinking is same as who can hear and also speak. Even though language may stop, thought will not. Thought has a free go because the language which helps formation of thought will continue to work for thought operation, because a man who is deaf and dumb is not necessarily incapable of thought. According to Fodor, anyone who thinks 'John loves Merry' can also think 'Merry loves John' in this language, but we are not aware of this language. According to Fodor we see natural language as systematic because any natural language presupposes this language of thought or mentalese which is systematic.

Mentalese contains words that can combine with other words and make sentences, the words and sentences are meaningful and the meaning of each and every sentence depends on a systematic method leading to the meaning of its word-components and the manner in which those words are combined. Fodor claims that the primitive compositional element of thought is concept. The compositional element of any sentence is a word. If an individual cannot understand a particular word, then he won't be able to understand the sentence as the sentence is a combination of words. Failure of understanding a word denotes lack of conceptual knowledge. *Thoughts* are semantically compositional and it is a combination of concepts. Concepts can be connected with each other to make a thought. The understanding of thought depends on appropriate knowledge of concept- word association. Any representation other than linguistic representation may not explain semantic compositionality of thought. In Fodor's opinion, the mind itself is systematic even before adopting any natural

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[43] Evans, 1982, p. 279-300

[44] Cummins, 1989, p. 591

language from the outside. If one understands certain words in a sentence, then he can also understand the rearrangement of words in the same sentential structure. Such as, if one understands a thought like the sentence 'John loves Mary', he can also understand 'Mary loves John'. If one has the understanding of concepts like John, love, Mary and the grammatical structure that formulates the thought of John loves Mary; he can also think that Mary loves John. Symbols are semantically related to one another to formulate thought. This semantic connection is closely related to the explanation of systematicity of thought. And semantically related thoughts are systematic.

How could we know that thought is systematic? The answer is that, we don't find anyone who can think, 'John loves Mary' but can't think the thought that, 'Mary loves John'. In the case of human beings, if thoughts do not follow the rules of systematicity, then one can entertain the idea that John loves Mary but cannot entertain the thought that Mary loves John. Here the crux of the matter according to Fodor is that, understanding the systematicity of the sentences in natural language depends on entertaining the thought through an unconscious language that is expressed in natural language.[45]

One can think language has combinatorial semantics and syntax, and thought get these from language. But still there is one unsolved problem, i.e. why is there a counterfactual dependency between John loves Mary and Mary loves John before knowing any natural language? The answer is that not only natural language, but also the representational system of thought has the feature of combinatorial syntax and semantics. Natural language presupposes this system of representation. It is the language of thought and has two important features, productivity and systematicity.[46]

So, in this argument the main thing is that according to Fodor, conscious thought is systematic because the mentalese in the unconscious level is systematic, and we can think systematically because of that mentalese, even without the use of natural language. Who cannot hear or speak can also think systematically. This systematicity feature of thought is present because language of thought is there. One can think without natural language but, thoughts are structured and arranged in a systematic language, this language is called language of thought. One who is able to understand 'John loves Mary' can also understand 'Mary loves John'. These two thoughts have close semantic connections. On similar notes, a

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[45] Fodor and Phylyshyn, 1988, p. 41.

[46] Aizawa, 2020, p. 29-43

thought like 'John loves Mary' and the thought like 'the book is on the table' are not semantically related.[47] So, there is a mechanism that underlies the ability to entertain those propositions of the representational system that are linguistically structured. Natural language is largely systematic because of the language of thought.

1.3.3. ARGUMENTS FROM INTROSPECTION:

Third argument is from introspection. Fodor calls thoughts linguistic in nature. We can express our thoughts in the natural language but when we are not expressing any thought then also we introspect, we find that thoughts are arranged in a language. Here the question is, do thoughts occur in a language? Our introspective evidence shows that thoughts are arranged in our natural language. Actually in introspection we cannot see the formation of thought, we only see the expression. But the thing is that not only a native speaker expresses his thoughts in natural language, also we can find in introspection that our conscious thoughts are arranged in our natural language. So even in introspection thought follows a structure, though, Fodor did not talk about this introspective thought. But the question arises about structure of thought, where do they flow from? We cannot say that they flow from nowhere because both introspection and language indicate that such structures do exist, and if they exist, they must flow from somewhere – a source beyond all apparent limits of experience.

According to Fodor, thought formation is a matter of the unconscious mind. And if thoughts are expressed through a structure then it is possible that it also occurs in a structure. They must originate before they occur, consciously and if they occur following a structure, they must have either arisen or latter represented structurally, and because thoughts arise unconsciously, thoughts must be represented unconsciously, and such representation being an impossibility unto itself, structures that act as a medium must be innate – 'innate' primarily because it is not derived from experiences.

Apparently, we are aware about the flow of thought as inner talking or talking to ourselves. Like, if I have a thought, such as, 'grass is green', it is a mental utterance expressing the sentence that grass is green. This is our conscious thought, but Fodor tells us about unconscious thought. Thoughts, in the unconscious level, are structured in a language. We are not at all aware about this inner language of thought. We can introspect thoughts only when they are translated from mentalese to natural language. Fodor holds that can introspect

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[47] Fodor & McLaughlin, 1990, p. 183-204

thought in the structure of a natural language and that suggests that thought is formed of a sentential structure but unconsciously at the psychological level. Thoughts are made in the form of sentences at the psychological level, so we can easily express them in our natural language. In introspection, thoughts are expressed through language but we cannot get access to thought formation in introspection. But, surely thought has been made somewhere and none of us are aware of how thoughts are formed. According to Fodor as we mentioned before, thoughts are formed in our unconscious level through an unconscious language of thought; conscious language like English has no role to play here. Thought is represented in a linguistic structure in the unconscious level, so, in the conscious level, the expression of thought in introspection is linguistic. The meaning of the inner proposition remains the same as when it is used in a communicative language. Meaning of the public language sentences are related to the meaning of the sentences of the inner language. Now the question is, whether the inner language of thought is identical with our natural or public language such as English? If both the languages are the same, then by determining the grammar and vocabulary of the public language we can explain the inner language as they are having the same grammar and vocabulary. But animals do not have vocal capacity; their mental phenomena do not depend on natural language. But they have intentional behavior. Another thing is that, at the unconscious level the atomic parts of thought, which is concept, is ordered and arranged in a structure similar to natural language. But at an unconscious level natural language cannot help us for thought formation. So, there is a linguistic structure other than natural language in which thoughts are couched. The primitive elementary parts of thought are concepts. And a concept must be logically prior to natural language. A word can be understood by a person, if he has the conceptual power to understand its meaning, which is determined by this concept. According to Fodor, simple primitive concepts are innate and by the combinations of simple concepts we can arrive at a complex one. Words in a sentence of natural language, and concepts in an atomic thought have one to one correspondence. Without the linguistic structure of thought, we cannot understand concepts. We cannot understand concepts separately, without understanding the language of thought. Concept is a constituent part of the language of thought.

1.3.4. ARGUMENTS FROM NONLINGUISTIC BEING AND PREVERBAL CHILDREN:

According to Fodor, organisms other than humans are not gifted with speech. But still, they can think. Their thoughts may not be as complicated as human thoughts. But there are at least

enough complications to point to a representational model of sorts, and a language is necessary to support the same. This issue directly proves the linguistic representation of thought, through a medium other than natural language.

Children, who have not yet developed language skills, do think but they cannot speak, we can see it clearly in their behavior, unless the computational system is in operation. And the very fact that it is operating, is enough indication that they are using some sort of a language or language-system to support such operation. To quote Fodor:

"The representational system of preverbal and infrahuman organisms surely cannot be natural languages. So, either we abandon such preverbal or infrahuman psychology as we have so far pieced together, or we admit that some thinking, at least, isn't done in English.

Notice that although language presupposes a representational language, it does not presuppose that language must be one that functions as a vehicle of communication between the speakers and the listeners: e.g., it must be a natural language. So, on the one hand, there is no internal reason to suppose that our psychology applies only to organisms that talk, and if we do decide to restrict its application, we shall have no model at all for learning, choosing and perceiving in populations, other than fluent human beings."[48]

This is the point agreed upon by Fodor and all supporters of mentalese that preverbal thoughts exist. It is also a matter of common observation that children start communicating much before they learn to speak. This is clear evidence that the thought process or its development in a human child does not have anything to do with learning a natural language. There are, of course, philosophers (ordinary language philosophers) who believe that thought and expression operate simultaneously. Fodor's point of view is different. He is trying to say that man learns to communicate much before he really learns to speak a natural language. This, at least for Fodor, raises a very important question. If it is an important fact that preverbal children do communicate, they must be using a sort of a language, and such language cannot form without a psychological parallel. Now, quite evidently, the question may arise whether or not such clumsy language of a child is just a step towards acquiring a natural language, especially when we know that such clumsy language of a preverbal child often has a lot of similarity with the natural languages spoken by the people around him. Fodor has not considered this possibility. But, from his overall discussion of the language of

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[48] Fodor, 1975, p. 56

thought, it appears that Fodor really does not have any problem accepting such a possibility. His only point is that whether it is a clumsy language of the child at the preverbal stage or the mature natural language of an adult, it has the potential to generate an infinite number of possibilities. This would not have been possible if thought itself were not so designed in the same manner. Basically, Fodor is trying to access potentiality of thought from the actuality of a natural language. If anything is actual, it has to have potential at some point, and, therefore, a natural language which exhibits endless possibilities must be modeled on something equally vested with unlimited possibilities.

According to Fodor, adult humans, animals, children- all have the same representational system. As we have seen, human representation is linguistic. So, all others have linguistic representations like human representation. [49]

We already mentioned that according to Fodor not only humans, animals also have the representational theory of mind. Their thoughts are represented in the mental system in the brain, though they do not have any natural language to communicate.

Now we have no difficulty in understanding why, after all, Fodor brings into consideration animal behavior or the behavior of the preverbal children. In the present context, it has to be noted with care that, of all the animals, and even among the animals that are considered to be intelligent, man alone can understand natural language symbols.

This happens because of a particular scientific reason. "In the left frontal lobe, in a part close to the small canter that the human brain has for the sense of smell, is the canter for speech. This canter appears in no other than human brains, and for the lack of it, apparently, no other known species has developed true speech.

Parrots, crows and ravens, parakeets, and many birds go further and use their gift of mimicry as a form of play. But none of these is true language. No animal of the lower orders, however varied the sounds he makes, can tell a story, describe a place, give orders or instructions, and communicate abstract ideas." [50]

The condition of an animal brain which failed to understand a natural symbolic system because of the structural incompleteness is very similar to the condition of a human brain

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[49] Fodor, 1975, p.57-58

[50] Miller et al., 1960, p. 292-293

during the preverbal phase of development. It does not understand symbols just after birth but quite early. But we can mention some recent experiments; these experiments are about teaching human speech to the animals. To support this view we can quote from the book *Man and His Body.*

More recent experiments have been made in teaching animal's human speech. Again, the chimpanzee has been the pupil of choice, or in one instance an orangutan; both these apes have vocal equipment like ours, and they are good mimics and highly intelligent. The first success was with a young female orangutan who learned, after six months of patient effort, to say two words. When she was frightened she clung to her teacher, kissing him and crying, "Papa papa!" When she was ill she said, "Cup cup", asking for a drink. She was learning to make the sounds when her death ended the experiment.

The most extensive experiment was that of a husband and wife team of psychologists who brought up a baby girl chimpanzee like a human child. In standard performance tests Vicki at two and one half ranked as much as eight months ahead of human children of the same age, but her language development was that of a one- year- old, and it progressed very little farther. At the age of seven, when she died of encephalitis, she had a vocabulary of three words, "Mama", "Papa", and "cup", and several play sounds which were arbitrarily accepted by the foster parents as words: "task" for cigarette, "up" for a piggy-back ride. But she never made a sentence or learned a word that had not been painstakingly taught to her. Her intelligence was far beyond her language, and she did have a lively language of action for communicating her wishes. Speech however, was forever impossible for her, because she lacked the speech center in the brain.

The difference is apparent from infancy. Only the human baby coos and babbles and engages in vocal play; not even the chimpanzee does this, although it is born with the same organs and muscles of speech. The human baby practices every kind of sound and syllable until, listening and imitating, he drops those that he does not hear and concentrates on the vowel and consonant combination of his own people's language.[51]

 From the above discussion it is absolutely clear that animals have thoughts, and, indeed, they understand their thoughts quite well, so their thoughts must have a communication system which, in spite of being representational, is not natural symbolic system, indicating that

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[51]Miller et al., 1960, p. 293

whereas every symbolic system has to be in one sense or another representational, every representational system is not necessarily symbolic like natural language. Animals that have even well developed organs of speech cannot speak because learning of a language requires ability to understand abstraction which manifests in a language in the form of natural symbols. But the inability to acquire natural language does not imply the inability to think because the above mentioned experiment establishes beyond all reasonable doubt that some animal activities do point to their ability to think and decide. Now, if they can think, it is clear that they have thoughts, and if they have thoughts, it is also clear that such thoughts could not have possibly been generated without being represented to the mind, hence the language of thought as a concept covers animals thought and animal language to a large extent.

1.3.5. ARGUMENT FROM THE PHENOMENON OF LANGUAGE ACQUISITION:

Fodor begins the main part of his argument with a hotly debated question both in linguistics and psychology. How does a child learn to use a language? The answer so far from the empiricist-behaviorist school has been that learning a language is basically a skill development process. But philosophers who augmented Fodor's lines of philosophy did suggest that language is not simple skill development; it is more than skill development in the sense that it involves exercise of innately acquired faculties. But others have entirely stressed on the process of skill development, so much so that skill development theory is one of the most acceptable explanations for the language learning process even today. Before Fodor we have ordinary language philosophers who solely emphasized on the concept of language as behavior on the basis of interaction and nothing else. The specialty of Fodor is that he dug up an old theory to replace a new theory of skill development which could not adequately explain some of the questions Fodor did explain. Moreover Fodor approaches the issue from a very different angle. He begins with the question if it is at all possible for a child to conceptualize language unless the child has already acquired a model to follow.

An example may make the point clear. Suppose, a child is given a piece of paper for something to draw on it. Now, if we let him free, he will scribble but not draw. He will start drawing only when we give him something to copy from – say a photograph. He will follow his model, and though he may not be able to follow it perfectly, he will at least produce something, very close to his present reference. Similarly, a child does not learn a huge language overnight. The child learns over a certain period of time but the time the child needs in learning its full use is so little that any reasonable man is bound to question whether he

already has some model to follow. Now, of course, one may argue that human behavior which a child encounters day in and day out may as well provide such a model for him. There is, then, no innate model to become his reference. The only problem with this argument is that human behavior is so complex even in linguistic terms that it cannot serve as a model to a two year old child. There are at least five to six basic ways to make a single statement if not more. But we see that the child is never confused. Rather he learns almost automatically, as if he came into existence knowing it half well and so Fodor believes that this would have been impossible unless he had something of similar dimension to follow as its reference.

This above-mentioned inner model is not a natural linguistic model according to Fodor. Rather, in probability, it is an innate model of construction similar to language, already present in a newborn, and conducive to skill development of learning a particular natural language. According to Fodor, learning a language presupposes an unlearned language. This mechanism is formulated by a language in our unconscious level and our thoughts couched in this language, because we can think without a natural symbolic system that we discussed in the previous argument. So, the learner needs a language for mental representation. Our mental activities such as thoughts are represented through a linguistic representation. Only the linguistic hypothesis can handle the complexity of mental phenomena, i.e. thought. We are not aware of this linguistic structure of thought because it is a matter about our unconscious level, before adopting any skillfully developed language. This is not any natural language like English or Japanese. It is an innate mental language and we are not aware of its existence. Any natural language presupposes an innate language of thought.[52]Fodor tells us that,

"My view is that you can't learn a language unless you already know one. It is not that you can't learn a language unless you have already learned one. The latter claim leads to infinite regress, but the former does not; not at least by the route currently being explored."[53]

It is at this very point that Fodor also tells us what precisely he means by 'language of thought'.

". . . the language of thought is known (e.g., is the medium for the computations underlying cognitive processes) but not learned. That is, it is innate."[54]

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[52] Fodor, 1975, p. 65

[53] Fodor, 1975, p. 65

Fodor makes a clear distinction between knowing a language and learning a language. Most probably, he does this in order to avoid the criticism of the upholders of ostensive language. He is aware that one simple criticism of his philosophy may be that, if a child is already equipped with some sort of a language at birth, he has no need to acquire linguistic skill further, for the simple reason that it is not logically possible that he is learning about something he has already learned beforehand, he came across the world of experience. But, Fodor in response, points out that, the fact remains that he learns, and he has to learn, and he cannot do learning without a language indicating, that is language of thought. According to Fodor, to learn a language, one should know a language. He claims that there is a language we possess, and do not learn. Thought occurs in linguistic representations. That assumption has gained acceptance to a certain extent in both Philosophy and Psychology. But Fodor's additional claims are that we have an innate language of thought. Whatever concepts we express, are already there in our mentalese or in language of thought. All of our simple and complex concepts are the predicates of the mentalese language. "…we have no notion of how any kind of concept is learned except by hypothesis formation and confirmation."[55] Children learn a natural language through hypothesis formation and testing. Children formulate, test and confirm the hypothesis about reference words in mentalese. The child uses a mentalese word "dog" that refers to a dog and formulates a hypothesis. We do not learn mentalese at all. This mentalese language is innate. Hypothesis formation is the only potentially workable model of concept acquisition.

The language of thought hypothesis cannot be framed if there is no language for making the hypothesis. A language must be pre-existing in order to learn a natural language. If this previous language is learned, then we need to have the knowledge of another language. If this continues, there will be a regression, unless we have an innate language. So, learning a language means hypothesis formation and after that translation, translating from an innate language. "The sum and substance of language learning thus turns out to be translation."[56]Fodor believes that we cannot learn a language whose predicate expresses extension, which is not expressible by those previously available representational systems. Chomsky also mentioned an innate universal structure of language. People are born with this innate specified system. This universal condition prescribed the form of human language.

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[54] Fodor, 1975, p. 65

[55] Fodor, 1975, p. 58

[56] Churchland, 1986, p. 150

Natural language grammar arises from here. Universal grammar has a strong place in Fodor's theory, and without that, understanding the grammar of natural language is not possible. According to Fodor it is necessary to possess an innate language for framing the hypothesis of language of thought to learn a natural language. The linguistic behavior of the organism is guided by certain innate linguistic rules. Organisms may have some previously known language for hypothesis forming and testing. These biological linguistic innate structures can influence the cognitive development of organisms.[57] This innate language is as powerful as any natural language. Preverbal children also need a cognitive medium of representation, through which a child can carry a language for hypothesis formation and testing. His conclusion is that they take the form of biconditionals matching mentalese predicates with natural language predicates.

A child can learn a natural language by translating mentalese in natural language, children have this translational mechanism. And any English predicate he can learn has a mentalese Doppelganger. The only exception here concerns English predicates which are explicitly definable by means of a truth function of other English predicates. Here Fodor gives an example, an 'airplane' definable as a ' flying machine'. But learning 'airplane' would not constitute learning a brand new concept since mentalese must be stocked with the counterpart of 'flying' and 'machine'. These counterparts of flying machines as 'flying' and 'machine' are already available concepts in the mentalese system. It is an unlearned system of representation. So, the language learning is conducted solely and entirely by means of hypothesis. The posited mentalese must be an unlearned system of representations. Mentalese is extremely rich and the representation power is innate; it is able to express any concept. We all have an innate language system. A child can formulate a translational mechanism, just like adults translate one natural language to another natural language. it is not the case that the complete language is known innately. But the question here is that, is it in the same way the natural language translates from mentalese, as it translates to another natural language? The richness of mentalese is independent of any other language and it is used to represent how the world is. We are just built to use the predicate of mentalese correctly. The world is represented by an innate representational system. It is not possible to bring any kind of change in the representational system. So, there are no possibilities of adding any new concept. The only possibility is to make new complex concepts from a combination of

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[57] Ward, 1987, p. 143-148

previously known concepts. There are no scopes for conceptual revolution. After all, we cannot learn any concept. All the concepts we produce, might be reducible to truth functional combinations of innate concepts.[58]

It may be said in objection that there is no reason to think that concept learning indicates a sort of explicit hypotheses formation and testing.[59] We can analyze other models of language acquisition or language learning. If one is trying to learn a concept, then one way of doing it is through observation. That means to perceive many instances of this concept and then analyzing, encountering and generalizing these instances by observation. The other way is through communicating with others.

One can learn a concept if the person he is talking to already knows the concept. To acquire a concept, the learner needs some training to handle his mental state, which contains such concepts as property of his mental state. So, for any new concept acquisition it is necessary that one already has a concept. By the use, application, modification and also communication of the previous concept, one can produce or understand such concept. Whenever we acquire a new concept that means it is nothing but a modification of previously known one. We can have a new concept combining previously known properties of mental state. Here those concepts produced by already known concepts, should be reduced to that previously known concepts. According to Fodor, all concepts are unlearned and primitive. We can have compound concepts through combining these primitive ones. It is implied from this view, that all the concepts are innate or at least combinations of the innate concepts. We all have an innate set of primitive concepts. We need to have the ability to produce complex concepts by the combination of primitive concepts. This set of innate concepts contains the most powerful concepts. Any predicate of any expression, must be innate or should correspond to some combination of innate primitive concepts. Any new concept can be formed only by the already available concepts. And this new concept must be reducible in those already available concepts. In the next chapter we will discuss concept acquisition elaborately.

The representational theory of the mind on which Jerry Fodor founds his theory has been misunderstood by many. This misunderstanding led some philosophers to assume that if thoughts can be represented linguistically, they may also be represented in the form of a map, while some others have argued that even pictorial representation of thought is a genuine

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[58] Churehland, 1986, p. 149-159

[59] Dennett, 1978, p. 103

possibility. But, on analysis, we find that these representational theories cannot be accepted, and next we will see why they're far less convincing than the one propounded by Jerry Fodor.

First of all, pictorial representation is impossible without imaging, and image formation is impossible without sensation - and particularly visual sensation. To be precise, if the mind too understands a picture or an image, it can only do so at a point of time when cognition is already complete, implying that whatever thoughts the image or the picture was supposed to represent had already been represented otherwise.

There is one more valid reason why thoughts cannot be pictorially represented. A stimulus generates a neuro impulse which brings to the mind nothing more than a signal or information which is required to be represented. Now, we suppose that such information is represented to the mind as a picture before it becomes an object of thought formation, it can only be done by virtue of resemblance, though it is not understood why after all the mind will recollect in order to think. The same objections may be raised against the theory of map-representation. Whether it is a map or a picture, it is impossible to conceive of it without visual representation which depends on sensory experiences and more particularly visual sensations. Certain information may be visually represented only when it is understood - only at a point of time when the process of cognition is complete.

The question may arise how thoughts can be represented linguistically if they cannot be represented pictorially. First of all, it is necessary to understand that Jerry Fodor believes mental representation of thought to be linguistic in nature because the natural languages used for communication across the world bears some marks of familiarity elaborately discussed by Chomsky and termed 'Universal Grammar'. The argument here is that such similarities as the natural languages exhibit across the world are due to the fact that some linguistic structures are innate. Jerry Fodor picks up the point and argues that the language has structures because thoughts which the language expresses have structures, and if some linguistic structures are believed to be innate, certain structures in the thought have to be innate. In short, his point is that languages have structures because thoughts have structures. But there is a problem. How do thoughts become structural? Now, Fodor reasons that the only way left for the thoughts to become structural is by way of representation, and unless such representation is linguistically carried out, thoughts cannot be structurally represented to the mind.

CHAPTER 2

NATURE OF THE LANGUAGE OF THOUGHT

2.1. SYNTAX AND SEMANTICS:

Fodor has a major contribution in philosophy of mind and philosophy of language. Language of thought hypothesis has to be understood in the light of a computational and representational theory of mind. The basic idea of the language of thought hypothesis is that some mental process is best understood as based on the mental representations in a linguistic medium, i.e. the language of thought. Now we will discuss syntax and semantics, two very important features of the language of thought. According to Fodor the central claim of the language of thought hypothesis is that the only possible psychological model presupposed linguistically structured mental representation. We know that language has these two features syntax and semantics and Fodor's claim is that mentalese as an internal language also has these two features.

"This language consists of a system of representations that is physically realized in the brain of thinkers and has a combinatorial syntax (and semantics)...."[60]

What is syntax? The general answer of this question is that syntax is the arrangement of words to form a well formed sentence in language. Fodor compared his language of thought with computer language and for him syntax is the structure of a sentence. Another important feature of language is semantics. Now the question is what is semantics? Semantics is the meaning of a word or phrase in a language. Semantics is also concerned with the analysis of word meanings and relation between them. Fodor says in the present context semantics is about the (philosophical) study of nature and role meaning in language of thought.

The claim of the language of thought hypothesis is that mental representation has a linguistic structure. If a representational system has a linguistic structure then it possesses both syntax and semantics in the form of combinatorial syntax and compositional semantics. Representational system employs combinatorial syntax if it possesses both basic atomic representations and compound representations. Atomic representation is a constituent part of compound representation; more than one atomic representation can be put together and make

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[60] Aydede, 1997, p. 7

a compound representation. The combination of atomic simple representations is called compound representation. By the reduction of compound representation we can get the simple atomic representation. For example, 'John is a good boy and he has a car'. It is a compound representation and if we analyze it we can get two representations, like, 'John is a good boy' and 'John has a car', where both the representations are compound representations. Basically just as a sentence is the combination of words, mental representations are the combination of concepts. Concept is the constituent atomic part of any mental representation. The constituents of compound representations can be both compound and atomic.

The semantics of a mental representation is a function of the semantics of its structure of the representation, its syntactic constituent and the arrangement of the constituents within the structure. For example, the truth value of a representation 'if Ravi sings then Malini dances' is a representation. we can change the arrangement of the parts, for instance, 'if Malini dances then Ravi singing' or we can change the whole structure like, 'Ravi sings and Malini dances' or we can change the components, such as, 'kavi sings and Mini dances' and for each and every case the truth value of the representation may changes as well. So, mental representation also employs compositional semantics.

Fodor is trying to establish that mental representation has both a combinatorial syntax and a compositional semantics. His claim is that thought occurs in a mental language: thoughts are sentences in a mental language in the head. Our brain can be correctly described as a mechanism which encodes the sentences of a mental language. The language of thought is common for all. It is a common linguistic structure in all human thought. This language of thought or mentalese is not equivalent to any natural language. Thought as a representation (tokened in and) processed by the brain, this (language) mentalese is not visible unlike any spoken language. It is a mental language encoded in the operations of the brain, which is not within reach of the conscious mind of the thinker.

Fodor says the mind is relational because the mental states are relational and mind-object relation is also considered by Fodor. Mind has a representational system, in the connection of mind – external reality. According to the language of thought hypothesis, the relational mental representations are arranged in a syntactical structure. Mental representation is a language-like representational system where semantic content is present. So, mind-external objects association is understood in the light of word to word semantic relation in mentalese. Mind represents the outside reality through the semantic content of mental representation.

According to Fodor, the semantic content of the mental state can only be understood in the light of a syntactical structure of the mind. Mental processes as computation processes are "syntactically driven". [61]

Semantic properties do not have any causal power or causal structure. Only the syntactic properties have causal power. But it does not mean that the semantic property does not have any explanatory value. Causal mechanism is entirely guided through causal syntactic terms. An inference becomes valid when computation is carried from true premises to true conclusion. It is possible because of truth perceiving causal mechanisms of syntactic structure. Computational process operates through syntactical process but to understand its purpose requires semantic terms.

According to Fodor's language of thought hypothesis, unconscious thinking takes place in a language of thought. In his view, any mental process or mental state is presented in the mind in the form of a mental representation, which is tokened by a linguistic structure and operated by combinatorial syntax and compositional semantics. This linguistic token is used in language of thought for basic concepts which are operated by syntactic rules creating syntactic connection to allow for complex thought. Syntax as well as semantics has a causal effect on mental representations.

Thinking occurs in a syntactic structure and it is produced out of functions of computational abilities on strings of symbols with semantic content. Other two claims are; 1. Mind is a representational system, and 2. Mental process is a computational process.

Representational theory of mind, computational theory of mind and language of thought hypothesis are logically independent theories. In order to explain the function of the mind, we need two theories: computation and representation. It is generally held that though they are logically independent, they are very closely associated also. Mind represents and computes by means of a linguistic system of representation. But Fodor's view is different. According to Fodor, on one side computation becomes possible through symbol manipulation, which requires syntax, and symbol is that which is represented through syntactic structures. On the other hand, a representational system with a syntax permits for representation of semantically compositional states of affair. To do justice to the representational and computational capacity of the mind, a representational system with linguistic structure is necessary. This is

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[61] Fodor, 1990, p. 38

found in the language of thought hypothesis. Human mind can start from basic representation of simple objects to representation of complex objects or state of affairs.

Fodor speaks of two characteristic properties of the mind, that is, productivity and systematicity. Systematicity of thought is that if one is capable of thinking that x is y then he is also capable of thinking y is x. The productivity of thought is that the brain is capable of producing an infinite number of complex thoughts from limited resources. These features of thought are shared by natural languages. Language has combinatorial syntax and semantics. For any complex expression, syntactic structure is a basic functional object and that is part of a larger device of complex expression and semantics is its basic constituent, one of the parts by which something is made and it is explained by the principle of compositionality.

Fodor says,

"A system of representations is 'compositional' if the syntactic/semantic properties of the complex representation are fully determined by their structural descriptions together with the syntax/ semantics of their primitive parts".[62]

Fodor's claim is that the representational system of thought is compositional in nature. The fact that thought is systematic and productive implies that it is all very similar to linguistic representation with combinatorial syntax and semantics. Now the question is, how compositionality produces systematicity and productivity of thought? [63] and we have already discussed it in the previous chapter. According to Fodor, "systematicity and productivity are grounded in the 'architecture' of mental representation."[64]

It is very curious that although psychology deals with the study of mental processes, the existence of the mind has never been either completely accepted or denied. For a long time it was physiological psychology that formed the center of interest for all students who desired to study the individual man. Naturally physiological psychology dealt only with the brain and had no place for the mind in its investigations. Whenever the mind was introduced, it was regarded as an aspect of the body. These psychologists studied the operations of the nervous system of the human individual and thus derived their conclusions about man. These early psychologists therefore did not recognize the existence of the mind as separate from the body.

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[62] Fodor, 2008, p. 106

[63] Fodor, 2004, p. 38

[64] Fodor, 1988, p. 26

In the 19th century, when the mind was regarded as something subordinate to matter, psychologists, while conceding the existence of the mind, regarded it only as a reflection of the brain. They stated that "mental events are therefore never the cause but always the effect of a bodily event." T.H. Huxley coined a new word for this mind – brain relationship. He called it Epiphenomenalism.

There is, therefore, a new conception of the mind which enjoys much attention in the psychological circle even today – the mind that is active, dynamic and creative. There is no doubt as to a relationship between the mind and the brain, but it is a relationship in which the mind is a directing, controlling and synthesizing force, because when the objects of awareness are systematically removed, what is left out is awareness itself. In the present context, it is to be clearly understood that such awareness, which is but the mind in disguise, has no object of immediate contemplation but itself, and the internal exchanges that occur to form thought are not intellectual but of meditative nature. Here the adjective 'meditative' is used not in the way it is used in spiritual philosophy but with a very different meaning and in a very different context.

This theory sought to explain mental activity on the basis of brain activity. Writing on the theory, W.E. Sergeant says:

"What we call consciousness is nothing more than the shadow of what is happening in the brain, in much the same way as we can see the shadow of a moving vehicle. Just as the shadow cannot in any way influence the vehicle itself, neither can the mind (the shadow) influence the body, because it is really nonexistent as a force in itself". [65]

It is a difficult concept to explain. But we can say that when we have objects to meditate upon, we are simply intellectual, but when we have nothing to meditate upon other than ourselves, we are meditative. Photography is often explained by the mechanism of vision and vision formation. But it is a fact that vision formation is not a physical process like photography. Rather, it is a psychological experience. We do not see. We form judgment. The image on the retina bears the same relation to the vision as a book which is read. Just as two people, even when they read the same material, never have the same thoughts. Then it is not that the mind merely interprets; indeed, the mind interprets so much that interpretation becomes meaning, and so, the meaning stops being contextual. In Fodor's theory, meaning or

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[65] Sargent, 2021, p. 133

semantics is not contextual. We need to discuss elaborately the nature of semantics in Fodor's theory.

Then, in spite of the fact that Fodor, at several places, both directly and indirectly, relates to semantics, it is a pertinent question to rise whether or not the concept of mental language as outlined by Fodor at all requires semantics to be an operative theory of epistemic value, besides being philosophy and, more particularly, philosophy of language. This question arises because semantics is basically an inquiry into the meaning of observable objects and facts, and it is yet an undecided question in western philosophy whether meaning as a psychological phenomenon is developed because of linguistic habits generated inside in the form of response. The question is, in short, why we say something is something and not something else. Apparently, Fodor provides no hint or clue here. Not once in the whole course of his discussion in mental language does he offer any explanation so as to clarify if the meaning of anything can be derived from the computational process itself. That, however, appears to be his main point. Let us, then, try to see if meaning, besides being the description of something, can be a response, something conventional semantics will not go parallel with.

Of course, once we enter Wittgenstein, we have a very good solution to the problem. The solution, to be very precise, is that the meaning of anything is determined either analytically or ostensively. We can either say that a car is a vehicle with four wheels, fuelled by petrol or diesel or we can just point out a real car to a person by a simple gesture of the hand, confident that the features of the car standing in front of him in the garage will be sufficient to construct the meaning of the car for him.

But, both these sources of meaning are completely blocked once we enter Fodor and his philosophical world of mental language. This is so because neither preverbal children nor animals are capable of analysis sufficiently to define an object, especially when it cannot be doubted that descriptive process is but analytical process. Of course, we may consider an ostensive way of arriving at the meaning of something. That door, however, is closed too because Fodor bases his argument on innatism. Then what is the third option left for us to concede, if we are trying to determine the meaning of an observed fact or something of which we are psychologically conscious.

Third option is a must if we have to continue along the line of Fodor. Well, let us, for the time being, try to contemplate a third option, which is according to Fodor, as we already said before. According to Fodor, a situation leads to an endless number of options, and we choose

only one of them because we want our action to be fruitful in a particular way. But the question remains how we choose after all? Choice cannot be made without interpretation and the act of interpretation, even at a very basic level it cannot be carried out without semantics. The question, then, in simple words, is: 'How can one choose one single possibility from a cluster of possibilities unless one already knows what each possibility means?

Meaning derived out of contextuality invariably is a variable phenomenon. The reasons are not far to be sought. Different experiences are categorized differently in contextuality, and it may actually account for so many natural languages in existence, but some verbal base has to be in existence and also the rules to interpret such verbal base, and if the verbal base has to be operative, the rules of interpretation must be fixed rules, otherwise it becomes difficult to explain how one simple idea retains its meaning in different languages.

Fodor is clearly opposed to the idea of meaning to be contextual. But, if something is non-contextual, there is, of course, no reason to come straight to the conclusion that it has to be innate. For example, much of the abstract analysis has no contextual base, but the knowledge derived out of the process is not strictly innate. For instance, if we go on multiplying any two sets of numbers, wherever we shall stop, all that we shall get is a number, and if we carry on further with the same sets beyond a reasonable point of calculation, all we shall get is infinity. The fact is that the infinity has no contextuality, though each of its premises may be contextual. Then, if we have to look for the contextuality of the infinite number, we can find its contextuality only in terms of its categorical relationship to each of its premises. This contextuality is very different from our common idea of contextuality. This contextuality is not a discovered fact but a generated psychological state or response to a situation.

Therefore, we see that we do find some contextuality along the line of argument mentioned by Fodor to establish the validity of the language of thought and in order to logically prove its operational model. This, we may say, is a type of emotive contextuality on which Fodor lays the foundation of his philosophy. Indeed the proposition that the meaning of words is derived from the specific context in which they are used has been subjected to severe criticism down the ages and, at least apparently, the theory does not appear to be a very convincing one from a common sensical point of view, because if we have to accept that meaning is derived from contextuality, many abstract ideas become difficult to express. This, however, is not to assert that abstract ideas have no contextuality at all. This is only a reminder that the contextuality

which describes a proper noun or a common noun to the mind is not the same contextuality which accounts for the meaning of abstract nouns. Let us probe a little deeper.

What could be the contextuality of '0'. If we believe that the contextuality of 0 is all about the mind experiencing the absence of something, we are clearly misled, because, by 0 we do not always mean absence but presence also. Then the contextuality of 0 can only be arrived at by analyzing the premises that lead to 0. Similarly, " of the proposition 'this is good' Ogden and Richards had written: ' the peculiarly ethical sense of "good" is a purely emotive sense…."is good" has no symbolic function; it serves only as an emotive sign expressing an attitude… and perhaps evoking similar attitude to other people or inciting them to actions of one sort or another."[66]

Let us clarify that the above contention is not a direct outcome of Fodor's Philosophy. But, from what Fodor says, the above contention is an implied condition for us to proceed on along his line of investigation.

Communication and understanding:

This is a very important observation because, contrary to the established claims of linguistics, we have one more way to understand and appreciate the cognitive process associated with the whole communication system. Fodor is basically telling us that all perceptual inputs are translated into a common code before they are communicated. Then, in a sense, communication in the cognitive process occurs twice. First, the precepts are translated into a common code. Second, they are further translated into natural sentences for the purpose of communication. But one can say, there is no real argument in this particular contention, because as Fodor has assumed a common code into which the perceptual inputs are translated, one can similarly assume another linguistic code necessary to carry out the process of translation, and in that case, the complexity of the argument is so serious that it stops being a solution to the problem. The necessity of the common code, however, can be felt along a different line.

Let us come straight to what Fodor has to say here in his own language, as to how meaning becomes possible. Fodor says that,

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[66] Passmore ,1978, p. 400

"There must, in short, be a computational procedure which allows one to use what one can see out the window to confirm the remark that it is raining, and such procedure somehow contrive to apply simultaneously to linguistically and visually carried information. An obvious way to achieve this would be to translate all perceptual inputs into a common code and then define the confirmation relation for formula in the code: that would be a precise analogue to what one attempts to achieve in the formalization of the confirmation relation for scientific theory".[67]

The argument that meaning is contextual is founded on the common conviction that understanding arises out of interaction between the self and the system. It means that, in spite of much idealistic approach, the common view that understanding is produced by the senses coming in contact with the objective world has remained more or less unaltered.

This view, however, is so incomplete, and, thereby partial, that it is almost decidedly erroneous, and, if not erroneous, unquestionably deficient. There is no apparent objection to the observation that we understand the world because we have to be with it, *'to be with'*, in the present context, implying experience, and experience has to be contextual. But even without Fodor, the question of understanding the self is as important as understanding the system.

How do we, then, understand the self? Understanding oneself is a part of communicating with the self because, as Fodor tells us communication and understanding cannot be a distinct operation as long as we accept that thoughts too are couched in a language of self (mind), is a Cartesian self, and understanding sub self is but confirmation of the conviction that 'I am'. But how do we understand ourselves in terms of such thoughts of which we are completely unaware? This is most probably done unconsciously, though, according to Fodor, such thoughts also require a medium for communication to the self. What is, then, internally said? How is it said after all? More important than both these questions is another question regarding the factors affecting or occasioning internal communication. What is after all the necessity to communicate internally?

It is a fact that experience which arises out of interaction is conducive to understanding; it is a common belief that understanding as a process becomes unworkable in the absence of experience. But if the mind has no immediate object to interact with, it interacts with itself –

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[67] Fodor, 1975, p.112

in an endless effort to understand itself and thereby the world, the world being very much the content of the mind, thanks to the senses.

It is where we find ourselves to be an object of contention and orientation for itself, an idea and a philosophy safely beyond the ken of a Western investigator, though some systems of ancient philosophy have been devoted to it, and the followers of these systems have evolved an entire lifestyle out of it. Indian philosophy is one of them. In Indian philosophy the highest form of knowledge is not knowledge about the system but self-knowledge which synthesizes itself in understanding the material world. The knowledge that the mountain is fiery is surely an outcome of inference based on information furnished by the senses. This is, however, only a type of knowledge and does not include superior knowledge obtained otherwise.

2.2. MENTAL SYMBOL AS WORD IN MENTAL LANGUAGE:

Representational theory of mind is central in Fodor's discussion about language of thought. The central claim of this theory is that concepts are mental properties. Representational theory of mind says that, 'mind is the obvious locus of mental representation and mental consciousness'. Thinking is 'representing things in the world'. In the representational theory of mind, concepts are mental objects. As mental things they are objects in the brain. They are not abstract. Mental representation has representational content. The Representational system requires mental or neural processes of individual thinkers.

In Fodor's opinion, Mentalese has compositional semantics. Meaning of complex symbols is determined by the meaning of the constituent parts of symbols and the way these are put together to produce complex symbols. If we want to understand the semantic value of primitive symbols then we should understand the theory of meaning. In the previous section, we have already discussed that not only syntax, semantics is also important. Without semantics, syntax has no value at all. The connection between symbols and its semantic contents is determined by causal law. Fodor has discussed the nature of this causal connection. But there are many changes and shifts in Fodor's writing about this matter. FLOWER refers to the property of being a flower. This property of being a flower is the cause for token FLOWER in the brain. Thinking about a flower in the presence of a flower is the evidence for a causal connection. Token of FLOWER is only possible when the property of being a flower is there. According to Fodor; it is a law that can establish a connection between the existence of flowers in the physical world and flower thought; it represents asymmetric dependence. So, as per asymmetric dependence, there has to be a causal

connection between the flower and FLOWER token. (Asymmetric dependence is that, law x to be asymmetrically dependent on law y is for law x to depend ontologically on law y; but not vice versa. We will discuss this point later, by introducing Cram's model.) Only causality may provide the content for a mental symbol.

The causal connection between being a flower and FLOWER token is resulting from the thought of a flower.[68] Behind the occurrence of this mental symbol like FLOWER token, of course, there are requirements of certain other conditions like, proper lighting, good eyesight etc. If anyone clearly sees a flower on a sunny morning in his garden, then, this can be the cause of the flower thought to be produced by a flower. But if someone takes away this flower from the garden, then what would happen to the thought of a flower? In Fodor's opinion, the FLOWER token may still remain in the brain/mind in such an occasion. But, is it possible that there is no such (entity) flower that might be a cause of the flower token and the person is still thinking about the flower? Then the question would be what the cause behind the mental symbol FLOWER token is in such an occasion? Is it not possible that one can have a thought like flower thought in absence of the property of flower? Fodor tells us that where the flower is absent some property of the flower can be causally responsible for the FLOWER token.

But one might say that there is some problem because here we are only considering the surface property of a real flower as a flower that we can see in the garden. The fact is that, not only the property of real flowers is the cause of the FLOWER token. It is also possible that the property of being non-flower is the cause of the FLOWER token. It is also possible that not only real flowers, things similar to flowers can also become the cause of flower thought, such as, ball, artificial flower, and flower illusion can be a reason for the mental symbol of FLOWER. There may be so many causes for mental symbols which are not the meaning constituent property in a direct way. Such as, sometimes 'cold water' may be a cause of the thought of 'ice cream'.

In Fodor's opinion the causal relation between being a flower and FLOWER token gives an important link between being a flower and FLOWER symbol. Mental symbol of a flower represents external reality that is the thing present in senses. A FLOWER token is an intentional mental property.

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[68] Fodor, 1987, p. 115

We shall try to understand the asymmetric dependency by a diagram introduced by Cram (1992).

1. A (horse) --------P2----------- causal connection----------HORSE

                P1-----------causal connection-----------HORSE

2. B (Cow) ------------P1-----------causal connection-----------HORSE

                P3-----------causal connection ------------NON-HORSE

Figure. Cram's interpretation of asymmetric dependency

In this figure, A is a horse. B is a cow. Both can be the cause for the same token of HORSE. Figure A and B, both of them have two properties. A has P2 and P1. And B has P1 and P3. In this diagram horses do cause the symbol HORSE by property P2 and P1. Cow can also be a cause for the mental symbol HORSE by property P1. If P1------ HORSE & P2-------HORSE both of laws are destroyed then also HORSE token will be possible by object B by P1 property. But the connection between B--------HORSE is asymmetrically dependent on A------HORSE. Symbol HORSE is caused by the object horse, not cow. But According to Fodor, causal connection between B and HORSE tokening is asymmetrically dependent upon the causal connection between A and HORSE tokening.[69]

Fodor has tried to defend his theory from some important objections. One of the most important challenges is the problem of misrepresentation. According to Fodor 'a symbol represents a property only if *all* and *only* instantiations of the relevant property cause tokenings of the symbol. Both are wrong, since it is possible that tokenings of the symbol 'S' are caused not *only* by instantiating the property of being a horse, but also by the property of being a cow, namely, in cases in which the cow looks like a horse. This is the problem of misrepresentation.'[70]

What Fodor tells us in this matter is that,

"Misidentifying a cow as a horse wouldn't have led me to say 'horse' except that there was independently a semantic relation between 'horse' tokenings and horses. But for the fact that the word 'horse' expresses the property of being a horse (i.e., but for the fact one calls horses

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[69] Cram, 1995, p. 56-70

[70] Cram, 1995, p. 57

'horses'), it would not have been that word that taking a cow to be a horse would have caused me to utter." [71] (Here utter means mental symbol)

Fodor has something more to say. He continues,

"…that a symbol expresses a property if it's nomologically necessary that all and only instances of the property cause tokening of the symbol. There are problems with the 'all' part (since not all horses actually do cause 'horse' tokening) and there are problems with the 'only' part (cows sometimes cause 'horse' tokening; e.g., when they are mistaken for horses)".[72]

Fodor says (in his early work) that symbol tokening is not caused by instantiations of properties, he tells us that the object itself is the cause of the symbol tokening. Fodor's point of view on that matter is that the law on which the other laws asymmetrically depend is the content determining law. 'Horse' means HORSE because all laws covering the causing factor of horses by non-horses are asymmetrically dependent on the law that horses cause horses [HORSE].

From the beginning of this discussion Fodor said that representation relation is relation between symbol and its object. But later [later part of *Psychosemantics*] he said that it is the relation between symbol and properties. Cram adds that the symbol represents the property only in virtue of another property horses usually have, namely the property to look like a horse. Not only horses but sometimes also cows have the properties of looking like a horse and can therefore cause the symbol Horse via this very property.[73]

Fodor thinks that this more intricate version is needed in order to deal with this matter. It introduces a difficulty in causal theory of mental content. Because, we cannot always identify the absolute reason for any kind of thought. Thought can be caused by multiple ways and it is difficult to trace any one of the actual cause of meaning constituent. If we fail to find it, then we have to consider that all possible causes are responsible for a mental symbol. But there is no difficulty in asymmetric dependency theory because if one does not already have a HORSE token, it will not be possible to have a representation of the HORSE by looking at the cow. So, B and HORSE tokening is always asymmetrically dependent upon the causal

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[71] Fodor, 1987, p. 107-108

[72] Fodor,1987, p. 100- 101

[73] Cram, 1995, p. 61.

connection between A and HORSE tokening. We cannot deny the importance of Fodor's asymmetric dependency theory.

Fodor says that the causal route from B to HORSE depends on the causal route from A to HORSE but not vice versa. But what does that mean?

Fodor tells us, If B-caused 'A' tokenings [i.e., HORSE tokenings] are wild- if they falsely represent B's as A's - then there would be a causal route from A's to 'A' ['HORSE'] even if there were no causal route from B's to A's ['HORSE's]; but there would be no causal route from B's to A's ['HORSE's] if there were no causal route from A's to A's.[74] Fodor never explains why we should admit asymmetric dependency theory.

Fodor has something more to say on that point. He says that some horses are not responsible for HORSE tokens. It can happen when a horse is far away from the perceiver. Often cows might be a cause of HORSE tokens. In Fodor's theory of psychology mental states are intentional, that is semantically evaluable. And mental states are causal-- that is, mental states have causal explanation and law. For example, William's belief that there is a wine shop, can be semantically evaluated as true or false, and his desire for wine stated in a law - like a causal explanation of William's behavior. Fodor tells us that the human mind has the striking ability to think about unlimited abstract properties of the world. Human minds not only entertain abstract properties, but also entertain abstract grammatical properties like being a noun, being a verb and even non sensory properties. For example, any triangular shape may cause PARATHA (Indian food) tokens in mind, but surely any triangular thing such as a toy may not be responsible for PARATHA. There are a hundred other shapes available in nature. Man did not care to define all of them (symbols). He took the labor to deal with only a handful of them. Why? Indeed, even objects in the realm of nature confirming to strict geometrical parameters are very rare. It is seldom that we find something completely round or square or triangular. Indeed, what has been said so far about nature cannot be accepted without skepticism – nature is symmetrical. No, it is not so. Unbiased observation will reveal that nature is haphazard, asymmetrical, and un-uniform. And, if we find symmetry and uniformity in nature, it is because the concept of uniformity and symmetry are already present in the mind. So, it is not that we come across a square box in real life. It is just that we come across a square box or a round hall or a triangular paratha because we look for them. And these geometrical symbols cannot have any meaning derived from experience.

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[74] Fodor, 1987, p. 108

Whether they have any meaning or not they are present in the mind. The objective world of experience becomes intelligible because of them. We cannot say that these symbols constitute a language. But we can certainly say that if geometrical symbols can be present in the mind, independent of experience, there is at least some possibility that linguistic symbols are present in the mind in the same way. So, it can be good evidence in favour of Fodor's theory of mental language.

Fodor, in his early work in his book *Concept* said that, all primitive mental symbols are innate, that is, all concepts are innate. Primitive concepts are the basic simple concepts, the elementary parts of all complex concepts. Concepts be it simple or complex, all are predicates of mentalese. But in his later part of the same work, in the same book Fodor makes some changes in his theory that primitive concepts are innate and unlearned; but there are some concepts that are acquired too. There must be a causal relation between experience and mental concept. Fodor's never says that experience has no role in concept acquisition. Experience has an important role on any account of concept acquisition. Fodor's claim is that lexical concepts are the base or root of words without considering any prefix or suffix, which may be attached, such as, port in the word of import are not learned on the basis of experience, but rather, it is triggered by experience. We acquire concepts, as a result of experiencing their prototype/stereotype (fixed idea of a particular type of thing) instances, and it is an inductive process. In Fodor's own words, "a genetically endowed capacity for statistical induction would make sense, if stereotype formation is something that minds are frequently employed to do."[75] Fodor's claim is that "there can't be any such thing as concept learning."[76] It is an innate mechanism, by which we acquire the prototype first or preliminary version of a device from which other forms are developed, for concept acquisition. Prototype helps us to capture things in concept. The term prototype is initially defined in cognitive science as representation of something within a category. According to Fodor, Prototype is a cognitive reference point which is the point image of all representatives of a certain category. Prototype is a representation that best represents the category as a whole. For example, a prototypical flower is some kind of mental average of all the different kinds of flowers of which a person has had experience. We can keep a prototype of something and then we can match similar things to the prototype in order to identify or categorize this new thing.

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[75] Fodor, 2008, p. 153

[76] Fodor, 2008, p. 139

Fodor's case against prototypes is that they do not compose. There is no way in which the prototype for GOLD FISH is a function of the prototypes for GOLD and FISH. Fodor asks the question; could the prototype for the complex concept be computed on the basis of the prototypes of its constituents? There are two assumptions of Fodor in this context. One is that the theory that Fodor takes to be his target is one that identifies concepts with prototypes. It is not only that the concepts have prototypes and that prototypes are part of the nature of concepts; prototypes are supposed to give an exhaustive account of the structure of concepts. Another assumption is that the type of semantic properties that a constituent has must also be exhibited by its hosts. So if the constituents of a complex concept have prototype structure, the complex concept itself must have prototype structure.[77] Prototype is an innate possession of a mind. With the help of a number of prototypes new concepts (in Fodorian sense) can be acquired. In Fodor's philosophy, there is a difference between acquisition and learning because acquisition is subconscious while learning is conscious and deliberate. Acquired concept never has something new but in learning there is something new to the organism. Experience is important not only for learning, but triggering also. For empiricists we learn new concepts through learning. Learned concept has two parts, one is an analyzable concept and other is an unanalyzable concept. According to empiricists all concepts are new in the sense, all concepts learned through experience. New concepts which are not analyzable are learned through experience and the concepts which are analyzable may be derived from experience. Analyzable concepts are the combination of unanalyzable concepts. They are ultimately reducible in learned concepts. But in Fodor's theory of concept some concepts are innate and some concepts are formed out of innate concepts. In Fodor's theory, a new concept does not mean irreducibility. Always acquired concepts are reducible to innate primitive concepts. According to Fodor we cannot learn new concepts we can only combine previously known concepts to acquire new concepts. Concept acquisition is all about the combination of previously known concepts not previously learned concepts. These previously known primitive concepts are innate. So, in this sense, in Fodor's theory there is no place for concept learning. So, there is no such concept that is unrelated to previously known concepts. Any concept is likely to be new if it is a combination of previously known concepts. And this formulated new concept must be definitionaly reducible to the already known concepts. Then only it is the complex concept that we can acquire and is reducible ultimately to simple or primitive concepts. The primitive concepts cannot be reduced to other concepts that are

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[77] Laurence & Margolis, 1997, p. 489

innate. But, most of the concepts are non-reducible and thus they are innate. According to Fodor, no concept is actually a learned concept.

Fodor's concept nativism is radical concept nativism which has played a significant role in the context of language of thought. Radical concept nativism is the theory that all lexical concepts are innate. To obtain any predicate must be coextensive with some other previously known predicate. Co extensiveness doesn't indicate sameness. For example, 'man has life' and 'man has breathing'. These two sentences are coextensive but not synonymous. So, in Fodor's theory, there is an innate internal language, which has expressive capacity, same as the predicate of any acquired language.

This theory of innate concepts has been challenged by some empiricists like Jerry Samet. According to Jerry Samet representation is a causal relationship between representative and represented. He explains that primitive non reducible concepts are the basic sensory concepts, acquired through causal interaction with the instances of this concept. He rejected the mentalese account of concept acquisition, that learners for concept acquisition presuppose some prior unlearned concept.

According to Samet, concept acquisition is about causal interaction with the instances of those concepts. This claim has been challenged by Lawrence Kaye. He says, is it a sufficient condition to acquire a concept? Can an individual, who is colour blind interact with redness like us? Samet said that causal interaction is sufficient for acquiring a sensory concept and no further explanation is needed for sensory concept acquisition. Samet agrees with Fodor in one point that the learner is able to represent the instance of the concept. Samet refutes the view of Fodor that to acquire a concept one should involve the prior concept. Kaye holds that a mere causal interaction with an instance of a sensory concept is sufficient to causal attainment of the concept; this view of Samet is not supported by mentalese theorists. Because any colour blind person may interact with instances of redness like us. But he is unable to obtain the concept of Red because of his colour blindness. Causal interaction alone cannot do that. Supporters of mentalese accounts will say that, concept of colour is itself innate. "Many of those that are color-blind are red-green color-blind - they are unable to distinguish red and green but see other colors normally. Surely, the nativist has an obvious and fairly plausible explanation for such cases as far as concept attainment goes, namely that our color concepts are innate, but such individuals either do not possess concepts RED and GREEN or possess some other innate concept, such as RED-GREEN. Normally, interaction

with one or more instances of redness activates RED and similarly for GREEN, but in such individuals either nothing or perhaps RED-GREEN is activated"[78]. According to the empiricists' view, normally through interaction with one or more than one instance of the concept Red that concept can be obtained. But Kaye tells us, there is no solid explanation to establish this empiricist view, in the case of a colour blind person. But Samet did not give any alternative explanation for this 'He does suggest that 'we might develop a neurophysiological theory to explain these regularities', but this just begs the question. For instance, he cannot appeal to neurophysiological normality, for, as things stand, we can identify neurophysiological normality vis-a-vis color vision only by first determining which individuals have conceptually normal color vision. Perhaps we might someday be able to completely explain color blindness with a neurophysiological theory, but only if we can completely reduce talk of (sensory) color concepts to neurophysiology. And there is no reason to think that reduction would invalidate innateness claim. With or without reduction, then, the nativist hypothesis is the only explanation we have of sensory conceptual impairment'[79]. So, there is no ground for thinking that reduction would cancel the nativistic claim that we have prior conceptual capacities to acquire novel concepts. For primitive sensory concept attainment Samet's theory is only applicable to those cases where causal interaction is a necessary and sufficient condition for concept achievement. There are some concepts that are not obtained through causal interaction. So, they are innate. This explanation is not supported by Fodor in the case of colour blindness, Fodor rather said this RED concept cannot be triggered and for him without triggering we cannot be activated such concept even though the person perceives the colour red. Causal interaction alone cannot do anything for obtaining the RED concept for a colour blind person. Concepts are only activated by triggering. Samet has no argument for his defense here that without causal interaction the concept cannot be obtained in the case of a colour blind person. Neither Keye's defense nor Samet's position is adequate in this particular case. According to Fodor's concept nativism, for new concept acquisition, novel concept is recombining with old mentalese terms. So, learning a new concept means it is acquired in relation to other concepts. These claims implied that acquired concepts are definable. If any new concept is acquired in terms of previous concept, new concepts are obviously reducible in previously

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[78] Kaye, 1995, p. 200

[79] Kaye, 1995, p. 200

known concepts. Because it is acquired by the help of a combination of previously known concepts, so it is reducible to those concepts.

Kim Sterelny has an objection against Fodor. Kim says the term physics cannot be definable in this way. Like the term 'Proton' may not be acquired through this method. According to Fodor, Complex terms of physics can be definable through this method. If we start to analyze those terms, we can get the primitive version of it, which is innate. For PROTON 'the smallest part of the world' is the already known conceptual knowledge of it. This method is important to understand the concept of innatism. After that Kim explains Fodor's concept of innatism according to his own understanding.

Kim Sterelny explained concept innatism in the way he understood Fodor's theory of concept innateness:

"P1. Concept learning proceeds via hypothesis formation and test of hypothesis.

P2. This hypothesis attempts to specify the defining characteristics of the concept i.e. they are hypotheses about the extension of the concept. [note: concept extension is the formulation of new concept from existing concepts]

P3. This hypothesis formation presupposes a medium in which the hypothesis and the data that test them are couched: a medium for internal representation.

So,

C1. No concept can be acquired unless the organism already has the conceptual resource to specify its extension.

C2. Concept acquisition doesn't increase the expressive power of the organism's cognitive system. But,

P4. Most concepts expressed by a single lexical item in the organism's public language, if it has one, are not definable in conceptually simpler terms.

So,

C3. Most concepts expressed by a single lexical item in a language using an organism's public language are innate."[80]

Fodor thinks that we have a large stock of innate concepts. Innate concepts are not learned; they are triggered by experience. Fodor introduces the important role of triggering in the growth of concepts. Here Fodor's nativism is different from trivialized nativism. In trivialized nativism there is no place for triggering. According to trivialized nativism, there are innate capacities to acquire concepts. Fodor gives us few indications about triggering. He did not give any complete theory about the nature of triggering. According to Fodor, different segments of concept are triggered by different experiences. Fodor's nativism suggests that triggering has a role in the formation of other complex concepts also because the complex concepts require primitive concepts and combination of those primitive concepts. There is a basic difference between triggering by experience and learning through experience. According to Fodor's nativism concepts are innate. Innate concept activation can be possible by experience because concept triggering is important in Fodor's theory. The notion of concept learning should not be confused with the notion of triggering. But there are some philosophers who are confused between triggering and learning. According to Fodor, only those concepts can be triggered which we already possess in the mind. Learning is different from triggering. In learning one may learn which is new to the learner but in triggering only already known concepts can be triggered. According to Fodor there is a difference between learning something and knowing something. Only known concepts can be triggered through experience which is innate. Possession of primitive concepts cannot be explained through learning at all. Because learning is a cognitive process and cognitive processes are built out of concepts. So Fodor would claim that the primitive concepts are innately fixed. According to Fodor, Triggered concepts are available as a result by activation of sensorium and that sensorium is innately fixed. In Fodor's opinion 'the set of potential concepts available and the combinatorial mechanisms available are themselves innately specified'[81]. "So what might be triggered? Perhaps pre-existing potential concepts are highly specific. Triggering just "activates" a concept by tacking it onto reality... Sometimes it sounds as though this is what Fodor means; triggering switches on the sensorium; concepts are thus available."[82]

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[80] Kim, 1989, p. 221-222

[81] Fodor, 1981, p. 275

[82] Kim, 1989, p. 127

Concept triggering is different from concept learning. Any unlearned previous concept can be a cause for a next acquired concept. As we have already mentioned, we don't have any psychological explanation about primitive concepts and how we were acquiring those concepts in Fodor's theory. It can be only explained biologically. Blind people do not have RED as a sensory concept. And none of us have the concept of ultra high frequency sound as a primitive concept. Those are not sensory primitive concepts which are activated. That is why the relationship between stimulus and concepts can be arbitrary. Triggering of concepts consist in perceptual responses to their reference. Blind cannot perceive the instance of redness. Red is not triggered in case of any blind person. By the process of Triggering, concepts are available by activation of sensory faculty. This sensory faculty is fixed innately or genetically. Triggering is only possible in the presence of stimulus. According to Fodor, our mind cannot have direct access to the world; this connection is possible by triggering. Triggering is about activation of concepts. Triggering is a causal entity that can differentiate the concept of being a dog from the concept of twin dogs. As we already mentioned, Fodor said triggering switches on the sensorium; concepts are consequently accessible. The structure of the sensorium is designed in a way so that certain inputs trigger the availability they become available in the thinking process of certain concepts in our thought. But we should remember one thing that triggering is not only about determining the reference of some pre-existing mental structure rather inspiring the unfolding of some internally governed mental structure. In this way we can not only explain the possibility of sensory concepts like, red but also the concepts like, elephant, neutron.[83]. Triggering as an internal program is responsible for unfolding some complex structure into the primitive innate structures. If the effect of stimulus is complex and highly structured then also it is called triggering, other than learning. It is possible that, sensory concept which has evolutionary history is triggered. Triggering is a biological (and a brutally causal) process and already present in the internal structure, it is an internally driven development process which is innate and complex by nature.

Fodor, in his whole course of discussion about language of thought hypothesis, did not discuss either nature of language or nature of thought separately. But we will try to understand both of them (language and thought) following Fodor's line of discussion.

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[83] Kim, 1989, p.127

2.3. NATURE OF THOUGHT AND LANGUAGE:

There are some unsolved questions that even the most modern branches of psychology cannot answer. This question, in spite of being genuine, remains a question, for the simple reason that logic in the strict sense cannot account for them. We will see in Fodor's theory, biology is very important to understand the nature of the language of thought because the language of thought hypothesis is very much close to natural science. So, in any serious research, logic is important only as far as it brings us closer to a comprehensive analysis of observable facts and a 'reasonably truthful conclusion', because just anything logically well-presented cannot be a philosophy.

To be a comprehensive theory, Fodor must offer something substantially valuable; otherwise it is much ado about nothing. In our discussion so far, we have noticed that Fodor does not define thought directly which is the most important constituents of his philosophy, though it is true that if we can delve a little deeper, we may be able to find out what thought and language stand for in Fodor's philosophy. This is something we are going to attempt next. Unless we do it now, it becomes next to impossible to prepare a ground for better analysis of the nature of language of thought. Of course, Fodor must have understood thought and language from his own perspectives. We must try to critically understand them otherwise the discussion about thought and language which we brief is without an introduction.

In the present context we shall begin with two questions.

1. What does language express? Does it express thought? Then, if it expresses thought, is thought any different from other mental activities which, although not thought, are usually believed to constitute thought?

2. What do we mean when we say that something is innate? Do we mean that it is simply inherent or that it is naturally and constituently present in the being?

Let us start to discuss the 2nd question, if we opt for the second alternative, a whole horizon of scientific investigation opens up before us, and so we get to see that nothing can be innate in the Platonic sense. If anything is, at all, innate, it can be only innate because it is in the very nature, composition and operation of the being. This is really a valuable point deservingly calling for our attention at the present junction of our discussion on mental language. So, without further delay, we shall start right away. We shall start by analyzing innatism and

proceed on to construct a general explanation for mental language along the line of Fodor by way of coming into terms with a fairly acceptable definition of language.

In western philosophy, Plato was perhaps the first man who had developed the idea of innatism, and after him, for two thousand years, many philosophers, at different points of time, dealt with the idea, but none of them could explain why something is innately present in the being. They all did agree on one point that if anything is innate, it must come from somewhere. But they did not tell us the source of anything innate. Unless we are considering the utopia of Plato seriously, we are all bleak and barren here, and, in the absence of definite, concrete explanation, these mountainous theories, unfortunately, lead us nowhere in Fodor's theory. In the notion of Fodor's language of thought nothing is innate in the Platonic sense. But, then, the question is, in what precise sense is it innate? Fodor seems to argue that it is innate in the sense that it is beyond contextuality being so 'intimately personal or private' it is a 'rule unto itself' – a sovereign mechanism of the mind outside all external influences.

It is exactly where the first approach enters the discussion. It is a radically opposite view and more scientific with more concrete evidence in store. Basically, nothing in the world is innate, whether it is physical or mental, and evolution alone can explain qualities observable in the being, including thought, thought being as much a manifestation of consciousness as action. There can be no thought without consciousness, and consciousness, at the very root, is an outcome of chemical reaction. To understand this point, we can mention a paragraph from the text, *Biology of Animals*.

"The study of the constituents of living matter tells us that it is made up of elements which are also present in the non-living matter. Each matter has some properties of its own and this is the expression of activities which are going on at the levels of molecules and atoms. How does this expression occur at the molecular level within a living system? It is evident; protoplasm is made up of a large number of inorganic and organic compounds. The working of these compounds helps in the maintenance of a dynamic steady state. By two steps metabolism and responsiveness, the living body maintains this dynamic steady state and both the steps are carried out by innumerable chemical reactions of the different compounds present in the protoplasm. Life is thus rightly defined as uninterrupted chains of chemical reactions."[84]

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[84] Ganguly et al, 2011, p. 15

Immediately after protoplasm, all we get is replication or duplication and metabolism- in short, life or consciousness. And, if there is any one single property of consciousness, it is autonomous action, and therefore, in a significant sense, consciousness manifests itself in such actions as are determinate and directed towards the instinct of self-preservation. No wonder, if we want to trace anything such as 'historically original thought', we have to accept that it is but the instinct of self-preservation itself. There are distinctions specified throughout the history of western philosophy between thought and instinct, and even intellect and emotion. They have been variously defined by different thinkers from time to time, rendering the entire subject, as complicated as a puzzle, though no definite conclusion has been reached. But are they really distinct concepts or distinct manifestations of a common affair? How do thoughts differentiate from instinct? Thought itself could not have evolved without instincts provoking thoughts. Evidently, the earliest man did not engage himself in philosophical speculation. His immediate object of thought was not the universe but himself and biological preservation of his own identity. Was this instinctive or intellectual? The question itself is the answer because here it is madness to deny that the instinct of self preservation has some strong intellectual base. Most probably, what we know as instinct has the same beginning, and if instinct and intelligence are in reality identical, it turns out that the animals must be thinking just in the way we are thinking, and if language of thought is seen as a concept to explain human thought process, it must be equally effective explaining animal thought process. Therefore if a man has language of thought, the animals also do have so.

To be precise, consciousness or life force, whatever the term we use, becomes evident because we observe certain activities which are not strictly mechanical. In the lower forms of life, of course, the vital activities are very similar to chemical reactions. But, in higher forms of life, the responses are so complex and sophisticated that we can easily discover in them a persistent and sometimes quite unswerving domination of will. It is 'will' because of its autonomous nature, so much so that no two responses are alike. It is where all our calculations go wrong and we begin to feel that it is the presence of something non-material in the material construction of the system.

At a certain advanced level of biological complexity the responses are equally complex and sophisticated. This sophistication of responses is basically thought. Thought has its root in primitive urges and emotion, and if Plato had not committed the historical decision of distinguishing reason from emotion, and if the philosophers after him had not harped upon such an entirely misleading distinction, it is in all probability would be a little more straight.

There is not a single thought which stands without emotion. There is not a single rational idea whose root cannot be traced in the wild urges of life.

Therefore, it is but a matter of common understanding that instinct is no different from intelligence and thought is no different from emotion and urges.

And, Fodor tells us, and does so not without a reason, not only thought, all mental activities have a similar pattern that whether it is thought or an urge or an emotion compelling the organism to act with a particular reference to the situation, a computational pattern is very much observable. This is something quite extraordinary as a philosophical concept because we usually labor under the impression that emotions and urges produce wayward, unjustifiable responses and activity patterns. But everything that is unjustifiable from sophisticated points of view is not unjustifiable by the laws of natural evolution, and, on deeper reflection, we shall find that even the wildest urges are somehow very closely associated with a need for a calculative move; being part of something we may call a natural conspiracy. Indeed much of all that is not approved of in the civilized ways is approved of in the natural ways, and, in spite of the fact that we are accustomed to civilized way of life, the urges remain urges, though much suppressed.

Now the question is whether or not an organism really depends on some medium to understand his own urges or his very own refined urges called thoughts. There are, strictly speaking, two options before us. We may say that some sort of a medium is necessary for someone to understand oneself. We may also say that no medium is at all necessary because self cannot be distinguished from self-thought or construction of self-thought.

If we go for the second option, all arguments disappear, because we really find no reason why we need a medium for our own thought formation. But the difficulties arise because thoughts are not mere possibilities, and the presence of mere possibilities in the mind is not a sufficient condition for an organism to act. In Fodor's opinion we actually 'choose from possibilities' - an endless number of options then, are we not trying to find out how one option is better for us to act upon than another? Are we not, then, comparing and thereby becoming involved in the process of deducing a conclusion from some premises? Are we, then, not thinking about thoughts? And if we are thinking about thoughts, this internal thinking as a computational process cannot be done without having access to a very elaborate medium of expression which is far better and more complicated than a natural medium of expression.

Hundreds of questions arise at once. How can language which is a medium of expression, or so we have been told, become a vehicle of unexpressed thought? How do we know that thoughts yet unexpressed are thoughts after all? These two questions, though apparently unrelated, establish Fodor's basic assumption while answering in detail. Let us, therefore, try to throw some light on each of them separately, so that we can see what Fodor has to say about some basic questions which he answers, though not directly. It is worthwhile paying some attention to them as they are crucial to the understanding of the concept of the language of thought.

Let us try to answer these two questions in order to trace out the basic arguments of his language of thought.

2.4. How can language which is a medium of expression, or so we have been told, become a vehicle of unexpressed thought?

What is an expression? Let us say that when I say that I am a woman, I express something. But what is after all the necessity of such expression? The necessity of such expression is a real life situation in which I find myself several times a day, and so I express or communicate in order to convey my thoughts to someone else. But, before I tell someone that I am an Indian woman, I tell myself, and I convince myself that I am so, because such propositional knowledge is impossible without faith or conviction about my own content of construction. Indeed, then, before I communicate to someone, I am communicating to myself, and such self-communication, according to Fodor, is NOT mental language, for the simple reason that such communication may be carried out in the natural languages that we are taught and which, to a large extent, mold our thoughts also.

Actually when we communicate to ourselves we realize that it is done naturally. We cannot indicate the mentalese, only when it is translated to natural language we find out that self communication is done through natural language but this natural language presupposes the basic language of thought. Our thoughts are represented linguistically in the brain even before learning any language. So, thought occurs in some language and it is different from natural language.

Fodor starts with a much earlier point. He is, basically, raising a very scientific question. How does any marginally developed organism communicate to itself? Let us try to understand with a practical example. Let us try to imagine a situation in which we find a large

gray cat roaming on a big roof without any parapet on a pleasant summer day. All of a sudden it sees a bird on the adjacent roof. At once it begins a marathon intended to cover all the distances from one end of the roof to the other. But, surprisingly, the moment it reaches the extreme point and looks under, it stops and eventually returns without moving a step further – a single step which could prove to be its death.

The empiricists, the psychologists and the scientists have one readymade answer. It is instinct. Now Fodor had no objection to such an answer. But he raises the point that even if it is instinct, it has to be communicated, and understood, otherwise it is impossible to explain why the cat acted as it did. And, Fodor further tells us, if an untold thought has to be communicated, every organism requires a language to communicate to oneself. If there are decision making processes then it involves some psychological properties, and these properties define our thoughts. So, if this situation does not set any representation into the brain then the cat is taking another step and this single step can call it's death. Therefore there is some representation and representation must be linguistic in nature. So, there is some language of thought. Fodor tells us,

"Perception must involve hypothesis formation and confirmation because the organism must somehow manage to infer the appropriate task – relevant description of the environment from its physical description together with whatever background information about the structure of the environment it has available. Notoriously, this inference is non-demonstrative: there is typically no conceptual connection between a perceptual category and its sensory indicants; an indefinite number of perceptual analysis will, in principle, be compatible with any given specification of a sensory input."[85]

2.5. How do we know that thoughts yet unexpressed are thoughts after all?

Fodor is of the opinion that thoughts need not be sophisticated. Thoughts arise in a situation, and in the context of a situation, and whether or not they are communicated externally, they are invariably communicated internally through mentalese. Just as a bud is a flower in the sense it is a potential flower, mental language is a language because it carries the potential without which natural language as a process of skill-development becomes impossible, hence the structural similarity between private language and natural language. Both the languages have the same structures.

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[85] Fodor, 1975, p. 50

Of course, thoughts, if they are to be thought about, must belong to their very rudimentary forms, simple association of ideas and their analysis. This is a psychological activity which, as a matter of fact, plays a significant role in human evolution and particularly in developing such traits of the human brain as are not common to the anthropoids, both living and existing, from whom man has evolved. Labour and articulated speech were "…the two essential stimuli under the influence of which the brain of the ape gradually changed into that of man, which for all its similarity to the former is far larger and more perfect."[86] The two stimuli mentioned here are labour and speech. The implication of the statement is that skill development plays a part in organic evolution so far as it is related to cultivation of ideas and deliberate attempts to communicate them. There are animals that are impassioned of all such physical features which enable humans to speak. But, fortunately or unfortunately, humans alone can actually speak, indicating that fine thoughts have helped humans in the evolutionary process. Unexpressed thoughts therefore may be very much thoughts as they mean about physical changes, and may be such physical changes that make use of language possible. So, biology meets psychology at least as far as evolution is concerned, there could not have been any human evolution possible without language taken into consideration and no language without thought taken into the consideration. Unexpressed thought therefore must have similar psychological properties as expressed thought. Fodor only adds one single point. Thoughts in order to be processed must be computed and represented. One more point. Whether unexpressed thoughts have similar psychological properties as expressed thoughts is a point that cannot be empirically discovered. It is because thoughts before being processed for understanding are not subject to introspection, yet they may be very much thought because without them the mechanism of thought itself becomes impossible.

Interestingly, man developed a society much before he developed proper speech, and if we are to accept that the social association demands as much as interaction with the immediate environment as with oneself, it becomes apparent that man had an occasion to 'self-communicate' much before he had an occasion to communicate externally. How such primitive 'self-communication' is held if they have no medium of communication?

If we consider evolution seriously we can see that language is developed at a point of time in evolutionary history when man has already achieved much sophistication. They have already started painting, sculpting, engraving etc., indeed they have started living, some sort of a

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[86] Nesturkh, 2003, p. 157

family, life in order to find an organized life different from that of other animals. These could not have possibly been achieved without intellectual sophistication requiring cultivation of thought. Primitive thought has no lingual purpose to serve because man had not yet developed language. Then, how were such thoughts understood back in those days? If those thoughts were after all matters of understanding, they could have been only understood internally without a so-called natural language, and because thought cannot be thought without linguistic property, those primitive thoughts must have had some sort of a medium for self communication similar to a natural language. This is absolutely opposed to the point forwarded by the behaviorists who appear to claim that intellectual sophistication and linguistic precision both go hand in hand.

Fodor does not really say something much different except that representational and computational processes which render thought intelligible have similar linguistic properties as well. Let us try to understand the point with a thought experiment. Suppose, an ancient man, one day traveling across grassland, all of a sudden came upon a beautiful sight of a valley. The stimulus instantly caused a response; the response is the instant case being nothing more than a wild utterance – some sort of a raw sound quite loud. What is this sound after all? Today we know that it was an exclamation, a sound that comes out because of a strong emotion. This emotion, of course, had an idea behind it, an idea which may be, if we try a little further, reduced to a syntactical structure, and we can even trace a subject-predicate relationship. But, interestingly, man had not yet developed speech. Then how did the primitive man we just imagine communicate such a complex relation to himself? Of course, the primitive man was not conscious of the fact that he was actually engaged in 'self-communication'.

To be precise any exclamation may be reduced to a syntactical structure with a subject – predicate relationship because such relationship is an essential factor representing a particular thought to a particular mind in understanding. In an exclamatory sentence, such a relationship becomes apparent because of symbols used, but it is not that such a relationship cannot exist without use of natural language symbols, because content of symbols must precede symbolic use itself. But, he was communicating - in a language which in course of evolution laid the foundation of articulate speech.

So, thoughts which are thought about are basic thoughts – thought in a primitive sense - not the sophisticated thoughts of the civilized man – a computational process based on analysis and associations of ideas.

CHAPTER 3

LANGUAGE OF THOUGHT AS OPERATIONAL LINGUISTIC MODEL

3.1. Vocabulary of the language of thought:

In the 1st chapter we have discussed some general arguments in favor of internal language. These arguments are 'general arguments' because, mostly, they are empirical observations and may be combated by contrary empirical observations, and Fodor himself does not altogether rule out such a possibility, hence a separate chapter "THE VOCABULARY OF INTERNAL REPRESENTATION" in his historical attempt to conceptually argue language of thought in his book *The Language of Thought*.

The inevitability of the chapter is that if the Language of Thought does not have to remain just an intellectual concept, and if it has to become an operational linguistic model, it must have a vocabulary, because no language, if it is language after all, can operate without a vocabulary.

Certainly, Fodor is aware that some representational systems have no vocabulary and they operate effectively without a vocabulary. For instance, pictures and bee languages operate without a vocabulary. But, it must be noted with care that we are not concerned here with just a representational system but with human language with a representational system. So vocabulary is a must. Of course, Fodor does not say that if we can discover the vocabulary of the internal code we have solved the whole mystery of human language with a representational system. He merely 'reasons' that if the language of thought is no figment of fancy, and if it involves operation of syntactical structures, and if such syntactical structures, being equivalent to sentences in the natural languages, can convey the messages that are commonly conveyed in the natural languages, it must have a vocabulary. He notes:

"It is however, prima facie reasonable to suppose that a system rich enough to express the messages that natural language sentences can convey will have one."[87]

Now we come back to our main discussion. What is, after all, vocabulary? Cambridge Advanced Learner's dictionary offers a definition. It says that vocabulary includes all the

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[87] Fodor, 1975, p. 123

words known and used by a particular person. Vocabulary, in other words, is but a lexicon itself; a list or collection of words and phrases alphabetically arranged and employed by a language.

One may object that the vocabulary of language of thought is limited; it is not as rich as natural language vocabulary. The vocabulary of the natural language gradually grows over time because; many scientific and cultural words are added to the natural language vocabulary. But on the other hand the vocabulary of mentalese is innate and limited. If vocabulary of language is limited, then the basis of language may be weakened. So the limited set of vocabulary may reduce the richness of the language. People may believe that the length of a vocabulary of any language determines its richness. But that is not the case. The richness of any language does not depend on its length of vocabulary.

As Fodor tells us, the vocabulary of one language can be different from the vocabulary of another language. This difference primarily reflects in their length. To be precise, the English vocabulary is lengthier than the French vocabulary, indicating a numerical difference, and not essentially a 'semantical' difference, because one single vocabulary may contain a number of words and phrases that have the same meaning.

The length of a vocabulary is, therefore, in a very significant sense, deceptive in deciding the richness of a language. Here understanding of the precise meaning of an 'item' as distinguished from a 'phrase' in the sense Fodor uses both of them is crucial to understanding his philosophy. For Fodor an 'item' is an elementary meaningful unit. It is basic, rudimentary and fundamental. On the other hand, he uses the term 'phrase' more or less in the sense that it is a derivation, descent. Now, we must be careful. Conventionally, a phrase is distinct from a clause, whereas here we are dealing with a phrase in a particular sense in which it is distinct from an item.

Fodor begins with *bachelor* and *unmarried man*. 'Bachelor' means unmarried man because 'bachelor' as an expression includes two elements or items, namely *being a man* and *being unmarried*, which is why unmarried man is the explanation of 'bachelor', and the two expressions, *bachelor* and *unmarried man*, can replace one another.

According to Fodor, "The point is that some natural language vocabulary items can be 'eliminated' by defining them in terms of others, preserving at least the set of inferences that

can validly be drawn from sentences of the language." [88] For example, if we eliminate 'unmarried man' for 'bachelor', for the smallest set of vocabulary items for the purpose of reduction, we are doing nothing very useful, because here we are only reducing the number of phrases without reducing the number of items, as 'bachelor' being retained, the two elements 'being unmarried' and 'being man' are retained along side. If, in short, we eliminate 'unmarried man' in favor of 'bachelor', we have not reduced the number of items in the vocabulary.' The point, though Fodor puts it in a complicated manner, is not so complicated from the linguistic point of view.

We have three phrases (expressions) to toy with (1) 'bachelor' (2) 'unmarried' (3) 'man'. If we replace 'bachelor' by 'unmarried man', 'bachelor' vanishes from the vocabulary, and we are left with, at least apparently, two items, namely 'unmarried' and 'man'. This, according to Fodor, is numerical reduction and not essentially a semantic reduction, because the moment we have to represent a bachelor , we shall again find all the three items back in there original place, 'man', 'unmarried' and 'unmarried man' - semantically three independent items which cannot be further reduced. This is how Fodor explains that numerical reduction of phrases is not necessary to lead semantical reduction of items.

This numerical reduction does not affect that meaning is a very common grammatical observation, and it is, by far and large, accepted on all hands. Let us try to understand the point with an example. If we have to turn 'I admire Fodor's reasoning but I reject his conclusion' into a simple sentence with a single subject and a single predicate and a finite verb, we get 'I admire Fodor's reasoning, rejecting his conclusion', reducing the number of words used but, at the same time, retaining the number of items intact, and such reduction is ineffective, because, there is no change for numbers of items and their meaning. It has no effect on semantics. So, this reduction has no semantically valid base. To put it schematically:

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[88] Fodor, 1975, p. 124

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┌─────────────────────────────────────────────────────────────────────┐
│                         LEVEL 'A'                                     │
│                                                                       │
│                          Sentence                                     │
│                                                                       │
│  Main Clause                                          Main Clause      │
│                                                                       │
│                                                                       │
│ I      admire    Fodor's reasoning    but      I      reject    his conclusion │
│ (S)    (V)       (O)                   ©        (S)    (V)       (O)    │
│                                                                       │
│                                                                       │
│                         LEVEL 'B'                                     │
│                          Sentence                                     │
│                                                                       │
│        I                       admire          Fodor's reasoning,     │
│                                rejecting his conclusions              │
│                                PARTICIPLE CONSTRUCTION                 │
└─────────────────────────────────────────────────────────────────────┘
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The above illustration sufficiently clarifies Fodor's point. Reduction in terms of expression does not result in reduction in terms of items – each item specific to one and only one semantical purpose.

In LEVEL: A, we have used nine words, whereas in LEVEL: B we have used seven words. From a structural point of view, the number of elements used in Level: A is 6 excluding the conjunction, whereas the elements used in level: B is 4, the participle construction considered, beak and bone altogether, as a whole. However, at the semantic level, both the sentences mean the same, the number of items remaining constant, which may be illustrated in the following manner:

<p align="center">I</p>

<p align="center">*Admire Reject*</p>

<p align="center">Fodor's</p>

<p align="center">*Reasoning   Conclusion*</p>

Though the number of clauses or phrases comprising items may vary from one language to another, the items which are basically rudimentary blocks of construction at the basic level may remain unaltered, indicating a common set of *linguistic mind* – a set of mind common to all communicators, irrespective of the languages they may be communicating in. So Fodor's claim is that we all, at the basic level, communicate in a single, common language, though we may speak differently in different languages. There is a common universal grammar, and linguistic items, that constructs the linguistic mind, and the semantic level of any grammatical representation is important. Fodor discusses separate levels of internal code to understand the system of vocabulary of internal code.

Fodor maintains that at some very basic level *bachelor* and *unmarried man* bear identical representations, and the level being ('a message level')basic level, *bachelor* and *unmarried man* are synonyms, implying that if one does not work, the other invariably will. So the question whether certain vocabulary is big or small cannot settle the question if it is rich or poor. He is adequately clear on the point that the primitive vocabulary of internal representations may be smaller than the surface vocabulary of a natural language. We have three kinds of vocabulary. One is the primitive vocabulary of internal code (that we have already discussed). 2nd one is vocabulary of primitive forms of natural language and another one is surface vocabulary of natural language. So we get three separate levels, *surface vocabulary, primitive vocabulary* and *vocabulary of the internal code*, and his argument is that one springs from the other, as the plant springs from the seed, the vocabulary of the internal code being innate. The primitive vocabulary comes from the vocabulary of internal code and the surface vocabulary of natural language comes from the primitive vocabulary. To be precise, Fodor asserts that man is born with a vocabulary which he uses for internal representations and the primitive vocabulary and the vocabulary of natural languages both evolve out of it. So he goes from natural language navigating back to the internal code, trying to say that they are interdependent so far as communication is concerned; hence Fodor's assumption that 'one cannot learn a language, unless one has a language'. The vocabulary of any language is ultimately reduced to the vocabulary of the internal code.

However, before we proceed further with Fodor, we must pause and try to see if his method fits his investigation. By now, it is sufficiently clear that he is trying to apply a type of reductionism in order to clarify his philosophical position, and it appears, at least at the present juncture, that he is unable to avoid the problems of reduction. Therefore, it is

worthwhile outlining the very basic claim of reductionism, quite popular in the early fifties of the last century across the western philosophical world.

The basic claim of reductionism is that one science is reducible to another science or one part of it is reducible to another part, when all the statements in one science can be logically deduced from statements in the other. So, the reductionist claims, biology is reducible to physics, and physics to chemistry.

Fodor believes that surface vocabulary may be reduced to primitive vocabulary of natural language, and both surface vocabulary and primitive vocabulary may be ultimately reduced to the vocabulary of the internal code. But the question is what we get if we try to reduce the vocabulary of the internal code?

Evidently, we have no answer here, except that below the vocabulary of internal code may be an order of psychological states which are very difficult to explore simply by their reduction. Then, if we suppose that psychological states can somehow be further reduced, we come across the material construction of the brain, and though the structural units of the brain are more or less the same in a particular species, the states of mind, in the form of responses to a stimuli differ from one member to another within the same species. It is our common observation but Fodor explains it in a different way.

Fodor claims a distinction between primitive vocabulary and internal code vocabulary; though he does not, quite surprisingly, bother to define either of them. The concept of primitive vocabulary, however, is a bit clear. The primitive language was much different from the languages we use today. One significant aspect that distinguishes any modern language from its primitive forms is that the vocabulary of the modern form is much lengthier than the vocabulary of its primitive form. This, we know from our linguistic knowledge, happens primarily due to the process of adoption and adaptation, often called borrowing, which piles one expression upon another, creating synonymous and antonymous expressions, though the basic meaning in all of them remains unaltered.

A small example may render the point clear. For 'biological father' in modern English we find a number of expressions such as 'papa', 'dad', 'daddy', 'father', etc. The complexity of such a variety of different expressions for a single meaning, it is believed, accounts for the linguistic superiority of English vocabulary. But Fodor tends to argue that such linguistic superiority explains nothing regarding richness of vocabulary. Indeed, the length of the

vocabulary is a superficial phenomenon. To put it analogically, the length of an elastic band starched to its optimal level of elasticity is not its exact length. Its exact length has to be majored in its inelastic condition. Similarly, the length of the vocabulary of a modern language cannot be our guide so far as the question of its linguistic richness is concerned. To put it simply, the vocabulary of a language containing a total of hundred words is not necessarily a vocabulary linguistically more rich than the vocabulary of a language with only a total number of fifty expressions. Basically if we reduce English vocabulary to primitive vocabulary then also the semantic base of any expression is the same. Only the English vocabulary has more synonymous expressions with the same semantic basis. So the length of any vocabulary does not determine its richness.

Therefore in a nutshell, the difference between the surface vocabulary of a modern language and the primitive vocabulary of the same language is basically that the primitive language vocabulary is constructed by such expressions as stand independently peculiar to their semantic purpose whereas the surface vocabulary is more elastic and is a network of expressions supplementing one another in a complex linguistic scheme. Primitive vocabulary is unique and independent but the surface vocabulary depends on primitive vocabulary of any language. Both the vocabulary is related and its richness cannot be claimed with the length of surface vocabulary.

This is an important linguistic observation by Fodor, because what accounts for the linguistic richness of the vocabulary of a language is the number of syntactical units, not the number of phrases - one expression peculiar to one semantic purpose. So Fodor maintains that the surface level vocabulary of any natural language may be reduced to its primitive vocabulary by the process of logical elimination.

Now, as we reach the primitive vocabulary level, we suddenly realize that 'definitional truth' no longer helps us further, and that suggests the existence of a deeper level of linguistic consciousness which, according to Fodor, has a vocabulary.

In Fodor's own words,

"Definitional truths are, by their nature, symmetrical. If 'bachelor' means 'unmarried man', then 'unmarried man' means bachelor, and it follows that 'x is an unmarried man' entails 'x is a bachelor' iff 'x is bachelor' entails 'x is unmarried man'. But now to put it roughly, there would seem to be some semantic relations that are just like the one that holds between

'bachelor' and 'unmarried man' except that they are not symmetrical, and the definitional theory of analyticity simply has no resources for representing this fact. The classic case is a relation between, say, 'red' and 'coloured'. If it is a linguistic truth that bachelors are unmarried, then it would seem to be equally a candidate for analyticity that red is a colour. But the two cases differ in the following way. It is plausible to say that 'bachelor' entails unmarried because 'bachelor' means 'unmarried man' and 'unmarried man' entails 'unmarried'. But there is no predicate P such that it is plausible to say that 'red' entails 'coloured' because 'red' means a colour and P. I mean not only that there is no such a predicate, but that there could not be such a predicate in any language; there would be no coherent meaning for such a predicate to have."[89]

In brief the semantically valid rule that holds for an example between 'John is a bachelor' and 'John is an unmarried man' does not hold an explanation for 'red' and 'coloured' because, though whatever is red is coloured, everything that is coloured is not red. Then the question arises what after all 'coloured' means if being 'coloured' does not suggest any colour in particular. One way to solve our present problem may be that being coloured means a combination of colours. But the question that still remains to be answered is what after all we mean by combination. A combination of red, green, and yellow colour is not the same as a combination of colours comprising blue, gray and black. So, 'being coloured', if it is a semantically justified unit of expression, is not an observation that may be justified by definitional truth. So, according to Fodor, it has a meaning because being coloured as a concept is innate or at least some such semantic units exist and account for expression.

Let us try to understand Fodor's point of view in our own way. A statement in the form of a sentence and its definitional truth are symmetrical, to be replaceable by one another, and it is not correct to conclude that we understand either of them because we understand the other. To be precise, it is not that we understand 'John is a bachelor' because we understand 'John is an unmarried man'. Then how do we understand the sentence? According to Fodor, understanding an expression, as we have already pointed out, involves computing a representation, a representation that determines its entailments, and because such entailments are too many, it is impossible that our understanding of the sentence is an outcome of our understanding of its entailments.

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[89] Fodor, 1975,148.

In Fodor's opinion, we understand the sentence by computing its representations in the mind. The other model, i.e. understanding a sentence by understanding the entailments, may explain the operation of the surface level vocabulary of the natural language, but at some deeper level of linguistic activity, the model fails to explain the understanding as a psychological process. This is something Fodor has already hinted at in the beginning of his discussion and we have already mentioned in the first chapter of the thesis. He has told us that when we write 'the dog' it has an orthographic description, but what we intend to mean by such an orthographic description has none. Then, it remains to be answered how after all a sentence is understood. Is there no logical need for the ideas to be innate if an innate language is to be concaved of? And, if it is all about innate ideas, what so interesting is Fodor telling us? How is his philosophy different from what Plato said? Internal language, according to Jerry Fodor, is not all about innate ideas. Clarifying what he has to say on this particular point he says:

> "...but I did not want to argue that children are born with concepts like 'airplane' ready formed. Rather, I suggested, what they must have innately are the elements into which such concepts decompose, together with the appropriate combinational operations defined over the elements. "[90]

Fodor believes that language of thought to be innate but not as innate as Plato thought an idea to be. But, even for clarification, he does not tell us exactly how his innatism must be different from platonic innatism. Of course, from his discussion so far, it is clear that he does not believe any particular concept to be innate, but he claims that many components or elements into which a particular idea for expression may be reduced must be innate. So, Fodor gives us 'elements into which the concept is decomposed'. Here we can discuss some of the limitations of Fodor's theory that can be overcome. Let's first see what kind of objections can come against him. First of all, Fodor does not define what these elements are. We have discussed, he does not support definitional truth for the purpose of psychological analysis of language. But, if definitional truth does not work at some deeper level of linguistic operation, something else must, otherwise we have no reason to believe that such elements exist. Besides, Fodor further fails to explain how concepts decompose into elements. Moreover, even if we accept that concepts decompose into elements, Fodor must explain the concepts and their formation first, and it appears that there is no way Fodor can explain the formation of concepts without agreeing that they are mostly formed either

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[90] Fodor, 1975, p.152.

ostensively or analytically by definition. Of course, being a seasoned philosopher, he counters this question with the possibility of a logical relation between the sentence and the definitional truth contained in it. It tells us that if x is y, and y is x, and if they are symmetrical, so much so that one can replace another, then some principle maintaining such symmetry must account for it.

In his own words:

> "Bachelor gets into the internal language as an abbreviation for unmarried man. The abbreviatory convention is stored as a principle of logic (i.e., as bachelor= unmarried man). Since in the course of learning English bachelor gets hooked onto bachelor and unmarried man, bachelor= unmarried man can be used to mediate such inferential relations as the one between 'x is a bachelor' and 'x is an unmarried man'."[91]

Now we will discuss how Fodor appreciates the definitional approach regarding formation of any concept in his early work. But finally he moved away from his early position.

3.2. Does concept learning include definitional truth?

Fodor perhaps shows semantic ambiguity which is a straightforward approach to linguistics that fails to explain. He tells us that though some children understand the concept 'animal' when they produce the sound 'dog', what they understand by 'dog' is not what the adults understand by 'animal'. Then what does a person mean or understand when it produces the sound 'dog'?

This problem, in order to be solved, requires Fodor to invent an internal code, and he tends to argue that the sound 'dog' being a concept degenerates into certain elements of the internal code, producing understanding. If we do not understand the formation of any concept then we are unable to understand the vocabulary of internal code because the vocabulary is all about constituent parts of the concept. We can definitely look at it more logically and simplistically.

1. Language, more than a necessity, is a habit. In fact, communication is a necessity and not entirely regulated by external circumstances. So when a child utters the sound 'dog', it is, being theoretically anything, an act of imitation.

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[91] Fodor,1975, p.152

2. It (a sound produced by a child) is neither a concept nor an act of understanding. It is just a sound corresponding to an event or an object which continues to grow with time as a concept, though it may stop growing linguistically. For example, a hundred years ago, marriage meant a sacred union. But, today, marriage means a social contract, and some of the feminists tell us that it is bondage - a way of subjecting women in the patriarchal society. But if we consult the Oxford Dictionary printed in England a hundred years ago, we will find that the definition of marriage in it is no different from the definition of marriage in the Oxford Dictionary recently published. What does it mean? It indicates that the term has stopped growing linguistically, though it has evolved conceptually, and when such conceptual evolution will exceed a certain point, the new meaning will be automatically absorbed, for our concepts are formed out of our experiences.

But according to Fodor, this view is valuable. It explains most of linguistics but, in some cases, it cannot explain concept learning as a process. After all, we do not only learn about such concepts as fair, water, and dogs. These concepts and similar concepts forming a massive portion of our vocabulary may be easily explained by (ostensive learning) experience. Fodor also mentioned experience plays a vital role for triggering these concepts. Triggering is not learning. We have already discussed the difference between triggering and learning. But concepts such as time, space, and substance are such concepts that they are naturally beyond our experience, hence the only way we can learn about them is by definition. In short, experience alone cannot explain the whole concept of learning as a process, and it is where Fodor steps in. He offers us an explanation which, in spite of some apparent complexities, is one single explanation for the entire process of concept learning.

We see that Fodor switches to a common psychological observation that is often sighted in order to scientifically explain linguistics, and he does so in order to gather support for his philosophical conviction that language of thought is a reality, opening an avenue to challenge Wittgenstein and his followers who try to trace the growth of language from empirical facts and observations.

To understand Fodor, at least at the present juncture of our discussion, it is necessary that we understand the very thesis of his philosophical investigation. Basically, borrowing from linguistic and generative grammar, Fodor attempts to establish that concepts are internally represented as definitions. He himself has doubts if all concepts are so represented. But, on

the whole, he holds the concept- learning, for complex concepts, to be a process of analysis by definition.

Now, for the convenience of discussion, we may consider two models that can describe how a concept is learned.

First, we may say that a child learns about fire as he comes across fire in a real life situation, and the more he meets fire in such real life situations, the more he understands about fire - contributing each time to an ever growing concept of fire. So, even psychologically, fire is not a concept that dawns on us in a single instance to last for a lifetime.

This model of concept learning, though it may be justified from a psychological point of view, does not apply itself to each and every case of concept-learning. So, here we have another model of concept learning. There are some cases in which we have to learn about a concept by definition, and in such cases, *the truth contained in the definitions* is equal to the concept that is learned. For example, if I have to know about something which is not within my common reach of knowledge and which cannot be adequately expressed by any single term in my common application of language, I know it by definition, and the definitional truth so derived is the concept I have learned. Fodor tells us,

"....it may, in short, be true as I have suggested that, insofar as a concept is internally represented as a definition, the order of the acquisition of terms parallels the order to definitional complexity of the concepts that the terms express."[92]

Let us explain. How do we, after all, arrive at a certain definitional truth? Suppose, I have come across a horse and I find no word in my language to represent a horse. Then how do we ever form the idea of a horse? I looked for the meaning of "horse" in a dictionary which states that a horse is a large animal with four lags which people ride on or use for carrying things or pulling vehicles.

Fodor's point of view is that, if one is able to construct or is to be expected to construct the concept of a horse by such a simplistic definition, and if the concept is really constructed, then it may be because the definitional truth has some internal representation as well.

We may argue that the concept of horse, when it is formed or constituted by definition, is constructed as some other concept in the sentence that comes together to form a whole. To

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[92] Fodor,1975, p.154

put it simply, one must understand what 'large', 'animal', 'four', 'legs', 'people', 'ride', 'carry', 'things', 'pull', 'vehicles', etc. It means before such terms may constitute the definitional truth of a horse conceptualized. But according to Fodor, we have to admit that these terms alone cannot constitute the concept of a horse even when it is to be understood in a particular context. They constitute the concept of a horse when and only when such terms internally represent a horse. How, after all, such representation is made unless the brain receives the definition in order to represent a horse? And, more significantly, how does the brain understand such a definition unless it is represented in a message-form?

Fodor tells us,

"…. The causal relation between stimulus and response is typically mediated by the organism's internal representation of each/ and if that is true, then almost every result in psychology – from psychophysics to psychometrics – can probably be made to bear, in one way or another, upon hypotheses about what the system of internal representations is like".[93]

So we see that while on one hand Fodor believes a concept to be dynamic, he, at the same time, believes a concept to be objective. The concept, according to Fodor, is not just an idea derived from experience but it has a reality of its own, though dependent on the mind. So, if I say that I speak in a language, though what I say in it has no internal representation, I say something very similar to a man who says that he believes in something though it does not exist. To be precise, if concepts exist they can only exist linguistically because a concept depends on language for explanation, and concepts exist only as long as mental language exists. Therefore, according to Fodor concept learning is impossible unless concepts are mentally represented linguistically.

Fodor says any natural Language, in order to be understood and meaningful, must correspond to a system of representation, and the language becomes meaningful when the system of representation becomes meaningful.

So far, down the ages, we have been told that the mind or brain is a system available for the analysis of environmental events. Fodor says that it may not be true. According to him it may be that we have access to various levels of representations and our choice at the representation level is determined by various factors including motivation and attention. Fodor tells us,

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[93] Fodor, 1975, p. 157

"It is probably a mistake to talk of the system of internal representations that the organism has available for the analysis of environmental events or behavioral options. Rather, in the general case, organisms have access to a variety of types and levels of representations, and which one- or ones- they assign in the course of a given computation is determined by a variety of variables, including factors of motivation and attention and the general character of the organism's appreciation of the demand characteristics of its task."[94]

Psycholinguistically, Fodor tells us, that the property of any sentence does not change according to levels, and the production of an utterance involves representing the intended behaviour as satisfying the corresponding series of deservingly abstract representation. But a situation, however it may be internally represented, cannot trigger an action. As we have already mentioned in the 2nd chapter that concept triggering is very important in Fodor's discussion. The internal representations, irrespective of their levels, have to be fully exploited for an action to be triggered, and some sort of a code or internal language is necessary to fully exploit the meaning of the representation, otherwise parallel to surface sentences.

For example, if a given situation is x and its corresponding mental representation is y, neither x nor y, according to Fodor, is sufficient cause to trigger a response. In order for a response to be triggered, the mind must understand that 'y is the representation of x', because the mind cannot understand x independently, we have no reason to believe that it will understand y independently. Therefore, at least logically a code becomes necessary to be interpreted in a representation or for a stimulus to be represented mentally. And this is possible because of a mechanism of the brain. This mechanism is mentalese or the language of thought. Our thoughts occur in this language. In Fodor's philosophy thought has occupied a very important place. If thought requires a language then it must have a vocabulary. We will now discuss that thought is not just an image representation, it is only explained by linguistic representation.

3.3. Thought as an operational linguistic process:

Though Fodor does not say much about thought in totality, as he proceeds furnishing the theory of mental language, he begins to delve into thought as a linguistic process, even to the extent that he stands face to face with a much debated empirical question: is thought a mere image, a number of images somehow arranged in a hitherto unexplored sequence?

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[94] Fodor,1975, p.157

Fodor accepts that the theory propounded by the British empiricists is a strong one and quite difficult to refute. But he is not ready to accept that it is flawless and any less confusing than its metaphysical counterparts. What do after all the British empiricists say about thought? They agree with Fodor that thought is but a representational system. Here the question is what does it represent? In a word, it represents items in a system and objects that such items stand for. So, basically, thoughts are mental images and they refer to their objects in so far as they resemble them.

But a few confusions do persist because if an image resembles what it refers to, thought becomes just a matter of entertaining images. This view of the British empiricists, indeed, has been subjected to severe criticism, and today it is more usual to postulate the dimension of abstractness along which thought can vary, with images occurring mainly at the concrete. In sort, in the words of Fodor:

"Some concrete thoughts are images (so the story goes), but the vehicle of abstract thinking is discursive,"[95]

This is not really so complex or difficult to understand. We have already discussed it in the previous section that Fodor accepts that some concept learning may be possible because of image representation. But he claims that all concepts cannot be learned through image representation. They are such if they have to be represented, they can only be represented discursively i.e. by way of definition. For example, as long as we have to learn such a concept as a flower, image representation is useful, but concepts such as 'bachelor' and 'prince star' cannot be represented through images, their very abstract nature rendering image formation for concept learning is a particularly difficult psychological task. But Fodor does not say that because such concepts cannot be represented through images, they remain unrepresented altogether.

This has been, not only with Fodor, but with every sincere student of philosophy, a pending question of doubt which neither philosophy nor science could clear well. Fodor's further claim is that even for a concrete thought After all, if I say 'tiger' is a thought, then it goes well with British empiricism, because tiger is an image which resemble a tiger in reality, and so, we cannot object to the observation that 'if tiger has to be a thought, it is basically an image', though not entirely an image. But British empiricism cannot explain how a thought

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[95] Fodor,1975, p.174

involving representation of a fact such as 'tiger is an animal' is an image. This cannot be an image and no real thought can be really an image due to a number of reasons:

1. Article, preposition, adjective, adverb etc frequently used in language are not images.

2. A common or a proper noun mostly has abstract representation from psychological points of view.

3. When we think, we are mostly conscious of the process called thought, though we are not conscious of any such process as imaging.

4. Even concrete thoughts such as ball, tiger, chair, table etc are not just images because they vary from one person to another.

5. If thought is basically imaging, then space science becomes impossible, because space cannot form any image for the brain.

Then, if thought is not imaging, what is it? Here, Fodor in order to find support in favour of his theory, turns to Bruner, Werner and Piaget who proposed that "child's cognitive development is conditioned by a shift from imagistic to discursive modes of internal representation". [96] So it is not that a child is able to think only by psychological support of such images as are available to him, and, most probably, it is not that adult thinking is entirely carried out by available images.

The most difficult expression in the present context is 'discursive modes of internal representation'. Let us try to understand what precisely Fodor has to say:

"Very roughly, in the early child the vehicle of thought bears some non symbolic relation to its objects; early thoughts *resemble* the things that they are thoughts about. But the course of development is towards increasing abstractness in the relation of thoughts to things."[97]

So, according to Fodor, though what a child understands by 'horse' is the image of a horse, because here the image resembles the actual object, as the child grows older, he begins to attribute abstractness in relation to thought to things, so much so that the British empiricists do not explain it. Indeed, a time comes when we no longer need a resemblance between representation and the object it represents.

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[96] Fodor,1975, p.175

[97] Fodor,1975, p.175

Then, from the above discussion, if thought is basically abstraction, what specific role does the ingredients of experience play in it? Most probably experience furnishes some raw materials for thought to be processed in a representational system- something pointed out much earlier. What Fodor adds to it is that even experience or material furnished by experience has to be represented to the mind, and such representations cannot be understood by the mind unless they are computed to the mind.

When a child visiting a zoo for the first time in his life and we tell him that something is a tiger, he understands that it is a tiger, but not so if we point to a tiger, a lion, a dear, and a wild cat and say that they are all animals, because they have different representations. But the fact is that the child understands that they are all animals, and if it does, it is not unintelligible to assume that it does so because it is able to observe and analyze the commonality in them and at glance.

If it were Plato, he would tell us that such understanding is nothing strange because the child is born with an idea of everything, the external world being only an imperfect copy of the same. Fodor tells us something slightly different. He maintains that 'a tiger', 'an elephant', 'a lion', 'a wild cat' – they all become animals as they represent to the mind something more than their mere images, and such representations cannot depend further on experience unless the representations are carried to the mind or computed to the mind syntactically.

There is another absolutely important point to consider in favor of Fodor. Is linguistic representation possible without the use of symbols? The answer is no. Because representational theory of mind focuses on the symbols being manipulated. And this approach better accounts for systematicity and productivity of thought. The symbols at root are syntactical units which carry meaning to the mind. So the question arises how, after all, the mind interprets the symbols. There is, however, another important question we should try to answer first. Do the symbols have their own meaning or is it just that meaning is attributed to the symbols?

Apparently, from our common seneschal point of view symbols do not have their own meaning. They obtain meaning and propose by use. 'Cat' as a symbol has no meaning, or so Wittgenstein tells us, unless it is used in a particular context several times to mean a real cat. But 'cat', 'dog', '1', '2', '+', '-', - are they the only symbols that matter? What about the geometrical symbols? Do they have any meaning? Can any meaning be attributed to them by use? What can we say in favor of Fodor?

It may appear even geometrical symbols have meaning when they are defined. But, on deeper speculation, we shall see that it is not so. When we say that a triangle is composed of three line segments, or that it has three angles; the sum of the measures of the angle is always 180 degree in a triangle, or that it is a shape that has three straight sides, we basically define something that is triangular in terms of its shape. But we do not define triangle as an independent symbol, because it would be pointless to say that pyramid and paratha are both triangular, so pyramid is paratha, and it is not possible to understand triangle as an independent geometrical symbol without any reference to triangular objects and simply with the help of definition.

We have already discussed before that how Fodor refutes the definitional approach (in page:7) after that we have discussed the way Fodor supports the definitional approach in his early work. But eventually Fodor moved out of this position and his conclusion is that definition does not help in any way to understand a concept.

CHAPTER 4

EVIDENCES IN SUPPORT OF THE LANGUAGE OF THOUGHT HYPOTHESIS

4.1. Psychological evidence in support of the internal code:

Fodor himself believes language of thought to be a hypothesis, and not without any reason, for while it is a fact that some psychological evidences along the empirical line of investigation have been furnished by philosophers and scientist to indicate the possibility of certain linguistic operations being carried out unconsciously, these evidences are fragmentary in nature, some of them being slightly gross as well. It is to be noted with care that though one whole chapter in *The Language Of Thought* is devoted to psychological evidences purportedly supporting Fodor's hypothesis, Fodor himself refrained from conducting any psychological experiment to support his view, and, therefore, whatever psychological evidence he incorporates to substantiate his claim are but outcomes of experiments conducted by psychologists investigating along completely different lines of thought.

Indeed, some of these experiments have been subjected to severe criticism. Nevertheless, Fodor has minutely studied the experiments, eventually coming to the conclusion that the results support his philosophy. These psychological experiments are, therefore, of utmost importance, as Fodor himself found them reliable and of interest so far as the language of thought hypothesis was concerned. We shall mention and discuss them. But, before we do so, it is worth paying attention to some interesting observations by some of the leading scientists and philosophers of the day who happen to find the language of thought a genuine possibility, and they have suggested a few psychological pieces of evidence in support of Fodor.

The first of these observations comes from Varley, seconded by Fred Adams – Professor of physics at the University of Michigan. In a paper titled "Global Aphasia and the Language of Thought"*,* published in *Theoria*, a Journal of the University of the Basque Country in the year 2020, his view is that linguistic competence and cognitive competence are different aspects in the brain. There is some research on global aphasia which supports the hypothesis of language of thought. And it also distinguishes language of thought from natural language. Mental representations have a powerful language to operate mental processes. Fred Adams in his paper "Global aphasia and the language of thought" beautifully states Rosemary Varley's

interpretation about global aphasia; the view is that, language system and cognitive system are two systems in the brain.

Now, before we proceed further, let us try to understand what Global Aphasia is. Global aphasia is a severe form of aphasia. It is applied to the patients who produce a few words and understand very few or no spoken language. Persons with global aphasia can neither read nor write. This Global aphasia is a severe form of non-fluent aphasia, caused by damage to the left side of the brain, affecting receptive and expressive language skills (weeded for both written and oral language as well as auditory and visual comprehension). Global aphasia is a combination of deficits; it is not a single issue. It is varying to the amount of damage in language areas, and that can occur by various neural insults.

Global aphasia is distinct from other aphasias. Two areas in the LH have been specifically implicated, namely Broca's and Wernicke's area. Damage to the latter (a central, more posterior) area produces an aphasia, which, on surface, seems to indicate a disruption of semantic processing but sparing syntactic processing. The patients of Wernicke aphasia speak fluently but often meaninglessly, substituting, for example, one word for another or using pronouns without clear references. The patients of Broca aphasia, on the other hand, use semantically appropriate speech connected to context but have difficulty in producing output, and some claim, they are deficient in using syntax.[98]

Global aphasia is the combination of these two aphasias; it is a more severe form of aphasia, affecting both comprehension and production of speech. Whereas Wernicke's aphasia deals difficulty with the production of language, the patients of Broca's aphasia produce speech fluently but they have difficulties in comprehension. And global aphasia includes both the difficulties of comprehension and production of language and also affects grammatical and lexical capacities. Global aphasia is also marked by difficulties in word comprehension, word findings and grammatical judgment. The patient of global aphasia has difficulty understanding the difference between 'the book is on the table' and 'the table is on the book'.

Most of the causes of aphasia are injuries, stroke and various neural insults and damages of neural areas of the language system in the brain like Broca's and Wernicke areas. 'There is often damage in prefrontal cortical language areas and superior temporal gyrus and the tissues between those regions. Men typically have lesions within the left hemisphere

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[98] Katz,1963, p.14 .

perisylvian cortex and associated subcortical structures as the thalamus.'[99] 'Sometimes these patients have difficulty in peripheral performances and mechanisms in language like auditory perception'.[100] So, damages to the language system in the brain produce the inability to construct or understand sentences. And he can also lose his grammatical knowledge and lexical knowledge. Varley explains it and Adams referred to it in his papers; agrammatism is associated with global aphasia.

What is agrammatism? According to the Oxford dictionary, 'it is a tendency to form sentences without the correct inflectional structure as a result of brain damage, as in Broca's aphasia.' In the case of agrammatism, the patients face grammatical disorders and sometimes completely lose his knowledge of grammatical ability. Though, it is a very rare case. Normally, Broca's aphasia patients can have a primitive grammatical ability to produce and understand simple propositions that help them think. There is some difficulty in grammatical construction and verb comprehension.

Varley did an experiment that Adams referred to in his papers; this experiment was conducted on a patient suffering from agrammatism. Agrammatism is associated with global aphasia. The experiment is about on a subject represented as S.A. in Varley's own words:

In summary, S.A. displayed a severe grammatical impairment across input and output processing modalities in sentence parsing (grammaticality judgments) and in sentence and verb comprehension.

The term 'agrammatism' is used to refer to a spectrum of grammatical disorders, and the complete loss of grammatical ability is very rare. Individuals described as agrammatic normally have residual primitive grammatical capacity that enables them to understand and construct simple language propositions that would enable some grammatical support of thinking. In contrast, S.A.'s impairment was profound. He showed no evidence of an ability to formulate propositions in speech or writing. He was not able to make judgments as to whether a sentence is grammatical, or to match sentences to pictures, or to identify the meaning of verbs. [101]

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[99] Varlay, 2014, p. 232-244

[100] Zimmerer & Varley, 2010, p. 491

[101] Varley & Siegal, 2000, p. 724

'Varley introduced the above experiment where the subject was unable to form any kind of proposition. He could not produce a grammatical statement or make a statement which is similar to a picture and failed to identify the meaning of verbs'.[102] 'Such patients cannot understand the semantics of language i.e. the content itself doesn't give its meaning. Patients of global aphasia have a lack of understanding about the arrangements of words in a sentence. But in some cases, patients have low production capacity but higher lexical comprehension ability.[103]

Global aphasia is caused by injuries to multiple language-processing areas of the brain, including those known as Wernicke's and Broca's areas. These brain areas are particularly important for understanding spoken language, accessing vocabulary, using grammar, and producing words and sentences. Global aphasia may often be seen immediately after the patient has suffered a stroke or a brain trauma. Symptoms may rapidly improve in the first few months after stroke if the damage has not been too extensive. However with greater brain damage, severe and lasting disability may occur.

Global aphasia is the most severe of all aphasia, with significant impairments across all aspects of language, namely impairments across aspects of language, namely impaired speech, comprehension, repetition, naming, reading and writing. Patients with global aphasia may be able to utter responses like 'yes' and 'no' but do so unreliably. They often have difficulty responding to very simple yes–no questions like 'are you ok?' The severe loss of speech and language makes it very difficult for patients with global aphasia to communicate. But, they are sometimes able to convey information by intonation of their voice or by using simple gestures. Importantly, the patient can be shown to perform normally on non verbal tasks. If much of the language network is damaged, then how come some patients with global aphasia have a preserved ability to utter atomic phrases or repetitive utterances? What is the basis of the utterances?

The answer is that the cause of utterance is the right hemisphere of the brain. The right hemisphere is also capable of supporting intonation in speech, musical abilities and emotional expression. These abilities are sometimes preserved in global aphasia patients. Patients with global aphasia may also become adept in interpreting non verbal communications through

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[102] Varley & Siegal, 2000, p. 723-726

[103] Willems & Varley, 2010, p. 1-8

gesture and body language. This non verbal comprehension may be mistaken for comprehension of spoken language.

Varley claims that agrammatism does not affect cognitive capacity. The patient who has severe damage of left temporal language areas, tested by two cognitive tasks. The first one is causal reasoning and the second is the theory of mind.

"First Varley introduced the Causal reasoning test. That is Subject was presented with a picture card that depicted an event on the left-hand side. On the right-hand side there were three pictures. Subject pointed to indicate the likely cause of the event. In three training trials, the cue 'Why?' was printed on the card and the task explained to the participant. On the 15 test items, no further instructions were given". [104]

Subject scored in the 84th percentile of correct responses for Wechsler Adult Intelligence Scale (WAIS) picture arrangement tests. In this test:

The standard WAIS procedure was used. A series of line drawings were placed in front of the participant, who was asked to re-arrange the cards so that they told a sensible story. Responses were timed and scored for accuracy and speed. [105] He also tested the Subject on theory of mind (ToM) reasoning. Subject was shown a container containing unexpected items. For example, a pillbox containing buttons. He was then asked what another subject would "think" is in the container. Or he was asked what "really" was in the container. On the theory of mind tasks, although Subject had some difficulty, he scored well above chance." [106]

After completing the experiment, 'Varley draws a conclusion based on the results that grammatical competence and cognitive competence are disassociated, though grammatical competence and cognitive competence may not be disassociated forever. Varley conducted many experiments on different subjects to make the conclusion more powerful'.[107]

The above experiment involved differentiating between what a patient thinks versus what was actually the case. Varley concludes that the patient with global aphasia scored well in both the causal reasoning and the theory of mind reasoning. This theory of the performance of the

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[104] Varley & Siegal, 2000, p. 726

[105] Varley & Siegal, 2000, p. 726

[106] Adams, 2020, p. 13

[107] Goldma et al., 2012, p. 402-424

mind was not done by language as the patient with global aphasia is unable to use language. The subject was well trained by some flash card training. By this flash card process the subject could be able to respond to the answers of the theory of the mind questions, despite grammatical difficulties. Varley (2014) did another experiment on a patient with global aphasia on a communicative intention game. Where the sender understands the receiver's intention without any linguistic function because of agrammatism.

The experiment he mentioned:

Varley (2014) describes the performance of subjects with global aphasia on a communicative intentions game. There is a 3×3 grid with two tokens on the grid. One token is controlled by the sender and the other by the receiver. The receiver has to guess the intentions of the sender. The receiver does this by observing the type of token and its placement on the grid by the sender. Successful performance was the receiver interpreting the communicative intentions behind the movement of the sender's token, and subsequently positioning their token in its correct location and orientation. The sender knows the final target location for both sender and receiver's tokens and has to communicate this to the receiver. The sender has to develop strategies to communicate target positions to the receiver and the receiver has to understand the communicative strategies being used by the sender. The results in successful communication for subject ST in sender role was 80% and in receiver role 79%. The desired conclusion is that the cognitive means by which the subjects with global aphasia achieved these results were not linguistic due to their agrammatism.[108]

Another experiment is about an old man who has suffered aphasia for the last seven years. He could produce some high frequency words but his word comprehension was severely impaired. But surprisingly, this man can do some mathematical calculation through some recursive style cognitive capacity. He has recursive cognitive ability to relate or involve the repeated application of a rule, definition for successive results.

It was observed that the old man could successfully compute mathematical equations that involved some recursive-style cognitive ability. For example, he could solve $[60 - ((5 + 9) \times 8)]$. In a further study, subjects were able to correctly differentiate the mathematical operations 5-2 vs. 2-5 and 25/5 vs. 5/25 and the more complex equation.

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[108] Adams, 2020,p. 15

Here we see the patients with global aphasia can solve complex mathematical equations and differentiate clearly between 8/2 and 2/8. It is true that some neural calculations take place in the right hemisphere, not in the language areas of the brain. But this patient could also respond to the theory of the mind tasks. It again proves that the linguistic resource and cognitive resource are different.

Preverbal children also have some theory of the mind skill without any language support. This experiment was done on children at the age of 18 months.[109]

Adams mentions this experiment in that way. To quote Adams;

"These infants look longer when a subject re-enters a room and looks for an object where it actually is rather than where it was when the subject left the room. The argument made on the basis of the infant looking paradigm is that the infant expects the subject to look where he falsely will believe the object to still not look where it actually is. Since the infants are pre-verbal, it is not fully developed language skills that explain their looking behavior. To the extent that these experiments demonstrate some ToM (theory of mind) reasoning among infants, that behavior cannot be explained by their use of language." [110]

 It is not possible for a preverbal child to explain theory of mind behavior through a language but still he gives some looking behavior. (If language has any role in recursive cognitive processes, then there are some innate linguistic structures that will perform in the theory of the mind.) So, the conclusion is that cognitive ability doesn't depend on natural language abilities. All the experiments of Varley are very sound and effective evidence to support the view that cognitive competence and language competence are separate grounds. In another experiment on patients with global aphasia, they have high language difficulty, no production capacity and very limited comprehension capacity, and are unable to differentiate between word and non-word. Because of the accident, they all lost their language faculty. But they can differentiate between different objects like; books, pencils, colour boxes and also men and women. They can identify objects as per categories, and also are able to differentiate them by categories. Gradually they were trying to learn some words with some tools like pictures and cards. When their dictionary increases with knowledge, they learn to combine them and form a sentence with subject-predicate form. It has been possible by combining the pictorial

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[109] Baillargeon, 2010, p. 110-118

[110] Adams,2020, p. 17

symbols, although, they have completely lost their language competence because of brain damage.

It is also possible that cognitive ability was hampered in both the hemispheres, compared to linguistic ability. But we are discussing the case of loss of linguistic ability. 'Despite gross deficits in natural language, these patients were able to learn an artificial language system. And, despite massive language loss, globally aphasic patients retain a rich conceptual system and at least some capacity for symbolization and primitive linguistic functions.'[111] The patients with global aphasia understand music as a symbolic system. Music and language both are highly grammatical systems. But, patients with global aphasia have difficulty reading and understanding words. The patient might generate new words by productivity of thought.

Fred Adams points out that the patients of global aphasia, who produce few words and understand little or no spoken language; do convey information by using simple sounds and gestures, whereas they perform normally on non verbal tasks, clearly pointing to two possibilities, both distinct and not to be confused with one another.

1. If individuals with no linguistic ability can perform cognitive tasks, it is evident that they can think, and if such persons can think, it is further evident that their thought process, whatever it may be, does not depend on linguistic training or understanding.

2. If any individual with no linguistic ability can also communicate, but their thoughts which, in spite of being supposedly non-linguistic in nature, are all too easily understood.

Now, the question is: What do these two possibilities suggest? The first possibility clearly suggests that thought and language may be related psychological operations but thought process does not depend either on language or linguistic training. To be precise, linguistic faculty and cognitive faculty are distinct, which, as pointed out earlier, is the basic assumption of Varley – the starting point of his philosophical investigation.

There is, however, one difficulty. Even if it is accepted that thought process does not depend on natural language or conventional linguistic ability, it is not sufficient evidence to accept that thought process depends on Language of Thought (mentalese). This is because cognitive

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[111] Glass, 1973, p. 95-103

ability may be different from linguistic ability; the difference itself is no ground to assume a connection between cognitive ability and Language of Thought Hypothesis. The observation that linguistic faculty and cognitive faculty are distinct may be at best a ground to deny the supposition that the natural language is the language of thought. But, at least logically, there is no ground to accept a metalinguistic possibility – the language of thought to be associated with the entire process of cognition.

Now we will discuss some objections against Varley's view.

One can argue that patients with global aphasia may use their earlier developed linguistic ability. After an accident one has a stock of knowledge from the earlier linguistic knowledge and because of this linguistic ability his recursive cognitive ability is functioning. It is also possible that the patient with global aphasia doesn't completely lose his language ability, but he is not capable of using it properly for difficulty in grammar and lack of language competence. So, we cannot say that these tasks are completely done without language ability. In some cases, it is observed that the patients with global aphasia have completely lost their linguistic capacity and they are unable to improve their communicative ability. Pictorial symbols only help when a patient has at least some linguistic ability. Patients with minor aphasia can combine the symbols with their retained words and those who completely lost linguistic ability cannot combine symbols for communication. But after training they were capable of composing words or symbol-combinations in a proper syntactic structure in order to communicate.

Here is a confutation to draw a straight conclusion. But we have already mentioned that the recursive calculations are taking place in the right hemisphere and not in the language area for a normal person. Patients with global aphasia clearly respond to the theory of mind tasks and here again one may say that there is a possibility that earlier developed language can handle the theory of mind tasks. Then, we must say cognitive ability depends on natural language. But we see that, the theory of mind experiment on preverbal children suggests that, the theory of mind experiment gives positive results without language ability.

When we distinguish between language ability and cognitive ability, it is possible that one cannot produce any word but can understand words used by others. Even preverbal children sometimes understand others' language but cannot produce language themselves. Their understanding of language played an important role in cognitive function. In the observation of Varley, the observer asked patients a few questions in the natural language and they

understood that but their reply was through some flash card or picture. So, the patients understood their task by linguistic representation in their minds.

We have seen some objections against Varley's explanation but we can say something important in favor of Varley. In this discussion we find persons with global aphasia in case of complete loss of their linguistic abilities, can do all other kinds of cognitive skills which involve their thought process, like cooking, cycling, playing football, driving which includes productivity of thought, systematicity of thought and recursive action of thought. A patient's mathematical calculation as well as musical abilities gives support for cognitive abilities that are independent of natural language. But those non-linguistic cognitive skills involve thought process and it also has representation in the brain. So, there is a representational system in the brain that is different from our natural language that is used every day, but an innate system of language. So by the language of thought people can do many cognitive works like, theory of mind and all the reasoning tasks. Therefore in the above discussion we notice strong psychological evidence for Fodor's language of thought.[112]

Now we will discuss the experiments that Fodor himself mentioned in his book *The Language of Thought.*

4.2. Psychological experiments in favour of language of thought hypothesis:

As discussed in the previous chapter, Fodor is convinced that concrete symbols which constitute language cannot be understood unless they are accessible, or made accessible, in an abstract system of linguistic operations operating internally for the purpose of representation. Let it be recorded here with care that such presumption, innovative as it may be, distinguishes nonrepresentational psychological maneuver from linguistic function and places the same prerequisite to understanding as a process with or without contextuality being seriously considered. It can be said that it is an abstract system of linguistic operation in that sense every sound or utterance is synthesized here to yield an abstract representation. In a nutshell, according to Fodor, x is x not because x has any fixed syntactical significance. Rather, in his opinion, x becomes x depending on how it is represented to the mind – an observation diametrically opposed to conventional theories that deal with contextuality and syntax to explain how language is understood.

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[112] Adams, 2020, p. 9-27

Now, we must understand representation in the particular sense of Fodor. Fodor, at the present juncture of discussion, leads us forward to a level of psychological understanding. The brain, as we all know, secures a hint in the form of a stimulus and so it becomes active. And, as it becomes active, the primary task for the brain is to understand the stimulus, in any instant case an utterance, and the brain accomplishes the task by trying to find out what could be the abstract representation of the utterance concerned.

This abstract analysis, according to Fodor, is carried out at several levels of implicit abstractness in the ascending orders. The moment the brain understands that the analysis has been completed for the purpose of representation, the brain computes no more, and the point at which it stops evidently determines how certain utterance is represented to the mind. Fodor tells us that this is how the perceptual recognition of the utterance is done. So the basic point Fodor upholds is that an utterance, whether it is a complete sentence or just a phrase, must evolve psychologically through a number of stages of abstract analysis. This abstract analysis in every stage is carried out computationally till the final decision is made internally by the innate capacity of the mind, and such a decision, Fodor hints, is made without any external circumstances having any bearing whatsoever on the whole process of the cognition.

The vital question that arises here is how such abstract analysis is carried out. An example may make the point clear. Suppose a subject is exposed to a stimulus in the form of a particular sentence or utterance such as 'the earth is round'. Now, the utterance is analyzed at several levels namely x, $x1$, $x2$, $x3$, $x5$, whereas another utterance is analyzed in a series starting from x and continuing up to $x7$, indicating that the analysis at such levels of abstraction is not at all the same for all utterances. In some cases it stops at $x3$, in some cases in $x7$, and some cases in $x9$ or $x10$.

Why does it happen? Conventional psychology, according to Fodor, cannot explain the particular discrepancy unless we begin to think a little differently. Why is it after all that one utterance is fully analyzed at level $x1$ while another is fully analyzed at $x10$? This, Fodor tells us, is presumably because the mind is trying to meet some standard. In other words, the mind is trying to tally something with something else – one particular abstract representation to the mind with something already present within the mind is in the form of an internal code. Therefore, understanding or at least the key to understanding the same is the sum of representation drawn from a number of different sublanguages of the internal language.

When the level of analysis meets the expected standard of internal vocabulary, the computations stop, implying that the decision whether to go on with the analysis has to be arrived at, in view of such information about the stimulus as is available at that level. So, regarding understanding in general and also in cognition of syntactical units, the theory Fodor proposes is based on two fundamental ideas.

1. "The decision whether to go on with the analysis has to be made in light of such information about the stimulus as is available at that level".[113]

2. "The decision has to be made in real time – presumably within the time available for the display of representations of the stimulus in short term memory"[114]

Fodor further states that the brain responds differently to different utterances because of certain differential sensitivity it has. For example, it is but a common experience that we react differently to different linguistic stimuli such as one's name, a key word or a familiar voice. Such preferences are condensed to recognition of utterances that shape the expressions in the natural languages.

In support of his observation, Fodor cites an experiment which was carried out by Anne Treisman in 1964. In the experiment a subject is found to listen to tape- recorded signals through headphones with a different signal in each phone. She is instructed to attend mindfully to one phone and leave the other unattended. Surprisingly, on being questioned later, it is discovered that though she was instructed not to attend the signals in one phone, she is at least able to recognize the voice of the speaker and whether the speaker is a male or a female.

The subject, in the particular experiment is unable to understand the content of what was being said in the unattended phone, though she is able to recognize the gender of the speaker. Now, there is no reason why the subject is unable to understand the content while he clearly understands the medium, the voice of the speaker, unless we accept that understanding as a process is psychologically conducted on the basis of priority.

This point may be illustrated even by a very common daily observation. When we come across a sentence consisting of 10 different words, out of which only 7 are known to us, we

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[113] Fodor,1975, p. 160

[114] Fodor,1975, p. 160

focus on all those 7 words and try to construct the meaning of the sentence by way of defining the rest of the 3 words in the light of the 7 other known words.

Now, as is apparent, the mind cannot prioritize unless the mind has something given, originally and innately, to decide its priority. This innate abstract code, according to Jerry Fodor, is the mental language. If we can delve a little deeper into the formative history of some of the oldest human languages, we can hopefully throw at least some light on the fact that some symbols (primitive concepts) are universally and innately present in the mind, though in that case we shall have to accept the possibility that even the animals are blessed with an internal system of innate linguistic operation.

We have been told all along that, so far as linguistic history is concerned, by which, of course, we mean history of linguistic evolution, oral expression is older than written expression. Oral expression came first. Next, it was followed by a written expression. There are two points to consider here.

First, is it really so that oral expression came first and next it was followed by written expression?

Second, if it is really so, do we have any reason to support that written expression originated from oral expression?

We shall start with the second question and we shall do so because once we have answered the second question, there is sufficient reason to believe that we have answered the first question with moderate clarity, especially when we are discussing the linguistic philosophy of Jerry Fodor. We will see that oral expressions did not come before written expressions. Although these two expressions have developed at different times, these two expressions are used for the same reason so it can be said to be the same.

Let us try to make our present argument as simple as possible. There is no reason to believe that if one event is followed by another, even in close succession, they are causally connected or that one is the outcome of the other. This is a principle as inevitably applicable to our daily life as it is to history. So we shall make a blunder if we suppose that because oral expression was followed by written expression, the development of written expression is causally associated with the development of oral expression. Maybe, the development of written expression was hastened by oral expression, developing through various stages in thousands

of years, but it is not that written expression came into existence because oral expression was already in existence beforehand.

To suppose that man wrote because he spoke first is most probably a blunder being an incomplete view in itself. Most probably, what happened in some remote past is that man started scribbling at the same time he started uttering gibberish. Context, presumably, had not yet developed, because the object of such primitive expression could not have possibly been described. Language, in those early days, meant a certain responsive pattern which needed no vocabulary to operate. It had, no doubt, a certain definite purpose, but it had no organized vocabulary. This primitive language, in all probability, was entirely or at least substantially a system of instruction.

This is the instruction which in all probability later came to form imperative sentences as we know them now. Now, as is evident, the system of language substantially based on imperative objectives could not accommodate descriptive objectives at the same time. Description found better expression in pictorial representation. No wonder, all primitive languages are pictorial systems of representation.

Now, we will discuss the 1st question. It is a misleading view of linguistic history that letters represent sound (man wrote what he spoke). This is a bit difficult for a modern sophisticated and philosophically trained mind to digest. We have been badly trained to accept unquestionably the fact that the latter is a symbol for a sound. For example, 'cat' is a sound referring to an external object and 'cat' as a word is a combination of sounds, forming a symbol for such sound namely 'Cat'. This is, however, the English language, which evolved adequately for human use only in the 5th century A.D. But what about the languages that evolved and perished much before the Indo–European group of languages came into existence? They were all based on pictorial representations, and one vital reason behind the growth of pictorial linguistic practice may be that man 'drew out' what he could not 'speak of', because, otherwise it is extremely difficult to understand why, after all, one should bother to draw a 'bull' to mean a 'bull' in something that appears to be a written representation of thought where some symbol for 'bull' is sufficient to attain the purpose of communication, indicating that the pictures of objects that we find in pictorial languages that had long perished before the Indo-European group of languages emerged were not symbols in the strict linguistic sense of the day. Rather, in all probability, they were representations of objects inducing states of mind for which no symbol had yet been discovered.

Therefore, in a nutshell, written and oral expression were initially directed to fulfill the goals of communications, though, at subsequent stages of development, the distinction between the two tapered off, and so we were led to believe that there was no distinction at all.

This much history was necessary because Fodor, furnishing psychological evidence for his theory, speaks of utility. Let's go back to the main discussion of the psychological experiments. To quote Fodor,

"… if you want to know what response a given stimulus is going to elicit, you must find out what internal representation the organism assigns to the stimulus."[115]

According to Fodor, a stimulus elicits a response depending on the internal representations the organism assigned to its stimulus. If we follow Fodor's line of argument, we arrive at the conclusion that one single stimulus will elicit different responses from two different organisms if the representational systems available to them are different. But what does Fodor, after all, mean by 'different'? What does Fodor, after all, mean by a stimuli? Are linguistic stimuli the same as any other stimuli? Let us see how Fodor tries to establish his point with the help of an experiment carried out by Lackner and Garrett (1973). In the Garrett and Lackner model they did the same experiment that Anne Treisman did. But here the only difference is that the volume of the two channels was mismatched, because of unavailability of unattended material by substantially lowering its volume as compared to that of the attended channel. Many of the subjects could not even report that the unattained channel contained speech. According to Garrett and Lackner only attended material gets through from temporary to permanent storage, and only what is in permanent storage can be reported. To quote Fodor,

"Remember that, in both the Treisman and the Garrett and Lackner studies, the difference between what happens to the competing stimuli is a function of in-structural variables; i.e., the processing differences are determined, at least in part, by S's decision to attend to the material in one channel and to ignore the material in the other,"[116]

This, then, comes out clear from the discussion above, that stimulus, in the specific sense Fodor understands the expression, is not at all an objective phenomenon as we have been forced to believe by elaborate philosophical arguments till date and so far. One single

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[115] Fodor,1975, p. 161

[116] Fodor, 1975, p. 163

stimulus, as pointed out earlier in the present investigation, does not necessarily draw out one single response in every organism or even one response pattern in all the members of the same species. Fodor asserts that organic responses against a particular stimulus vary because the stimulus is understood variably. In his own words, 'if you want to know what response a given stimulus is going to elicit, you must find out what internal representation the organism assigns to it'.[117]

There, however, has something more to it than an organism assigning certain representation to certain stimulus. Observing both Treisman and Garrett-Lackner models, Fodor claims, we come to terms with another conclusion of sufficient clarity. There is no one with a single fixed response to one single fixed stimulus because 'potentially' available responses depend on the state of mind to produce behavior, leaving no room for doubt that utility of purposes play at least some role in determining which representation is to be assigned to a stimulus. Fodor, in order to gather further support in favour of his theory, refers to an experiment conducted by Mehler to stress his point that out of many types and forms of sentences, it is easier to memorize sentences with a syntactical structure. We can mention the experiment of Meheler in Fodor's word;

"Mehler used a paradigm in which subjects were required to memorize lists of sentences of a Variety of different syntactic types (e.g., simple active declaratives, passives, negatives, questions) and that the results strongly suggested that syntactic type is a determinant of level of recall. Roughly speaking, the probability that a sentence would be remembered correctly was inversely related to the complexity of its syntactic structural description and the probability that a pair of sentences would be conflated was proportional to their syntactic similarity. So Meheler concluded that the syntactic structural description of a sentence is - or is, anyhow, part of – the representation of the sentence that gets stored in long-term memory."[118]

This, according to Fodor, supports his assumption that the language of thought is an operational reality. Now, if we try to put his idea in a manner easier to understand from the psychological point of view, it stands as follows: If a man is placed with a number of expressions in a way that he is exposed to all of them for a nominally limited time, he is found to recall later on only such expressions as bear a syntactical structure, presumably

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[117] Fodor, 1975, p. 163

[118] Fodor, 1975, p. 164

because certain system based on similar syntactical structures in operation determines one single representation from a cluster of potentially available representations for the production of the behavior.

However, Fodor, for the purpose of an impartial investigation, mentions another experiment, and that of Jacqueline Sachs, which produced a diametrically opposite result. In her experiment, in which the subjects were exposed to a running strain of sentences along the same sort of syntactical dimensions as Mehler's, Sachs found practically no effect of the syntactical variables, and the only point that counted was content. To quote Fodor,

On the other hand, Jacqueline Sachs (1967) presented subjects with running text, testing recall for selected sentences at the end of each presentation. The stimulus sentences she used varied along the same sort of syntactic dimensions as Mehler's, yet the results of her experiment were sharply different. Sachs found practically no effect of the syntactic variables; the only thing that counted was content. That is, synonymous sentences tended to be conflated regardless of their syntactic form, and syntactically similar sentences were distinguished so long as they differed in meaning. [119]

This is, for Fodor, an anomaly, and he tells us that it can only be explained if we begin to consider how the subjects are instructed, because how the subjects are instructed determines how the subjects view the performance, and Fodor agrees with psychologist Wanner who holds that one can 'switch the Mehler effect on and off' simply by way of changing the instruction. The experimental model can be anything. It is bound to produce similar responses where the instructions conveyed to the subjects are similar. No wonder, the subjects who are instructed in a particular fashion to believe that they are participating in a memory game focus on the syntactical details, and the subjects who are instructed to 'understand' focus on the content.

Fodor tells us,

"This is, after all, not very surprising. One knows from one's own experience that one treats a text differently when one is trying to memorize it than when one is just reading it. Given

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[119] Fodor, 1975, p. 164

instructions to recall one tries to remember all of what one reads; given instructions to read for content one discards everything except the gist."[120]

Now the basic question is: How do the organisms, after all, manage to understand these instructions differently? Fodor argues that it indicates some 'intelligent management of internal representations' – a matter of, in Fodor's terminology, 'Serious Psychology'.[121] How the organism specifies impinging stimuli and response options presupposes an inner speech developed enough to 'represent whatever inputs can affect behavior and whatever outputs the organism can deploy'.[122]

But, while engrossed in following Fodor's arguments for delivering at least some concrete psychological evidence in support of his philosophy, we must not lose sight of the fact that all the experiments he has hitherto mentioned to substantiate his points are basically experiments carried out in sophisticated atmosphere on human subjects with an already adequately formed linguistic habits, and it is difficult to imagine how Fodor hopes to reconcile their rudimental findings with his original claim that even animals have a private code. This is something, for the time being at any rate, and it would suffice to follow him further along his indigenous line of investigation.

So, coming back to the point, if a subject has to choose between ways of representing the stimulus, he cannot do without having 'ways of representing inputs and outputs'. This means that an organism assigns a particular representation to a particular input because a certain intermediary system operates to interpret the stimulus and the same process is followed so far as the outputs are concerned.

For example, when the organism assigns Representation X for Stimulus X, it does so not just at random from a huddle of representations such as Representations X,Y,Z and so on, but by deliberate consideration which of the available representations best serves to represent Stimulus X for an altogether utilitarian purpose, which cannot be done unless some internal language fills in the gap by communication. To understand this we can draw a diagram.

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[120] Fodor, 1975, p. 164

[121] Fodor, 1975, p. 164

[122] Fodor, 1975, p. 164-165

Input X   Internal Language Expression Y   Internal   Language

Expression Y
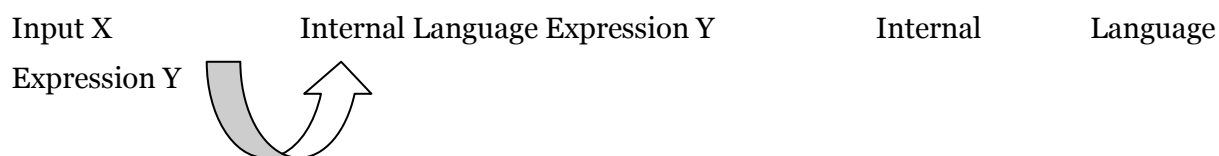
For understanding the concept better, we may draw the diagram a bit differently, keeping the basic thesis of Fodor unaltered, without any unwarranted logical manipulation from outside.
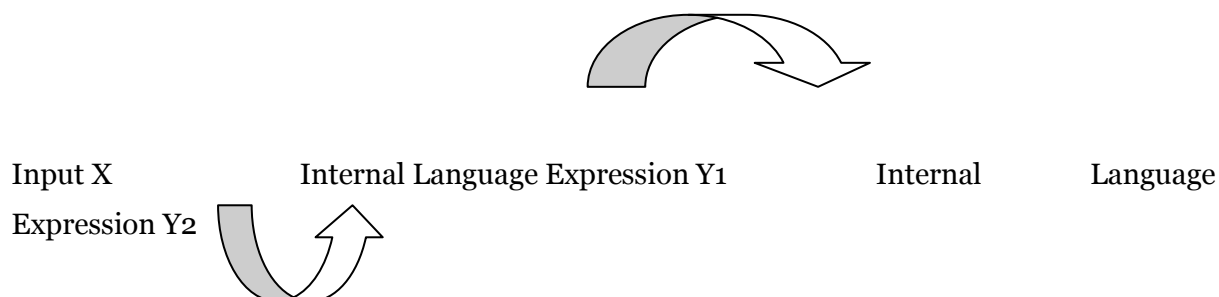
Input X   Internal Language Expression Y1   Internal   Language

Expression Y2

Fodor wonders what fills the gap between Y1 and Y2. Simple memory cannot fill the gap because, evidently, memory cannot function without at least some potent inside filling to carry in itself. This inside filling, again, cannot be identical with memory as an inherent ability for if we do navigate along such a line of argument, we land at the conclusion that memory is intelligence, which cannot be. Fodor, in order to avoid the present backlog, introduces a new concept to the debate, "Specific engagement of syntactic structure with permanent memory."[123] which, according to him, is a direct corollary of Mehler's point of view.

This is, however, extremely controversial. Whether or not Mehler did argue to profess specific engagement of syntactic structure with permanent memory is debatable. But we can, of course, attempt at unveiling how syntactic structure may be psychologically associated with permanent memory. Once this is established, Fodor understands that no unbiased philosophical brain can ever oppose his theory. After all, memory is evolutionally an antecedent of linguistic development, and if it can be demonstrated logically that memory has a structure which is syntactic in nature, it has to be accepted that such syntactic structure is innate, a psychological fact, and, therefore, the development of language as a historical process stops being a development influenced by external factors and becomes a matter of organisms reproducing reflections of an inborn ability in behavior.

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[123] Fodor, 1975, p. 164

There are, however, some vital questions we must answer to test the soundness of such a proposition that memory has a syntactic structure before we can proceed on to explore it further along Fodor's line of argument.

We can start with a very important question to understand the vocabulary of language of thought as well. Is 'syntactic structure' 'vocabulary'?

Let us try to put it straight. If anything has to be language, it must have a vocabulary, and if anything has to be vocabulary, it must have expressions. Ordinarily, the line of explanation is that vocabulary presupposes expression/s, and the components of the vocabulary are interrelated by syntactic   constitute language. Fodor reverses the entire design and plants a syntactic structure with memory before everything and further claims such syntactic structure to enjoy the facility of a vocabulary.

But, opposing Fodor, one may argue that syntactic structure is itself a development parallel to linguistic development whereas syntactic rules of association may be a factor determining its course. X is Y is not a sentence, and, evidently, it is not a sentence, because we here have no clue to decipher what X stands for or what Y stands for, and, apparently, therefore, it is meaningless, though it has to be, at the same time, accepted that it has a syntactic structure, with or without any association with the long term memory.

To render such syntactic structure as 'X is Y' meaningful, we are required to replace X by words like "Man" and Y by "Mortal", though, it is common sense that the same syntactic structure may be used to make a contrary claim "Man is immortal". This points to the fact that syntactic structures are just structures, innate or not, and they alone cannot develop language just in the way the laws of physics cannot bring into existence a whole concrete universe. The point, in short, is that our ability to reason may be innate and, therefore, evolution, but vocabulary, being a discovery, is clearly history. There is no need to confuse the ability and skill, and in spite of the fact that skill develops from ability, skill is more than ability.

The conclusion is that syntactical structure is not in itself a vocabulary. Syntactical structure which reflects in languages also reflects in mathematical calculations, for 'syntactical structures' are basically outcomes of analytical reasoning which intelligence with sufficient motivation produces, driving an organism to act or behave in conformity with a given

situation or circumstance, and now it is sufficiently proved by science that the entire process is to a large extent influenced by the structure of the brain available for the purpose.

But, here we come back to the same question, then, how are we to fill in the gap between Y1 and Y2? We can either do away with the entire representational model as proposed by Fodor and others or introduce, just in the same way as Fodor did, some concept to replace "Specific engagement of syntactic structure with permanent memory".

The fundamental claim of Fodor is that thoughts themselves are syntactically-structured representations, and that mental processes are computational processes defined over them. Given that the syntax of a representation is what determines its causal role in thought.

Now, if thoughts themselves are representations, one may ask: What do they after all represent? Now, we cannot say they represent themselves. Even, we cannot say that they merely represent syntactic structures. They, then, can only represent situations and circumstances by being computationally decided forms.

We may try to understand the idea with an illustration. Let us imagine a situation in which someone believes that if Ravi sang, then Malini danced, the syntactic arrangement involved here being If a is b, then c is d –an 'if, then' linguistic arrangement which points to a clear understanding of a causal association. This, according to Fodor, becomes possible as the causal relations among ideas can represent coherent relations among their contents.

Now, from the above discussion, it is difficult not to accept that mental states are both intentional and causal. But, even if we accept that they are, it is not understood why, after all, situations have to be represented to the mind. After all, one can say, Fodor has, till date and so far, furnished not a single psychological evidence to prove that thoughts are interpretations of reality. Indeed, nobody has, and it may also be argued that even syntactical structures are basically derived from experience, and that structures can only amalgamate contents for mental productivity and if contents are such they can be arranged in a structure.

As a matter of fact, we have not yet come across a single argument in the whole range of Western Philosophy that can answer if the so-called 'syntactic structures' are not just abstractions, because we have seen how one syntactic structure may be used to connote two different, and even diametrically opposite, semantic purposes.

One very easy way to explain the formation of the syntactic structure is to understand and appreciate that the information carried to the brain through the sensory channels are a diversified unit of semantically significant observations, some in agreement while some others in disagreement, and if the brain has to assimilate them for thought, they are differently categorized in a manner so as to give the impression that they are related by some governing principles, but, in reality, they are not.

In reality, it is experience which determines the principles by which the formation of thoughts as a psychological process is regulated. If every information had one single semantic purpose to serve, the whole of our mental world would have been differently constructed, and light would mean the same as darkness.

Now, we shall commit a blunder if we start believing that light and darkness are just two differently constructed or structured representations. They, as concepts – the very ingredients of thought – come to be structured differently because they are sensed differently, and they are sensed differently because they are physically different states in themselves. If light were not the absence of darkness, and darkness the absence of light, the sentence "Light the candle because it is dark", along with the syntactic structure 'x, therefore y' or 'if x, then y', would have no existence.

But, while raising the above mentioned criticism of Fodor, we may have well missed a cardinal point of his theory. What Fodor understands by thought is more or less the same as what you and I understand by thought. But, evidently, his concept of language is very different, and it is quite difficult to understand. If we have seen Wittgenstein's theory of language, (as Fodor himself mentions his name as his strong opponent) it is easier to understand because it is very close to our commonsensical point of view. Fodor and Wittgenstein have very different beginnings. For Wittgenstein, language is just an expression, but for Fodor, it is basically a structural system which guides thoughts for processing: in short, we think linguistically, and therefore, though Fodor uses the word 'language', it is not 'language' in the sense Wittgenstein understands or uses it.

So, as we have already mentioned that 'language of thought' is not language, (in the sense of natural language) and once we leave out 'language', we realize that Fodor is not altogether mistaken if he believes that thoughts need some medium to operate. After all, 'propositional attitudes' is in no way an invention of Fodor. Russell, who is familiar to be a man of

scientific mind, did stress on such a possibility and maintained without prejudice that propositional attitudes are relations to propositions.

A proposition is an abstract entity that determines a truth-condition i.e. any propositional attitude may be replaced by certain content. This content may be an outcome of experience, but how such contents are used for thought to be produced is explained by an internal mechanism, indeed so deeply 'internal' that no experience can ever touch its core formation.

And, Fodor is telling us nothing very strange if he opines that each propositional attitude corresponds to a unique psychological relation. To be more precise, Thought processes are causal sequences of tokening of mental representations. A paradigm example is deductive inference: conversion from believing the premises to believing the termination. The first mental event ("I believe" in the premises) causes the second (I conclude).

CHAPTER 5

OBJECTIONS AGAINST FODOR'S LANGUAGE OF THOUGHT

There are several objections to Fodor's philosophy. Now we will discuss some of the major objections by bringing them under certain specific heads.

5.1. AGAINST THE MENTALESEAS AS LINGUISTIC OPERATION

5.1.1. Psycholinguistic operation is different from linguistic operation but it cannot be held to be a mental language:

In ancient times Aristotle thinks that language is social and diverse and it is a manmade arbitrary symbol system. Plato adds to it that oral communication is superior to written one. The contemporary philosopher Benjamin Whorf thinks that our perception of the world and our thinking patterns are deeply influenced by the language we speak. Fodor claims that mental language is a language. Now, we must try to understand that when he says this, he wants to take the term language in the metaphorical sense and not in any specific objective sense. The main objection here is about the use of the term 'language'. The term language is generally used to stand for a means of communication and communication is held to be the basic characteristic of language. Now as long as I am communicating with myself, I am reflecting, but not communicating in the strict sense of the term. Communication requires a person other than myself in order to communicate in the strict sense of the term. In other words, the mental language which Fodor sticks to, does not serve the purpose of communication for the simple reason that self communication has no objective basis, it is an internal process. So, mental language is not a language in a sense we understand the term.

On the other hand it is a fact that every communication is not linguistic. This point may be clarified with the help of animal's language. It is evident, as it was evident in the thousand years ago that animals can communicate. But every communication is not a language. A parrot may talk when it is hungry today and bite its finger tomorrow if it is hungry, and in both circumstances the parrot is either communicating or trying to communicate something. But such communication cannot be called language in our general sense of language. Indeed there is no need for every communication to be language. During choosing any gift we do communicate our likes and dislikes and preferences and many times these communications

are quite strong, perfect and refined by cultural influences. Still it is not a language in the strict sense. So, when we also communicate through body language but it is also a language in a different sense. It can also be said that java as a computer language is not a language and if these are not languages then their reference as analogy to establish mental language does not lead us anywhere in the logical plane. Therefore we can only call a medium as language when the communication is done through it in a Proper sense.

Of course the question arises: what is machine language then? The answer on the objector's part would be that even machine language is not a language. How a machine runs, is not how a machine understands itself. How a machine runs is how it has been planned to run. Because, when we say that how a machine runs is how a machine understands itself, it indicates a metaphorical use of 'language' but communication theorists do not admit the use of 'language' in a metaphorical sense. If we say that in any case the machine ever happens to run differently, it is understanding itself in a different way, then We make the most absurd claim which is impossible because understanding is an act of volition involving exercise of will which the machine does not have. So, in the metaphorical sense also this claim that an organism understands itself just in the way a machine understands itself, both requiring a medium of communication, is a perfectly absurd possibility because machines don't have any power of understanding, it runs just the way it is planned by humans.

Thought according to Fodor has its own language to operate. This is of course another possibility; maybe a machine does not require a language to itself, but a mind does. One can say that the mind is not communicating with itself except by way of reflection and if this is reflection, it cannot be communication which is the purpose of language. So, there is no such thing as mental language.

We would argue that the objection is based on some unclarity of the notion of thought. If we understand the notion of thought clearly then the objection can be understood as baseless. The thought that Fodor is talking about is different from what we normally understand by thought. Basically thought has two levels. One is conscious thought and the other is unconscious thought. Fodor's language of thought theory is about the second type of thought. It is important to understand what Fodor meant by 'Thought' first. The fundamental questions we should start with are two in number which Fodor did not answer. We will try to give an answer to each question on behalf of Fodor.

What is thought in the Fodorian sense?

Are thoughts communicated to the mind? And, if they are at all communicated, how are they communicated?

As pointed out earlier Jerry Fodor did not define thoughts, but we shall try to understand at least what thought is for the simple reason that if thoughts are not defined, the question of their communication to the mind does not and cannot arrive. This is to say that happiness, sadness, anger, and meditation- these are slightly different from thoughts. To be precise, thought is not just a state of mind. It is a state of mind in which we go from one point to another, which requires that anything that is subject to thought process must be presented mentally as a problem; and it should be computed. Let us try to understand the point a little more deeply.

Even if we accept that thought is an image, it is not a single image. Rather it is a series of images finally constructing one big canvas. These images in a series are so arranged that one being absent will render the canvas look different. Then, in a word, thoughts cannot be thoughts unless they are syllogistically arranged. As we proceed from premises to conclusion in a syllogism, so we do in the thought process, going from a problem to a solution as already pointed out. This going from one point to another is computation and, according to Jerry Fodor nothing is intelligible to the mind unless it is computed. What does Fodor really want to say here? Let us try to understand the point with an example. Suppose your servant has returned from the market and punished a wrongly calculated bill. What do you do? Of course, you try to explain to him such miscalculations as you noticed in English or Bengali. But, then, if he fails to follow your argument, you sit with a pen and paper and compute the entire miscalculation to the servant for his understanding. Similarly, Fodor claims that if the problem computed to the mind has to be understood to the mind it must be represented to the mind in a language. In our example this language is mathematics, and at the psychological level this language is language of thought, in which the entire world is computed to the mind for the mind to understand. This is how Fodor claims the mind works.

Now the question arises here if thoughts have to be at all communicated to the mind? In other words the question is, is there any necessity for the mind to understand its own thoughts? As per Fodor's opinion, thoughts are not magically born in the mind. If the external world plays a significant role by furnishing raw material, that is used in the process of production of thought. These materials are unique in nature so far as we have no idea what they really are. Neurologically, they are sensations or neural impulses, and it is a scientific fact that these

neural impulses have to be synthesized before thoughts are experienced or we pass into a state of mind in which we become intuitively aware that we are thinking. So, the fact remains that the raw materials furnished to the mind of the production of thoughts and their synthesis are not material objects but sensations induced by the external world. Therefore the mind must have, it is assumed, at least some mechanism to understand itself. According to Fodor thoughts are in a very significant sense all internal and innate. What is intended by such a statement is not that we are born with some innate thoughts but that though thoughts are produced out of sensation derived from the external world, thoughts are so thoroughly mental that they hardly reflect the external world.

If the mind produces all the thoughts without being in touch with the external world, there would have not been a necessity for the mind to understand its own thoughts. But that is not the case. Though thoughts are mental, the mind is required to understand the representation of the external world to some extent before it can effectively generate thought, resembling and producing an image which the mind believes to resemble the external world, and whether or not the image actually resembles reality, we have no way to find out. Fodor holds that the process of production of thought is basically a process of representation, psychologically carried out at some unconscious level.

This may be understood differently if we assume that while the mind has no necessity to understand its own operations or structural uniformity accountable for such operations, it has at least some necessity to understand matters of which such operations are always directed. Therefore, in a very significant sense, when we use such an expression as the mind understanding thoughts, we do not mean that such understanding is all about the mind understanding itself but the mind trying to understand matter presented before it. Now, because such matters as presented to the mind are not mental in themselves, they are interpreted mentally, so that they fear into the scheme of mental understanding. But, whatever may be the case, the mind must require processing in some medium in order to understand and interpret matters presented before it, hence the language of thought hypothesis. One may raise an objection here and say that the mind itself is so organized that it does not require any medium to understand its own thoughts. But such an objection is completely untenable because we cannot assume that the mind is like a mirror and it truly reflects information. Rather, we may say that it is much similar to an image sensor which interprets various lights in conditions before it produces a photograph. If the mind were just a simple mechanism of impartial reflection, neutrally providing us with the very information it received through the

senses, all of us would agree on all points with no difference of opinion whatsoever. This, however, we observe, is not the case implying that every mind enjoys its own sphere of autonomy so far as thoughts are concerned. Therefore, even accepting some of the epistemic standpoint of empiricists, we cannot altogether refuse to accept that the mind has its own mechanism of understanding its own thoughts.

Generally Language expresses ideas. Now the question is that if mental language is language, it should also express something, it may not be an idea but it still must be something which is expressed. What is it? What does it express? It does not express a thought but processes the thought. Fodor claims thoughts follow linguistic operations, and indeed he suggests that thoughts are impossible without a mental language which is already in existence to systemize them. To be precise, according to Fodor, a thought requires a mental language to be a proper thought. But if it is language in the strict sense then it has to express something but we don't have an answer to the above question that what is expressed by the mental language?

Similarly, language, the greatest gift of civilization, would have remained a science fiction without a psycholinguistic process to guide the human being. But the psycholinguistic process is not in itself a language. Because language at its most creative level develops a number of features which are not fixed and do not follow any specific rules of application. Once a language is formed, it begins to grow in the cultural influence active on it and though the psycholinguistic process continues to provide an input for basic communication, the language is designed and shaped by such influence as culture brings to an individual. That is why most probably computer language, in spite of the fact that it communicates more effectively and more perfectly than natural languages, is not the language of our daily conversation. The language of our daily conversation serves the purpose of communication, in the sense of a language game. For any two synonymous words which serves the same communicative purpose but not the same linguistic purpose, because if anything called a linguistic purpose exists, it exists by the strength of the fact that variation of sound and intonation add relish to the application of language by an individual. These preferences of an individual regarding application of language may have an unconscious psycholinguistic base. But, in the fully developed form, they are shaped by cultural influences.

Another objection against Fodor might be that Jerry Fodor tells us that natural language presupposes mental language. In other words there can be no linguistic skill development unless and until mental language is in operation. Now in response to Fodor it can be said that

there is no doubt that linguistic skill development is a propensity and tendency of the mind, but a well formed language, mentalese is not required to exist as a prerequisite to linguistic skill development. A tendency is not a linguistic process. A tendency may just help a linguistic process to go or develop.

5.1.2 Argument against Private language:

Jerry Fodor's theory of private language is a complicated philosophy and his basic claim is that language must learn private experiences which we alone can know or to imagine that we each of us have less use of a private language, this private language is understandable by only a person or an individual. This claim faces a stern opposition from Wittgenstein. This opposition has been finally summarized by John Passmore:

"The very idea of such a private language, Wittgenstein tries to show, is an unintelligible one. A language uses means in accordance with implicit and explicit rules; that it profits in accordance with rules is precisely or distinguished language from mere noises or from marks on paper.. Sensations, impressions are all flitting; we cannot bring them back to compare them with our present experiences, so as to see whether they ought to be given the same name." [124]

Private language argument has its important role to find the nature of language. The concepts in one's head are distinct from the concepts from another's head. They can exchange their concepts through words in a common language. Speaker speaks the word to the listener and the listener can then identify the word by the help of a concept in their mind. So, the shared concepts are about the private language that communicators translate to a common language and then share to others. Wittgenstein tells us, in his later work, that the account of private language is inconsistent and his claim is that all language serves a social function. And if there is no private language then it is useless to talk about the private mental state. Wittgenstein first introduces his private language argument in his *Philosophical Investigations*.[125] According to Wittgenstein, private language is about the language that has not yet been translated to an ordinary language. This language in principle can only be understood by one person. For example, it is about those inner experiences that are supposed to be inaccessible to other persons. Wittgenstein mentioned a thought experiment where one

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[124] Passmore,1978 , p. 243

[125] Wittgenstein, 1953, p. 243

is imagined to associate some repeated sensation with a symbol 'S'.[126] This case would be a private language case according to Wittgenstein, and 'S' cannot be defined using other terms. But we can explain 'S' by ostensive definition focusing on both sensation and the symbol which expresses the sensation. But Wittgenstein focuses on the necessity of ostensive definition because ostensive definition presupposes our form of life.[127] An ostensive definition can be differently interpreted in every case.[128] For sensation S there is no condition for the correctness of such an ostensive definition. Whatever seems right will be right and here we cannot talk about 'right'.[129]

Another reason to reject private language is that one might remember the sensation wrongly and as a result one can misuse the term S. The problem is just not that private ostensive definition might be misremembered but also that it does not provide an explicit definition of S. the only possible definition that may be available here would be private in the sense of being an ostensive one of associating S with that feeling. But the possibility of getting such a definition can be questioned.

According to Wittgenstein, as pointed out by Passmore in his book *A hundred years of philosophy* there is no way we can draw a parallel between psychological operation and linguistic operation. Psychological states are ever changing, whereas grammar and syntax are fixed rules for application of language, and we cannot say for sure which word or name stands for which states of mind. Wittgenstein further clarifies the point stating that near similarity between linguistic operation and psychological operation is no conclusive evidence that one follows the other or the former causes the latter, and from this perspective Fodor's theory that a natural language presupposes private language is wholly unacceptable.

The objection here is that, pain is a sensation and 'pain' is a word too, and they (pain as a sensation and 'pain' as a word) correspond to one another, and one may ask does it not lead to the collapse of Wittgenstein's theory? The answer is no because Wittgenstein tells us that 'pain' as a word in civilized language nearly replaces the natural responses of an individual suffering from pain such as crying, shouting etc. Therefore the word pain is a symbol for such activities which the pain as a sensation induces.

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[126] Wittgenstein, 1953, p. 258

[127] Wittgenstein, 1953, p. 23

[128] Wittgenstein, 1953, p. 28

[129] Wittgenstein ,1953, p. 258

In *Philosophical Investigations* (1.93) Wittgenstein introduces the famous argument called beetle in the box. The experiment is based on the box that everyone has and that only they can see into. One cannot see into anyone else's box. Everyone describes their own beetle in their box only. I know what a beetle is from my own examination of what is in my box, you from yours. Wittgenstein's point is that in that situation while we all talk about our beetles, there might be different things in everyone's boxes, or perhaps nothing at all in some of them. So, it is possible we all have different things in our box or the same thing or nothing in the box. The things in the box could be changing all the time. He said it is not a part of our language game. Analogically he mentioned in the same way what pain means from personal introspection, is changeable according to the person and his circumstances. It is irrelevant to the meaning of 'pain'. It is like the beetle that may or may not be in the box. So the conclusion of his analogy is that inner feeling governs the meaning of our sensation language is misleading, language is basically a rule governed public behavior.[130]

It also clarifies Wittgenstein's observation pointed out by Passmore that unintelligible sounds get replaced by linguistic sound as language develops through various stages of civilization. As per supporters of mentalese, language consists of symbols that relate to an internal state of mind or internal states of mind regulated by a system of reasoning peculiar to the brain. This system of reasoning may follow some linguistic principles, and such linguistic principles may reflect in the formation of natural language also, but these principles alone cannot constitute a private language, unless, of course, we are considering language in a metaphorical sense as pointed out by Fodor.

In order for a private language to operate, we need an innate system of ideas, so that every object named in a language in the world of experience may become a copy, or rather even an imperfect copy of its counterpart at the perfect level. This is something Plato believed. Indeed, Platonic utopianism becomes a prerequisite and an essential condition, if Fodor's model of private language has to operate. To be more precise, for real life events to occur we need a life that is real. Similarly, for private events to occur we need a private life. This private life must contain all the elements of natural life if the private life is to relate to the public life through language. But in reality, such a private life is impossible because in that case it would not be possible to explain the novelty of any of our experiences in our real life. If the private life contains all the elements of real life then there will be scope for anything

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[130] Alex, 2006, p.1

new in real life. And in that case there will also not be any sentence produced by someone which can in the true sense be called to be a novel sentence. Thus the admission of private language goes against the admission of creativity of language.

Another objection that can be raised against Fodor is that Jerry Fodor's theory of private language appears to be an outcome of some deliberate attempt at trying to justify a very complicated case of metaphysical position of the understanding of mind. Plato to Ryle, in Western philosophy, has discussed the metaphysical question related to the mind. Consequently, the answer has given rise to a number of assumptions that cannot be logically justified, and mentalese or private language is one of them. If a private event is required to be followed by its expression in the natural language, every such private event has to be determined beforehand, otherwise the psychological sequence translated into private language and eventually expressed in natural language becomes an in-explicated process. When I see something, or hear something, or touch something, I perceive something which doesn't require a medium either to be understood or to be expressed, and if it does require a medium, it can only act as a medium when it is programmed in a different fashion (mentalese) of any cognitive tasks.

We can say against Fodor that Language may be more than a response. But it is also a response besides being anything else. So, if I do not require a medium when I respond to a stimulus, I do not require a medium to express myself if my response is linguistic. I do not require a medium to respond when I am feeling pain. In this case my response may be just a sound I produce without any linguistic features. Similarly, I respond when I tell you a name against a question you ask me. And, in both cases, I am only responding. The difference between the two is only that in the former case my response is non-linguistic and in the latter case my response is linguistic. Therefore we don't need any medium to understand myself for responding to something whether the response is linguistic or non-linguistic. So, there is no need for a private language.

5.1.3. Problem of duality between doer and perceiver:

We have an important objection against Fodor. There is another basic problem associated with Jerry Fodor's theory. When something happens in the real world, an event for example, it is 'I' or my mind or my brain or my consciousness which perceives it. But who perceives the private event? The consciousness cannot be the doer and the perceiver together. If consciousness has to be the doer and the perceiver together, we have two absolute separate

layers of consciousness for separate actions in the private world, and the arrangement swing will give birth to a peculiar duality in which one individual's identity may be divided into many sub identities, all against one.

There is another point to consider: it is almost nowhere clear what Fodor understands or means by a private event. His concept of a private life is a unique one. What we usually understand by mental life is a life well within the reach of our consciousness. To put it in other words, a mental event is not a subject of conjecture and surmise. We know something to be mental because some mental activities are conscious activities. We know when we are reasoning, analyzing, comparing, and even dreaming. But we do not know when we are engaged in a conversation of psychological events into a private language. In short, conscious brain activity does not approve of private language. But when I have no conscious sensation of a mental process, I have no reason to believe that my brain is engaged in such a process.

5.2. AGAINST THE NEED OF THE ADMISSION OF MENTALESE:

5.2.1. Argument from mental map:

Fodor claims that only language of thought hypothesis can explain thought. He did not believe that any other hypothesis could explain thought. But Blumson claims that conscious thought and language can explain in terms of map hypothesis.

Ben Blumson proposed a different hypothesis for mental language where he claims that that mental structure is like a map; in his opinion the map hypothesis can explain everything that language of thought hypothesis can. He claims that maps and other kinds of pictorial representations have logical structure as sentences have. Maps can explain everything that language can. "Maps do not differ from sentences in possessing a different type of compositional and recursive structure" [131]

Map representation is mediated by resemblance which does not affect the question whether or in what sense maps are compositional and recursive.

"Maps suggest that thought is mediated by resemblance, but not that thought differs from language in structure"[132]

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[131] Blumson, 2012 , p. 414

[132] Blumson, 2012", p. 414

But both the hypotheses, map hypothesis and language hypothesis are evenly well located to explain the productivity and systematicity of thought. As we already mentioned in the 1st chapter, Language is systematic because the ability to understand some sentences is related to the ability to understand others. Who has ability to understand the sentence for example, 'John loves Mary', also has the ability to understand the sentence 'Merry loves John'. And language is productive because we all have the ability to produce and understand an unbounded number of novel sentences in their language, from the finite base of their language. Similarly, maps are systematic and productive. Maps are systematic because the ability to understand some maps is related to the ability to understand others. Who has the ability to understand maps which represent that, for example, 'Odisha is to the east of Kolkata' also has the ability to understand maps which represent that 'Kolkata is east of Odisha'. And maps are productive because people have the ability to understand an infinite number of maps, although they have only previously encountered a finite number of them. [133]

Languages are compositional because the meaning of the whole sentence depends on the meaning and arrangements of their parts and the order in which parts are connected. Borrowing from David Lewis, it can be said further that "Mental representation is language-like to the extent that parts of the content are the content of parts of the representation".[134] Just as part of a sentence represents the part of what the whole sentence represents, part of maps represent parts of what the whole map represents. If the language of thought hypothesis is about the hypothesis that parts of what thoughts represent are represented by parts of those thoughts then the map hypothesis offers the same explanation as the language hypothesis does.

Blumson would further argue that Fodor's hypothesis cannot be held to be more acceptable on the ground that it can explain the transportability of names and predicates. Blumson would agree with Fodor that the vocabulary of language consists of an infinite number of names and predicates which can occur in an infinite number of sentences. He would also agree that one of the explanations of how one understands an infinite number of sentences can be given in terms of the hypothesis that one already understands an infinite number of names and predicates. But Blumson would claim that there is no reason to accept this hypothesis as the only hypothesis in this regard because the map hypothesis can equally explain this

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[133] Braddon et al.,1990, p. 182

[134] Braddon et al,1990,, p. 183

phenomenon.

Fodor's hypothesis is not more convincing than the map hypothesis because language with vocabulary consists of an infinite number of names and predicates. These names and predicates are transportable. Every name and every predicate occurs in an infinite number of sentences. But it is difficult to understand an infinite number of sentences unless one already understands an infinite number of names and predicates, because the total number of sentences one understands is equal to the number of names one understands multiplied by the number of predicates one understands, which is finite. So every name or predicate is transportable and it can produce an infinite number of sentences. This is possible only by language, but it is not so. Fodor's theory fails to distinguish the explanation provided by the language hypothesis from the map hypothesis.

Blumson points out that not only the maps have other maps as part, but those same parts can reoccur within infinitely many other maps. The representational parts of maps, just like words, are transportable, so language of thought hypothesis cannot claim a greater explanatory power over map hypothesis on ground that the former can explain transportability.

Blumsons further claim is that not only transportability, the activity of recursive definition which can be explained by language hypothesis can also be explained by the map hypothesis. If thought is not productive then natural language will not be productive. The productivity of thought can be explained with a recursive definition. Fodor's point is that productivity of thought can be explained by recursive definition of what an infinite number of sentences mean by the meaning of a finite number of their parts. For example The meaning of 'the mother of John', 'the mother of the mother of John', 'the mother of the mother of the mother of John', and so on, for example, may be, recursively defined by placing that John refers to John and the mother of John prefixed to refers to the mother of the referent of that terms (Davidson,1957).

The language of thought hypothesis is about the ability to entertain an infinite number of thoughts, which are explained by the recursive definition of what they represent, depending on what a finite number of their parts represent. For example, the mother of John is happy, the mother of the mother of John is happy, the mother of the mother of the mother of John is happy. Because what is represented by an infinite number of thoughts about John's mother is recursively definable in terms of what is represented by thoughts about John and thoughts

about mother. Likewise, systematicity of maps may be explained by their transportable parts and the productivity of maps may be explained by recursive definitions of what an infinite number of maps represent because of what a finite number of their parts represent. Additionally explaining the productivity and function of recursive definitions by the finite number of their parts representing what maps represent explains systematicity, compositionality, since the base and recursive rules of the definition show what parts of the map represent. Anyone who has the ability about the base and recursive rules of definition will also have the ability to understand any map by the constituents of those parts. So the map hypothesis maintains the same explanations of the hypothesis about the structure of thought as the language does.

5.2.2. Learning of grammar does not require mentalese:

There is another relevant point that may arise at this juncture, and that is whether we learn the intricate rules of grammar from outside. Fodor's claim is that mentalese is needed to learn grammar. But the critics say the claim is baseless. According to Luc Steels, human language is a highly complex communication system. Complexity of meanings can be conveyed through the complexity of the structures and linguistic forms. Steels suggests that we could take the synthetic method to study the complexity at each stage that arises. He accordingly monitors a complete brain state of a person when it is involved in learning and processing a language.[135]

According to Steel, the first stage is from action to gesture. The first stage is about purposeful actions, such as grasping, to communicative gestural signs, like, pointing, accompanied by sounds to draw the attention of the listener. The gestures are created and completely negotiated, but not innate. Around the age of one year most of the infants have reached this stage. Gestural movements must have been the first stage in the origin of symbolic communication.

The next stage is that from sound(s) to word(s). The sounds that are associated with the gestures, that were initially grasping the attention of the listener, become words. At first at the age of one year the acquisition rate was slow. But gradually it increases around the age of two and at this stage, we found vocabulary support. They take part in language games. They take part in speaker- listener conversations in order to denote objects in the shared reality.

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[135] Steels, 2005, p. 1-8

Final stage is about from single words to grammar. In this stage from the age of two both lexicon and grammar grow simultaneously until at the age of five, by this time the main system of grammar is in place but still need to be learned a few more years where the lexicon also improves further. As languages are continuously changing, language learning goes on throughout our entire life. It is not an innate faculty in any sense.

Another point which Steel brings in here is regarding the relation between the grammar and language. The basic line with both Fodor and Chomsky is that grammar constitutes language. But there is an opposite claim too, it holds that language while it is refined, constitutes grammar. According to the philosophers belonging to this camp, we do not learn grammar; rather we simply adopt a linguistic system and thereby, consciously or unconsciously our expressions become adjusted with its system of grammar. Indeed, in steel's view perhaps we never learn a language at all. We only adapt a system of linguistic behavior, language being one of its constituent elements. So, even an illiterate man is quite capable of expressing himself in his own language without committing any grammatical error. He doesn't understand English grammar, still he speaks and writes correctly because being a native speaker of English language he has adapted to an entire linguistic system out of his urge to communicate effectively and better. Like the behaviorists, Steel is also inclined to the view that language is behavior. Just as we do not learn to behave but adapt to behavior patterns as we grow up, we adapt to a language and its requirements as we grow up and begin to see an urge to express ourselves more perfectly. A native of England attending a dinner party will hold the fork in the left hand. Similarly in his conversation, he will use 'is' after 3rd person singular number and 'am' after 1st person singular number. And he will do this out of habits, and more out of his deliberate attempt at adopting a system of behavior acceptable to his own people.[136]

5.2.3. Thought need not require language:

Martine Nida-Rumilen observes that an important question at this juncture is why after all a private language should be even necessary to construct a theory of language? To put it differently, what visible difference would it make if a private language happened to be absent or what specific linguistic phenomena cannot be explained without referring to private language? Brain understands the stimulus and the body responds accordingly. This response, though physical, is not always a visible response. It may be an invisible response,

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[136] Steels, 2005, p. 1-8

psychologically organized, and the process of such organization may or may not require linguistic application to be complete. When my teacher shoots a difficult philosophical question, I surely respond, but such response may not be visible if I am contemplating or thinking. This indicates that it is itself a response. There cannot be any thought unless there has been a stimulus to inspire. Now when I am thinking, I may be thinking linguistically (but I may be also thinking intuitively.) If I am thinking linguistically that I have an illusion of myself being engaged in a conversation with myself using a language which I have learned. I do not require a private language. It can be done by natural language.[137]

5.2.4. Language learning does not require innate linguistic mechanism:

According to Fodor, in order to learn a language, we must always have an innate linguistic mechanism. But Pichler said that the capacity to use language requires one to learn a range of tools, such as, phonology, morphology, syntax, semantics, and an extensive vocabulary. Language acquisition usually refers to first language acquisition, which studies infant's acquisition of their native language.

Language learning may be viewed as part of our whole learning process in our childhood. Within some time of one's birth he learns many things normally and automatically along with language learning. Like, walking, swimming, doing mathematical calculations etc. Obviously, there are some different brain mechanisms to learn such different things but that doesn't mean having different theories for different sets of learning. Pichler further claims that if there is some internal language then we can say it is a part derived from our language learning just like any other learning.[138]

5.3. AGAINST THE NATURE OF LOTH:

5.3.1. Argument from regress:

The regress argument against language of thought hypothesis was introduced by Laurence and Mergolis. Infinite regress is basically a logical fallacy in which we find that causality fails to arrive at the ultimate cause. This, in short, means that one cause leads to another in an infinite sequence. A number of modern linguists and philosophers of language have pointed out that Jerry Fodor's argument to establish private language would lead to infinite regress.

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[137] Rumilen, 2010, p. 55-57

[138] Pichler, 2009, p. 647-686

The language of thought hypothesis is often taken to have the fatal flaw that it generates an explanatory regress. The language of thought is invoked to explain certain features of natural language that are learned, understood, and is meaningful, but, according to regress argument, the language of thought itself has these same features and hence no explanatory progress has been made. We argue that such arguments rely on the tacit assumption that the entire motivation for the language of thought consists in explaining the explanandum that allegedly generates the regress. But this tacit assumption is simply false. Laurence and Mergolis have mentioned three types of regress. Such as, regress on learning, regress on meaning and regress on understanding. The argument from innateness is enough to avoid the 1st regress. But for the other two regresses we need a naturalistic account to explain the intentional notion of understanding and meaning but naturalistic account is not intentional in itself, such as, causal law but Lawrence and Mergolis says that, naturalistic account is not appropriate for the last two regresses. That we will discuss later followed by Fodor's reply on naturalistic theory but before going to that at first we will discuss Fodor's stand regarding language of thought hypothesis.

According to Fodor natural language cannot stand structurally without private language supporting its syntax and grammar. In other words the grammar and syntax of a natural language come from the grammar and syntax of the private language. So, it is clear that Fodor believes private language to be grammatical and syntactical; but then arises the question that if natural language cannot stand without the support of the private language for its structure, what does private language depend on? Does it depend on another language? Though Fodor does not make such an explicit claim, this appears to be the case. If a natural language is not self sufficient, if the private language is required, and if we claim that private language is self sufficient and natural language is not, we have to first establish what's of special the private language has which the natural language lacks. Knowles explains it following Fodor's line of argument.

Against Regress on learning;

1. Natural language is learned

2. Language of thought is required in order to explain this fact.

3. If language of thought is learned then; we should explain how we learn this language of thought.

4. If language of thought can be explained in the same way as natural language is explained then we need another meta language, and in that way regress can occur.

5. Or, language of thought can be explained differently. And in that way we can avoid this regress.

According to Fodor language of thought is not learned, it is innate. So regress cannot occur in learning of mentalese.

You argue that we learn 'is a chair' only if we learn that it falls under the truth rule 'Y is a chair' is true if X is G and then you say that the question of learning a truth rule for G doesn't arise. Why not stop a step sooner and save yourself the trouble? Why not say that the question of how we learn 'is a chair' doesn't arise either? Explanation has to stop somewhere?"

The response is that this explanation has to stop somewhere but not here. Better not to stop here. This question: how do we learn any term, such as, 'chair' does arise precisely because natural language is learned but how we learned G (the innate formula)? This question cannot arise preciously, because by hypothesis, the language of G is a formula that is innate.

2nd regress argument, which is clearly related to the first argument, Fodor also mentioned this fact that ability to understand natural language depends on mentalese. Foder denies that language of thought is learned but accepts that, it is in a certain sense understood.

Regress on understanding is like the following:

1. Natural language is understood.

2. Language of thought is required in order to explain this fact.

3. But language of thought is also understood, (how to understand this internal language of thought.

4. Either the way the understanding of natural language is explained; understanding the language of thought has also the same explanation: then the regress can occur.

5. Or, understanding of internal language can be explained in some other way, and thus, we can avoid the regress.

Fodor holds that internal language can be understood differently from natural language. In his words:

"You admit that there is at least one language whose predicates we understand without the internal representation of the truth condition.. This saves you from infinite regress, but it suggests that even the regress from the natural language to the inner language is otiose." [139]

There is a 3rd version of regress that is regress on meaning; it is like,

1. Natural language utterances are meaningful.

2. Language of thought is required in order to explain this fact.

3. Expression of language of thought is also meaningful.

4. Either, semantic property of this internal language is explained in the same way as natural language does, thus, regress occurs.

5. Or, it is not the case. So, regress doesn't occur.[140]

In Fodor's opinion Language of thought gets their meaning in some other way from the natural language meaning. He has tried to give an account about meaning by introducing mental representations with semantic properties. The way language of thought becomes meaningful is not the way in which a natural language accrues its meaning. The level of meaning and understanding are not the same in natural language and language of thought. Innate Functional role of semantics applies to mentalese but use theory of meaning holds for natural language. Fodor holds that an organism has a productive representation system and it is a structural representation and in order to have productivity of representation system it has compositional syntax and semantics. This is how Fodor explains the possibility of meaning in internal language. Organism's internal representation can also explain its ability to reason hypothetically and deal with novel environmental situations.

According to Knowles one's use and understanding of natural language utterance depends on possessing an internal language of thought. To learn a natural language, one has some prior medium, which is language of thought, by which one forms the hypothesis about extension of natural language term. As we have already discussed, language of thought is necessary to understand natural language utterance. And language of thought is also necessary to

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[139] Fodor, 1975, p. 66

[140] Lawrence and Margolis,1997, p. 60-66

understand how natural language gets their meaning.

Therefore this regress argument is unable to make its place against language of thought hypothesis. But still there is a problem about the innateness hypothesis that we will discuss next.

5.3.2. Objection regarding the content of language of thought:

Gleitman and Newport argue that there is a possibility that private language, if it is taken to be an innate language, does not require any further Meta language to support it. But the whole language cannot be innate. Of course, some portions of it, especially some structure of language, may be innate. But the whole of it (language of thought) cannot be innate. The whole of it cannot be innate because, though it is true that language has a structure, language, at the same time, has more than a structure. An example will make this point clear. The English language, or for that matter any language, has a structure or syntax. But grammatical structure alone cannot constitute a language. A language requires a vocabulary, and grammar. Fodor does not clarify which part of the private language is systematic. Is this the structural part? Or, is it the conceptual part? If the conceptual part is considered to be innate, then one may ask whether it is the same concept innatism which Plato talked about. If his claim is that the structural part is innate, it is not understood how this linguistic structure is able to support itself without a vocabulary. Hence the need of another meta language to support it becomes evident. We have to remember that structure and vocabulary are interdependent concepts; one cannot stand without the other. A structure without vocabulary is a design without a purpose and vocabulary without a structure is purpose without a design. So a vocabulary needs to be specified. To be precise, if private language exists, and if such language has to be an authentic scientific fact, Fodor has to show us its vocabulary independently and without any reference to natural language. But while dealing with the vocabulary of private language what Fodor deals with is the vocabulary of the natural language. All his illustrations and examples begin and end with natural language vocabulary. Fodor infers mentalese from this natural language vocabulary. Of course, this process of inference involving logical inversion is quite a common one. But this process ends somewhere. In Fodor's philosophy there is no inferred vocabulary of private language.[141]

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[141] Gleitman & Newport, 2002, p.1

5.3.3. Argument against the adequacy of the notion of computability:

According to Fodor, the brain or the mind has endless computability. This appears to be a valid point. But according to Stephni how such computability, systematicity and productivity, is judged with any perfection is not clear. The main point here is that though the brain has systematicity or productivity, they do not provide sufficient ground to construct a theory of private language unless we are in a position to understand their true nature and measure their dimensions. Many philosophers said that there is no doubt that thought exists. But our construction of thought arises out of ideas that cannot be precisely laid down to construct a philosophical theory. We can say that the productivity and systematicity of the human brain is so immense an affair that it cannot be theoretically treated: how one act in a given situation or circumstances is completely beyond all psychological predictability. Let us try to understand the point with some better clarity. We can take examples from mathematical calculation. Let us take a number series: 3,9,7. It can be completed by different people differently. Some will complete it as.

3, 9, 27- 81

Some other may complete it as

3, 9, 27- 243

The above two number series are given to present a mathematical problem. A particular problem may be perceived by different brains differently. Accordingly, different solutions can be available to different human beings. Then the question that arises is that if computation is conducted by a private linguistic process then how can it be possible to attain that much diversity which we have already shown. If it is innate it is equally distributed: then the private language would always be the same for all who are operating with that language. But the number series which are the outcome of our thought are completely different from each other. Then we can raise the question: is it possible to have a certain fixed innate code in our brain, which is the same for all?[142]

5.3.4. Argument against innateness of context:

Caterina Marino and Judit Gervain mentioned in their paper that the nativist- empiricist debate dominated much of the second half on the 20th century as opposite paradigms in

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[142] Stephanie et al., 2020, p. 34

explaining the language faculty and as a result, now we have much better empirical understanding about how the human mind and brain process and learn language.

The last decade of biological research has proposed a new model of the way gene expression is regulated by inherent biological factors, but also through experience. It has been proposed that DNA expression can be modified during the entire life span of an individual during experience and environmental factors.

According to this standpoint, 'dynamic and complex interactions take place between the environment and the genome. These interactions trigger epigenetic modulations as a response to the experience, forming epigenetic "memories" of the external world. Since the earliest stages of the development, environmental feedback is necessary to develop optimal functioning. Behavioral outcomes are thus often mediated by the long term influence of these experiences'. [143]

The most recent view of integrative models can explain language acquisition in the above way of explanation. So we don't need any mentalese to acquire a natural language.

The next observation is about the neuroimaging studies which are the imaging features of the brain that have updated our ability to discover the human brain. How the brain processes speech and language has been investigated in thousands of brain chemical functions and the study was done from birth to adulthood. The brain network responsible for language processing and it is in present time quite well described in adults and its origins are starting to be understood in children.

'If language is an "organ", brain imaging should allow us to investigate it. Indeed, certain imaging studies were directly inspired by linguistic theory and explicitly set out to find evidence for the neural mechanisms encoding formal linguistic mechanisms'. [144]

Another vital point starts with an important question: what do we mean by evolution? According to Kirby, Dowman and Griffiths, The mind of ancient and modern human beings is not the same and we cannot deny the connection between mind and brain. If the brain evolved according to the evolution system then it can be said that the mind also evolved. If the language of mind is innate then how could our natural language have evolved? There is

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[143] Marino & Gervain, 2019, p. 389

[144] Marino & Gervain, 2019, p. 388

no need for evolution of natural language, the private language was supposed to be supreme, which is innate, and it is not compatible with any dynamic thing. [145]

5.3.5. Argument from evolutionary nature of language against innate language:

Sapir and Whorf mentioned a very vital objection against the language of thought hypothesis. Their main point is that the evolution of a language is designed by the speaker's way of living, culture and environment. Language, as it is commonly viewed, evolves. This means that language has more than just a linguistic dimension. It is a historical fact that language has evolved with time and with man developing physically and mentally at different stages of evolution. The language in which we speak today is, therefore, an outcome of the evolutionary process to which the entire biology is subjected. Linguistic and phonological investigation has strongly suggested that new words, syntax have emerged from time to time with the ever increasing linguistic demand of man. This account does not go with Jerry Fodor's theory of private language which is innate, because it cannot logically be part of the evolutionary process. Every language has certain adaptability which indicates that it operates in close proximity with our experience. A new word or experience is born when we come across a new phenomenon. Now, we have to concede that private language is something we are born with, it is something which cannot logically grow, and if it cannot grow, we fail to understand how it keeps pace with an evergreen dynamic natural language.

According to Kirby, Dowman and Griffiths, the mind of ancient and modern human beings is not the same and we cannot deny the connection between mind and brain. If the brain evolved according to the evolution system then it can be said that the mind also evolved. If the language of mind is innate then how could our natural language have evolved? [146]

Of course, one can point to the possibility that some innate ideas lay our foundation for ideas that develop empirically in the due course of our life. However we must care to note that Jerry Fodor is not propounding a theory of innate ideas. Rather, he is trying to develop a theory of linguistic and cognitive science based on innate ideas, and if these innate ideas do not grow being innate, we again fail to understand how a whole system of language and psychology will go depending on them, and, therefore, consequently the theory of private language will collapse.

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[145] Kirby et al.,2007, p. 1-5

[146] Kirby et al., 2007, p. 1-5

5.3.6. Objection against the content of language of thought:

According to Fodor, language of thought deals with some elemental and rudimentary ideas. But in reality we have many ideas that don't have any elemental or rudimentary base. There are many complicated concepts in physics like protons, neutrons etc and many other artificial concepts. The question is: are there any counter parts of such concepts in our language of thought? It is possible to redefine the concept of bachelor in terms of two basic concepts namely unmarried man: but the complicated concepts of quantum mechanism cannot be reduced to elementary concepts. Fodor said, we can understand any word from any unfamiliar language by translating it into our own native language, likewise, any word in natural language sentences can be understood by translating it into mentalese. But there are some words that we failed to translate into our native language. For example, there is no synonymous word for 'squtnique' in the English language. It is a Russian word and it is used in the discussion of space science. If any term is completely unknown as an idea to a speaker of another language then how is it to be explained by language of thought? It is another complication of theory of language of thought.[147]

5.4. Arguments against Fodor's Reductionism:

What Fodor is basically doing is reductionism. We have already discussed reductionism theory introduced by Fodor, in the 4th chapter. He is trying to reduce the natural language structures into some co - structures of organic psychology in order to establish how one may be related to another besides being complementary in some sense. However, the difficulty is that Fodor does not reach any precise conclusion practicing such reductionism because, after all, the internal code along with its elaborate structure finally remains to be a matter of assumption, and though he claims that he has to discover the vocabulary of the internal code, what we find is that he has analyzed linguistic structures to indicate at the best the possibility of internal code.

There is one more reason why Fodor's reductionism is not effective reductionism. Of course, the application of reductionism in linguistic investigation is not taboo, but it is permitted only to the extent it presents a coherent chronological picture of linguistic heritage. It means that how a *cab* has been reduced from *cabriolet taximeter* is reduction, because both *cab* and *cabriolet taximeter* are or were in use at some point of time or the other. To be precise,

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[147] Urban, 2013, p. 66

reductionism as a philosophical method of investigation is useful only when what we reduce and what we achieve after reduction are both matters of fact. But, even after reduction, the residue remains doubtful: a matter of conjecture and surmise, it is not reductionism, or, at best, ineffective reductionism.[148]

We have to understand the difference between reductionism and inference. Fodor is simply trying to guess at some very deep level of linguistic consciousness from which language evolves. But a certain deep level of linguistic consciousness does not necessarily involve the use of a vocabulary. It may be that one psychological state relates to another because such linguistic consciousness is in operation, but it does not indicate a vocabulary in operation.

According to Fodor the internal code is not only a medium of communication but also, at same time, an entire mechanism of interpretation. In order to explain how it works, Fodor tells us that it works in the same way a dictionary works, because we do not use a dictionary only to understand meaning of words but also to get an unfamiliar word interrelated. Therefore, a dictionary serves two purposes. First, it communicates a certain meaning. Second, it interprets words we are unfamiliar with in a way we are familiar with. This is exactly how language of thoughts functions.

Fodor believes vocabulary to be operating in the same manner a dictionary operates. Indeed, he believes that vocabulary has one fundamental function – explaining in terms of familiar expressions the unfamiliar sound. But is it really so? Let us see what Fodor precisely says:

"In effect the semantic level ignores the difference between 'bachelor' and 'unmarried man' but is sensitive to the fact that the latter has 'man' and 'unmarried' as its constituents. If, therefore, a speaker wants to get 'bachelor' into a surface sentence, or if a hearer wants to get it out. They must do so via their knowledge of the dictionary."[149]

 If we have to know what *bachelor* means, we must look for its meaning in a dictionary, and the dictionary will explain that *bachelor* means an unmarried man. But Fodor fails to understand that a dictionary can only function when the person searching for the meaning of *bachelor* in it at least understands *unmarried* and *man*. If the person understands neither the meaning of *bachelor* nor of *unmarried man*, then the dictionary is of no use to him. Similarly, if the vocabulary of the internal representations has to operate, we must know most of it, and

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[148] Sober, 1999, p. 542-564

[149] Fodor, 1975, p. 124

because Fodor believes that it operates at a certain psychological level, we can never know the most of it by the method of reduction.

5.5. The compatibility problem:

Erick Krist (2017) and other theorists think that computers are designed by humans. Humans create machines. They create such software that has all kinds of advantages. If any extra facility is needed then those who have designed the hardware can add on any tool. The original model and those add on features can be communicated in the same language. For computer machines, this technique works very well. But our brain is not designed that way. Brain suddenly cannot appear as a computer unit. It is also not possible to add any component to the brain. Human brain is a device that includes some automatic modules. Each of them is responsible for their own particular task. Such as, one module receives the visual stimuli. Each of these modules has its own specific function; they cannot be used for any other purpose. Over time with new demand a new module can be created rationally and this addition serves a new purpose: it has the ability to communicate with the various parts of the brain. If the modular theory is true then the brain has a language and works accordingly. Each of the modules contains a common language by which all these modules are used to communicate with each other. But these modules always go through an evolution. So, it is not possible to consider a pre-existing language of thought. And the new module always has the ability to learn so that the rest of the existing module is compatible with it. If this theory is right, we find a problem. If the brain operates by mentalese then each of its modules would need to function by the same language in order to be compatible with the whole system. But these modules are going through the process of evolution. So, it is not easy to add on any new modules in the existing system and it is called a compatibility problem which shows why language of thought cannot be admitted. [150]

5.6. Natural language supposed to be the language of thought:

According to Carruther in our natural language we can identify a word very quickly. We can identify the way words are related to one another to create a meaningful sentence. On the other hand, we cannot find mentalese words. In our introspection we can only find natural language sentences. In this way, the English language of computers can remove the computer's programming language, when the programming language transforms into natural

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[150] Krist, 2017,p. 1-5

language. What comes to us is the English language. That was exactly what was happening in our introspection. Natural language like English can remove the mentalese and we only get the natural language through introspection. It is not possible to find any brain mechanism which exposes syntax of mentalese within our brain's neural structure. It might be a high level language but there is no way to prove their existence. But we can prove the existence of natural language very easily and it is also possible to explain thought by the help of natural language. So there is no need to hunt for an invisible language of thought. In introspective experience, thought can be done in natural language. To be precise, there is no necessity to hunt for an additional language that is mentalese.[151]

It is a very vast topic and cannot be discussed in that short place. We need a full chapter to discuss the topic of whether the natural language does what language of thought is assumed to be doing.

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[151] Carruther, 1997, p. 50

CONCLUSION

NATURAL LANGUAGES AND LANGUAGE OF THOUGHT

6.1. Can natural languages do what language of thought is assumed to be doing?

In the previous chapter we looked at the criticisms against Fodor and tried to answer them as much as possible. Now we will see how far natural language can function as language of thought. First we will focus on evidence that can be put forward in support of the claim that natural language is the language of thought. The next part will involve an examination of the arguments that have been put forward against the idea that natural language is the language of thought. In the final section we would claim that language of thought cannot be explained by the natural language alone or by excluding natural language altogether.

Jerry Fodor made an analogy between the mind and digital computation and it is an attempt to show the significant explanatory power of his language of thought theory. However, there are opposite views regarding the language of thought: Fodorian theory claims that innate and behind the scene functioning mentalese is the best option as the language of thought, while the other theory claims that natural language is the language of thought. According to this other theory, one's native language is his language of thought. One, who speaks in English, thinks in English. If one speaks in Bengali, he also thinks in Bengali. We have already discussed Fodor's language of thought hypothesis elaborately. Besides Fodor, Steven Pinker also supports the view of mentalese in his book *The Language Instinct*. According to Pinker, thoughts are independent of natural language. Innate language of thought would fundamentally shape the human mind, which natural languages cannot do.

On the other hand, Sapir and Whorf offer an alternative view, that is, natural language is the language of thought. According to Sapir, it is not that natural language (speech) shapes our thoughts; rather, natural language itself makes thoughts exist. "...thought may be no more conceivable, in its genesis and daily practice, without speech than is mathematical reasoning practicable without the lever of an appropriate mathematical symbolism".[152] Benjamin Whorf also believes that linguistic systems of the mind create our experience of the world. He holds that we frame the concepts and ideas of the world in accordance with the use of language which is prevalent in the linguistic community we live in. If thought is considered

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[152] Sapir,1921, *Language*, p. 14

to be made of natural language sentences, then this line of thinking looks reasonable. The thought process is carried through natural language, whether one is thinking internally or for the purpose of verbalization.

Before we come to the core evidence for natural language as our language of thought, let us try to understand the claim from the observed instances of our daily life. Let us begin our independent experiment with some words that may be used to construct a sentence. This is typically, quite often, a lesson for children at school. Suppose, we have the following set of words to construct a sentence:

Inevitable/death/ is/ dear/ life/ is/because

Now let us question ourselves on how exactly we should proceed with the set and many more similar sets in general. We try to identify the nouns first because we know from our language training that nouns, at least in the majority of cases, constitute the subjects, and subjects come before the verbs. There are, then we notice, two nouns, 'life' and 'death', and because life is a precondition for death, we hit on 'life'. Once 'life' is hit, we look for a verb, and the only verb in the sentence being 'is', we hit on 'is', and so we go on to construct the clause 'Life is dear', and, following the same pattern, we construct 'death is inevitable', and the subordinating clause 'because' joins the two to throw up the full construction: 'Life is dear because death is inevitable'.

Life

Life is

Life is dear

BECAUSE

Death

Death is

Death is inevitable

Now, even the slightest insight into the fundamentals of linguistic operation will be sufficient to leave it bare before us that the final construction is the outcome of a habit formed out of years of practice. In other words, unless one is trained linguistically, he or she cannot construct the sentence, though, interestingly, the sentence finally constructed may not be the

sentence intended, because the sentence, instead of being 'Life is dear because death is inevitable', could be 'Death is dear because life is inevitable', and, if so, one may say we have not only two sentences but also two ideas which are constituents of two propositional attitudes. It may appear that such propositional attitudes, formed out of the relation that a person has with a proposition, such as having an opinion concerning it or responding emotionally to it, are constructed internally, but it may not be so. It may be the subject-verb relation, or even the very commonly viewed subject-predicate relation – being the root of the constructional mechanism that develops these attitudes. Mental States do exist. It may also be that we need representational systems to evaluate these mental states, but it does not require us to hypothesize a mental code to interpret the same.

6.2. EVIDENCE FOR NATURAL LANGUAGE AS LANGUAGE OF THOUGHT:

According to upholders of natural language view, there are some difficulties involved in explaining the 'innate' or 'hidden' language of thought. But, in the very outset, it is to be borne in mind that Fodor does not explain either of the two terms separately. In his words, it is the language of thought. Now, as pointed out earlier, there are certain difficulties in explaining mentalese. But, because such difficulties exist, it is not a welcome conclusion that the language of thought does not exist. The primary question is: What are these difficulties? Let us see. The primary difficulty is that the proponents of the *Language of Thought Hypotheses* point to a psychological process or mechanism that is not only complex and elaborate but also difficult to comprehend from commonsensical perspective, being one we are unaware of consciously. It is, indeed, quite confusing to suppose that we 'think' in one language and 'express' in another. After all, one of the basic assumptions of the *Language of Thought Hypothesis* is that thoughts occur in the mentalese language internally, whereas, externally, they occur in the natural languages for the purpose of communication. To avoid this complexity, philosophers above mentioned, propose that thought and communications both occur in the natural languages. They forward some very strong arguments in favor of the claim that thinking and communicating are simultaneous procedures and occur together in the respective natural languages of the individual speakers. Of these arguments, two are particularly important in the present context: *Evidence from Introspection* and *Evidence from Developmental Psychology.*

6.2.1. Evidences from Introspection:

Peter Carruther (1996) in *Language, Thought and Consciousness: an essay in philosophical psychology* argues that language has two major roles. One is the communicative role and the other is the cognitive role. The cognitive role depends on the communicative role. The cognitive role does not work independent of the communicative role.

Communicative functions refer to an interpersonal use. People can exchange their thoughts within a particular linguistic community through the use of a language that all of them understand. Similarly, the animals may exchange their messages in their own way of communication. Therefore, humans, both children and adult humans, are found to exchange their thoughts through some sort of a linguistic medium, indicating that thoughts, in most of the observable cases, occur in the natural languages simultaneously with communication. Of course, Peter Carruther, while proposing such a possibility, is aware that the natural languages as they stand today are of recent origin, and it is an absurdity to suppose that no real thinking was done before 600 AD. Therefore, Peter Carruthers concept of the natural language includes much more than 'structured language' as it is used today. It includes signs, signals, gestures and every other primitive and preverbal use of linguistic skill. After all, the ancient signaling process is still present in our everyday language. There are many simple examples to illustrate the point. We laugh to suggest that we are happy, cry to indicate that we are sad, frown to express our indignation or irritation etc. There are, furthermore, facial expressions associated with fear, shame, surprise etc which are sufficiently capable of communicating our states of mind without the deliberate use of syntactical structures. In our daily conversations, these signs and gestures occur together with the use of language, indicating that they have a common source, and, indeed, the latter has evolved out of the former. In short, the human language and the human gesture system are interconnected, and such interconnection being denied the natural language is left with no other function than communication of preformed thought. In this connection, it is to be noted with care that natural language supporters hold that language also has cognitive role as well as communicative role. Natural languages are not just external encoding of internal thought. In fact, the natural language sentences are themselves thought as opposed to the possibility that thoughts are framed in one language while they are communicated in another. To prove it, we can say, according to Peter Carruther, thoughts occur in the sentences of the natural languages, whether spoken or written, because even when thoughts occur in the natural languages, the process of thinking continues to be a psychological operation, and the external

and internal operation systems operate to produce 'speech'. This is not a hypothesis. This is something we are aware of. This is something we can sense and even intuitively know that it is happening. For example, many times, we find ourselves engrossed in thought, and thoughts that occur to the mind at such times are all thoughts framed syntactically following no universal grammar but the rules of grammar and syntax peculiar to each natural language of each speaker.

The fact that we introspect is in itself strong evidence that thoughts occur in the natural languages. In introspection we come across so many cognitive activities, such as, logical analysis, doubting, assuming and so on. Moreover, the sentences that are used during introspection serve cognitive purposes, whereas the same sentences serve communicative purposes in a conversation. It is a matter of common observation that children often 'act' as they 'speak', irrespective of the question whether or not anybody is present to listen to them. Here the purpose of language is purely cognitive as no intention to communicate is either felt or observed. Sometimes even the adults also speak when no one is there to listen to them. Evidently, these sentences are not used for communication. These sentences are used for thought making. So the natural language has many other purposes other than communication. In internal self talk we perform the tusk reasoning, calculating, thinking - and all are done through some linguistic medium. And through introspection we understand that this medium is natural language.

It is a fact that many times we act unconsciously. This, however, is not sufficient evidence to assume that thoughts occur unconsciously in the mentalese. It is quite a logical possibility that the thoughts that produce unconscious activities are structured unconsciously but in the natural languages. It may be that the natural language has the power to construct thoughts below our awareness. It is a claim from a natural language theorist.

Another thing might be that, often thought moves very quickly from one sentence to another, making it difficult for any other person to understand. This phenomenon is also revealed in introspection. These sentences are not for communication purposes and are used for thought making. So, as we have already mentioned, language has many other purposes other than communication, Such as, reasoning, calculating, thinking all are done by some linguistic medium. This medium is natural language. Often, a lot of things go unconsciously in our mind. We understand that something is going on in our minds but we do not know what is

exactly going on. But that doesn't mean that it occurs in mentalese. Inner speech might create thought in natural language sentences.

According to the adherents of mantalese, brain modules produce mentalese and send data to the speech center and thereafter to some other parts of the brain. When information reaches the speech center, it is automatically translated into natural language sentences. Natural language supporters can say that it is unnecessary to consider one extra step of the translation process-from mentalese to natural language. This translation process renders a complicated picture of the mind. If thought can occur in natural language then it is simpler to explain thought by natural language, without any complicated translation process. This translation process takes a long time in case of a complex thought. We can express in the same way we think, through natural language sentences. We can express or understand thoughts without wasting any time.

Therefore, according to natural language view the concept of mentalese involves the admission of a translation process which gives an unnecessarily complicated picture of the mind. But if, at least logically, thought can occur in a natural language, it is unwarranted to invite such complication. Additionally, if we hold onto the translation process, it is time consuming i.e. it becomes difficult to comprehend how reactions which occur within the fraction of a second must be the outcome of such a long and complicated conversion process akin to paraphrasing. In any case, in our introspection we never find that we are translating our thoughts in our mother tongue; rather we find that we are thinking in the mother tongue or at times in another language.

6.2.2. Evidences from Developmental Psychology:

It is now believed to be a well-established scientific fact that linguistic development accompanies psychological development. There have been experiments on children to find out if they develop normally while denied linguistic access and it has been observed that their normal psychological growth is severely impaired. Malson in *Wolf Children* calls these children "wolf children", and records 53 recorded cases.[153] In the majority of these cases the psychological development of the child is found damaged; and furthermore, in extreme cases the child's behavior indicates thought processes that are no more sophisticated than those of

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[153] Malson , 1972, p. 81-82

non-linguistic animals.[154] Interestingly, however, these children often start to develop normally after they have been exposed to language.

For example, take the case of a child, who was separated from everyone and did not get any opportunity to learn language. This isolation hindered her growth. But when she came to socialize and learnt a language in a linguistic community, her intellectual growth became rapid. This experiment is a clear indication that psychological development depends on linguistic ability. Language is a medium through which the child reconciles his ideas in the society. We can take the example of Helen Keller, who started to think after learning the language of touch that we will discuss below.

Keller was not a victim of psychological disorders. Losing her eyesight and hearing capacities at the age of two years, Keller could not acquire language skills normally. She remained completely nonlinguistic till the age of seven and was then taught to use the language of touch. Her teacher repetitively exposed Keller to various objects, and then spelt out the name of those objects, tracing symbols onto her hand. Eventually, Keller managed to master her language of touch and later wrote books about her experiences before and after learning it.

Keller's writings establish how she believed herself to be without thinking and how language played a role in shaping up her thought process thereafter. "Before my teacher came to me, I did not know that I am. I lived in a world that was a no-world. I cannot hope to describe adequately that unconscious, yet conscious time of nothingness. I did not know that I knew thought, or that I lived or acted or desired. I had neither will nor intellect." [155]

In her case, the mind before linguistic development and after linguistic development is completely different. The mind that has no linguistic training is more or less instinctive in operation, and reactions that are generated are, therefore, all too crude and, to a large extent, partially animalistic in nature.[156] Keller states that she had no 'inner life' [157] as such before she was allowed access to language, and she further claims that she had no 'power of

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[154] Malson ,1972, p.82

[155] Keller,1903, p. 141

[156] Keller, 1903, p. 143

[157] Keller, 1903, p. 147

thought',[158] rendering her psychological faculty incapable of comparing "one mental state with another".[159] In short, if Keller's testimony is to be at all believed, language made her think. Keller has another interesting claim of experiencing "inner speech".[160] that shaped a feeling of words being spelled out on her hand through touch method. This explains her private thought process, developed through the language of touch. Indeed, Keller says that, if she were to construct a person, she would "put the brain and soul in his finger-tips". [161]

Helen Keller, therefore, introspectively or intuitively, perceived the difference between being a language user and an individual with no access whatsoever to linguistic skills. Her writings authenticate the role of language in thought process and psychological development. Keller appears to believe her thoughts and ideas to be structured from words being spelled onto her hand, indicating and, to an extent, justifying, the cognitive function of the natural language, otherwise Keller could not have possibly experienced it through touch, for, after all, our inner speech thus must be, in the words of Keller, more than a mere "side effect" or "accident".

Unfortunately, Keller has not told us how she traced her inner speech. Normally, inner speech seems to be structured on our early childhood experiences, and over time, it is transformed to an internalized process from the external monologue. Whether Keller learnt to physically trace words onto her own hand before being able to do it internally may be an interesting case study. It is easy to relate such a developmental stage, if it at all exists, to a normal human being's inner speech. It would be evident thereby to state that imposing language on a languageless brain can lead to production, assimilation and support of complex (sophisticated) thoughts. Keller herself describes her pre-linguistic stage, portraying her thoughts to be reflexive and unconnected to a clever will. Hence, there was no originality, feeling of oneself or unified experience when she responded to stimuli. Rather the process was of acquiring a language that nearly shaped Keller's mind to operate in a definitely humane manner; else she would have thought and behaved like non-human animals. Here an objection can be raised too and it needs to be dealt with. Let us consider Keller's claim that she developed the sense of self only after acquiring language. It is worth noting here that she wrote about her experiences many years later. Hence, there's a possibility that she had no

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[158] Keller, 1903, p. 145

[159] Keller, 1903, p.145

[160] Keller, 1903, p. 147

[161] Keller, 1903, p. 144

memories of her life before she was seven years of age. In that case, developing a sense of self or incorporated mind is not governed by the introduction of language to her. The point to be highlighted here is that Keller's description of her early life may be the result of nothing more than lack of memory. But it needs to be emphasized as well that she cannot remember anything that can be called unified thinking, from her pre-linguistic stage.

A mentalese supporter might argue that mentalese does function behind the scenes. Hence, it's possible that Helen Keller's early life experiences are examples of mental processes occurring below conscious awareness, i.e., mentalese. Nothing in Keller's testimony stands to be the evidence of mentalese being not in operation. Rather, it may be nothing more than the description of the experience of describing mental state through natural language. Furthermore, her story describes the influence of natural language in shaping the feeling of self. But this is nothing more than a mentalese theorist's assertion in itself. Similar contentions may come from the other side as well- like, behind the scenes functioning is based on mental maps, or that Keller's behavior proves that there were no stimulus or response reflexes prior to acquiring the language of touch.

But we have to look beyond this kind of conjecture. The cardinal point is that Keller believed she learnt normal human thinking when she acquired natural language, and because it seems that her belief is no mere fanciful illustration of an imaginary state of mind, her testimony does bear at least some evidence of the fact that the cognitive development is closely related to linguistic skill development in the early phase of our life. Backed by Helen Keller's testimony, our introspective evidence thus shows that our thinking operates through natural language.

So, it is clear from the above discussions that the natural language of thought hypothesis is worth discussing as a formidable alternative. In short, from the above discussion we see that the claim is supported by evidence generated primarily from two sources- introspection and psychological development. Introspection leads to describing thoughts in natural language sentences. Thus, when asked to share our thoughts, the expression of the thought is similar to our inner experience. Be it an internal process of thought or an external process of communication, thinking is done through natural language mechanisms. The same has been depicted by Helen Keller's testimony. It's the language of thought that puts a pace in her psychological development. She herself stated that the use of language made her turn into a thinking being with will and intellect. Artificial neural networks with no productive or

systematic abilities are set to work in the same way. Just like the human brain, their operations get increasingly productive and systematic with the introduction of language.

While there are enough reasons, as discussed above, to claim natural language to be the language of thought, there still are arguments to deny the same. These arguments support mentalese as the language of thought and are designed in order to convince us. To understand the explanatory power of natural language as language of thought, we first need to understand why it is important to consider the innate language of thought hypothesis. And we also need to discuss whether natural language is sufficient to explain the same.

6.3. EVIDENCES FOR MENTALESE AS OUR LANGUAGE OF THOUGHT:

Fodor and Pinker tell that the people born deaf and mute, or animals that cannot speak, doesn't prevent them from having a well-developed thought process. But it is too early to conclude that the thinking is not done in natural language. It is possible to come to a conclusion only by logical discussion, both the theory of natural language and mentalese as language of thought, in the right way. Now, we will discuss the arguments in favor of mentalese, and after that we will also try to find out the possibilities of natural language of thought hypothesis. First we will start with some difficulties regarding language of thought. And to understand the mentalese clearly there are some questions that arise and we will find the answers in the light of Fodor's language of thought hypothesis.

There are some difficulties in explaining language of thought. But, because these difficulties exist, we cannot say that language of thought is a misnomer. language of thought as a concept is difficult to understand primarily because it is difficult to comprehend that formation of thought is a complex psychological process, For example, for a common man, it is simply unbelievable that thoughts have to be communicated internally to be thoughts proper, or that organization of thoughts as a process bear marks of linguistic peculiarities, indicating that language and thought have a common cognitive purpose. Indeed, it is confusing. After all, it does sound absurd that "we are thinking in one language and communicating in another". It comes out that this sense of absurdity requires a skeptic mind that Fodor's language of thought is not exactly a language in the conventional sense we use the term. It is a whole Representational System which, Fodor himself claims, is at its best no more than a "speculation".[162] But, then, Fodor tells us that though a speculation, it is not one without a

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[162] Fodor, 1975, p. *viii*

genuine cause. This 'genuine cause' may be divided into a number of small questions not very difficult to understand, and they are as follows:

1. *What do we understand by language? Is it just an organized system of sounds whose meaning depends partly on contextuality and partly on convention?*

2. *Do linguistic characteristics suggest anything beyond language? What is it?*

3. *Will thought stop if language is unavailable?*

These are some of the questions that arise if we accept language and thought as they have so far been explained to us. Let us now try to find out the answers to the questions stated above in the light of Fodor's philosophy.

<u>Question No. 1 What</u> *do we understand by language? Is it just an organized system of sounds whose meaning depends partly on contextuality and partly on convention?*

The answer is as follows. Language, at least apparently, is an organized body of sounds and symbols, but their meaning does not entirely depend on either experience or convention. Every idea that has a "name" has a corresponding state of mind in which the concerned idea is no more than an abstraction formed out of materials furnished to it, and as these materials are not in themselves abstractions or, for that matter, mental in any possible sense, it is by far and large a psychological requirement that they are reduced to abstractions as we commonly understand them or some other mental form conducive to thought formation, and because such reduction cannot be logically comprehended without a medium, Fodor believes in the possibility of certain linguistic operations carried out at the psychological level to compute and represent information received through the senses.

<u>Question No. 2</u> *Do linguistic characteristics suggest anything beyond language? What is it?*

The answer is yes, they do. More than sounds, they show a structure governed by rigid rules which shape meanings that are syntactically communicated. These rules cannot be contextual because they do not change with contextuality. For example, if I say, "All men are mortal", it is a proposition which has a meaning independent of experience because "All mortals are men " means something different in terms of contextuality though the basic logical form *S is P* remains the same. Now, though syntactically, "All men are mortal" and "All mortals are men" have different orthographical significance besides observable semantic variation, and though, evidently, such variation may be attributed to difference in experience, we have to

admit that without the associating rule or rules the proposition itself would have remained as incomprehensible as a collection of sound is frequently produced in nature representing nothing. These rules, therefore, cannot be empirical guidelines of thought but innately prearranged factors. Therefore, linguistic rules, evidently, do indicate a larger set of rules in operation at the psychological level.

Question No. 3 *Will thought stop if language is unavailable?*

The answer is No, even though language is unavailable, thought need not cease to continue. The possibility of the continuation of thought needs to be admitted for the following reasons. In a hypothetical situation in which language is absent, thought has a free go because rules that help formation of thought may continue to form 'thought understanding'. Thus a man who is deaf and dumb is not necessarily a man incapable of thought, and as long as he is thinking, he is required to understand his thoughts for the thinking to continue, hence the necessity of the Language of Thought.

These speculations (call them 'speculations' because Fodor does so) indicate that "thoughts" in order to be "thoughts proper" must be computed and represented to the mind, and because such computation and representation cannot be conducted psychologically without a medium, the Language of thought Hypothesis stands.

Fodorian's claim is that mentalese is essential for the human mind and its thought process. And for that we will discuss some arguments given by Steven Pinker and the responses of it from the defender of natural language hypothesis. Pinker mentioned in his writing that the claim, put forward by natural language supporters is that whatever that has been explained by mentalese can be explained by natural language. If the natural language hypothesis could explain the thought process properly then there is no need to admit an extra language. And it is not possible to find mentalese empirically; we are acquainted only with natural language. Although we have a very strong argument in favor of mentalese, natural language theorist's claim is that still if it is possible that natural language can do all the things that mentalese do then it is logical to trace the simpler explanation: It is easier and cheaper to consider the natural language to be the language of thought. But on the other hand, theorists like Fodor and Pinker argued in favor of mentalese. In their view if we consider natural language as language of thought then it will lead us to an inadequate theory.

6.3.1. PINKER'S POSITION IN FAVOR OF MENTALESE:

As discussed earlier, Pinker strongly supports mentalese as language of thought. Pinker in the 3rd chapter (Mentalese) of his book *The Language Instincts* highlights the problems of considering natural language as the language of thought. Refer to the following lines.

"We have all had the experience of uttering or writing a sentence, then stopping and realizing that it wasn't exactly what we meant to say. To have that feeling, there has to be a "what we meant to say" that is different from what we said. Sometimes it is not easy to find *any* words that properly convey a thought. When we hear or read, we usually remember the gist, not the exact words, so there has to be such a thing as a gist that is not the same as a bunch of words. And if thoughts depend on words, how could a new word ever be coined? How could a child learn a word to begin with? How could translation from one language to another be possible?"[163]

The above passage offers several strong points as a warning to the idea of picking natural language as the language of thought. This is the reason why Pinker believes that thinking can't happen in natural language and that the natural language sentences are basically translations of thoughts in some other medium, most likely mentalese. He attempts to show that thinking can't occur in natural language, as described above. Though it can be doubted whether Pinker has been able to establish mentalese as the base of thinking, his arguments have significance for proposing mentalese as our language of thought.

Pinker points out that there are occasions where we say something which is other than what I meant to say. This is a familiar experience often occurring in conversations, where we search for the right word in a sentence and ultimately give up and set up for some other word that twists the meaning a little. We feel strongly that there is a better option for the word used. Here we know there exists a word that fits best in our sentence and yet we fail to recall it. According to Pinker, this experience is proof that thought is independent of natural language. These experiences seem to reflect that thought is an independent process possibly in mentalese and translating it to natural language can be complicated. Pinker believes that natural language thinking won't really lead to a moment where we know a particular word exists for an independent thought and yet fail to recall it.

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[163] Pinker, 1994,p. 57-58

Here natural language supporters may say that there is no such possibility that thought occurs in mentalese and we translate it into natural language. Rather the problem referred above can be described as a problem of thought not fully formed and the difficulty lies in its formation itself. A thinker can believe that a more precise thought exists but he himself is unable to form it. If he was able, it would have surely been a better account than the present one. Pinker can claim here that the belief regarding a better thought is formed because such a thought exists in mentalese and can't be translated to natural language properly. The difficulty in translating leads to forming of another thought that can be expressed easily in natural language.

We will now move to Pinker's 2nd attack against natural language as the language of thought. Pinker claims that we usually remember a general idea instead of a whole sentence. The general idea of a sentence is different from the natural language sentence. Pinker suggests that this general idea is different from natural language sentences, as we don't often remember the exact communication of thoughts by other people, but the essence of it. But one may hold in favor of the natural language of thought hypothesis that the possibility of the formation of a gist does not necessitate the admission of mentalese. Often, we really don't remember the exact words that other people use to share a thought, but that doesn't really refute the claim of thinking in natural language. But according to Pinker, the general idea must be different from the whole set of words uttered. Here natural language theorists can say that it's possible to have a general idea that is a sentence in itself. It might not be the original sentence, but still, it may be a sentence with a changed meaning. It might be the case that we have gathered sentences of other people and retained them in the most efficient manner. This would result in a sentence, offering roughly the same idea as the original one. Pinker might object here saying that storing the general idea has not been explained yet. Also, different sentences with similar meaning suggest the existence of an independent gist, possibly a mentalese encoding of natural language sentences. One of Pinker's reasons to support mentalese is our ability to translate sentences without changing the meaning. This very capability is the evidence of thought having an independent meaning, in spite of different natural language formations.

According to natural language theorists, the above problem raised by Pinker, can be avoided without considering the general idea to be a secret mentalese encoding of a natural language sentence. Instead, we can term it as an attempt to retain a thought in its best possible shape or as a procedure to restructure the original sentence.

This surely is a convincing solution. The brain has a restricted capacity to retain information and unquestionably can't record the vast information shared, the way it's presented. Thus, a bit of reconstruction occurs while we recall experiences or sentences. This can be through fitting in fragments of information, where the brain serves the absent details. Thus, while reading or hearing a sentence, we retain it for future use through this reconstruction technique. This can be matched to what Pinker calls a gist of a sentence. So, it is not that thinking is done in mentalese only. Rather, it only points out possible storage and retrieval capacities of information by the brain.

Another question according to Pinker that arises here is how can a new word be invented if thought depends on words? Pinker would say that new word coinages are meant for expressing new thoughts formed in mentalese. If thought was based on natural language words only, new words would never appear, as they won't have any use. But natural language theorists can say that, it's difficult to assume how it would have been coined, if mentalese was the language of thought. 'Pixie cut' for instance, the most popular women's haircuts of the 1920's and 30's. The word was caught on because of the alliterations used, no difficulty of pronunciation and the way it sounds good. It's difficult to assume how it would have been coined, if mentalese was the language of thought. Since the alphabet 'P' is not there in mentalese, there's no scope of enjoying the alliteration that would lead to the coinage.

Let us now move to further objections raised by Pinker. These are - the problem of ambiguity and the problem of logical inexplicitness. We will discuss these impotent arguments from all of these to understand the claim of thinking done in mentalese.

The problem of ambiguity:

Many words have more than one meaning, thus leading to confusion when used in sentences. Pinker lists different newspaper headlines with such ambiguous words, such as….in his words, "Each headline contains a word that is ambiguous. But surely the thought underlying the word is not ambiguous."[164]

He further suggests that, since a particular sentence can be qualified with more than one thought, thoughts cannot be words. Let us cite a common example- 'Book' which can mean either 'something to read' or 'act of making reservation'.

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[164] Pinker,1994, p.79

Pinker states that certain natural language sentences can correspond to a number of different sentences in mentalese. But if this holds, then natural language theorists can ask how the right meaning is conveyed when someone utters an ambiguous sentence like "Bob is reading a book"? How can my mind know exactly which mentalese sentence 'Bob is reading a book' is equivalent to? Pinker's claim is strong enough to make a great effort to fix the meaning of many normal and commonly used statements. But as per natural language of thought hypothesis certain words with more than one meaning can be used to form ambiguous sentences, but the ambiguity holds only when viewed in isolation. Refer to the sentence containing both 'Pinker's account of ambiguous words' and 'Bob's bank account'. If we isolate small portions from each, the word 'account' leads to ambiguity with two different meanings conveyed. So, they do not find this ambiguity a convincing objection to the claim of natural language thinking.

The problem of logical inexplicitness of Natural language:

According to Pinker, natural languages like English are sometimes logically inexplicit. He cites an example from computer scientist Drew McDermott:

> "Ralph is an elephant.
>
> Elephants live in Africa.
>
> Elephants have tusks". [165]

Now, it can be deduced from these simple statements that Ralph lives in Africa and has tusks. We also realize that Ralph lives in the same Africa, where other elephants do, and that Ralph has his own tusks, which he does not share with any other elephant. Here the problem is that, nothing in the above-mentioned natural language sentences implies that all elephants don't share the same set of tusks. Neither is there clarity that all elephants live in the same Africa.

But still, Pinker surely can't use them as strong evidence against the claim that natural language is the language of thought. Mentalese, if it exists, would also contain logically inexplicit sentences for exactly the same reason. Also, it seems that here Pinker forgets to consider our background knowledge and beliefs regarding Africa and elephant tusks. If I don't know what elephant tusks were, or that Africa was a country, I might have believed that all elephants share one set of tusks or live in different Africa. But my knowledge regarding

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[165] Pinker,1994, p. 79

both the concepts would help me restructure the sentences like: Elephants live in the one and only country called Africa. Elephants each have their own set of tusks. Thus, there would be no confusion. Here trying to draw attention to an isolated thought like 'elephants have tusks' is connected to a background set of information and beliefs involving natural language. Besides, the thought 'elephants have tusks' is logically inexplicit as it relates to a mental image of one or more elephants with tusks.

Let us now move forward with the cases of aphasia, which offer us introspective testimonies which trace the possibility of thinking without natural language.

According to Pinker, the condition of aphasia is a threat to the claim of thinking in natural language. People suffering from this lose whole or a part of their language abilities. There are people who were completely alright earlier, but have become linguistically impaired due to a stroke, head injury or brain hemorrhage. There are also cases like losing speech or instances of aphasia, where the speech is intact but the utterance is meaningless. There are even cases, where only the ability to write is gone. But severe symptoms of aphasia take over the entire language faculty of the patient, making them unable to comprehend or utter sentences. But whatever be the extent of the sufferings, aphasia patients display intelligent human behavior. Pinker thus considers aphasia cases as examples of thinking in absence of natural language.[166]

Does the case of aphasia negate the claim of thinking in natural language? And the answer is No. The evidence provided makes us believe that an aphasia patient had lost his ability to produce and comprehend language. But it does not imply that his thought process didn't involve natural language. It could be the case that during the intelligent behavior, his linguistic systems were still working in the background, on linguistic structures at an unconscious level, leading to his intelligent behavior. This possibility is consistent with our knowledge of the case. For an aphasia patient the case is that he could not consciously use or understand natural languages; but it does not ensure that natural language was not working at a lower level below his consciousness.

Patient's linguistic database that is the thinking part of his brain system was operational during the logical activities, drawing inferences and producing intelligent behavior. According to natural language supporters the aphasia case cannot be a very strong evidence

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[166] Pinker, 1994, p. 46-48

of the independence of thought from natural language. It may be the case that natural language was working behind the scenes.

Thus, until now it seems that we have two options for the language of thought, each offering significant explanatory power. It may appear worthy to pick the simplest solution that involves an appeal to economy: Being innate and hidden the origin of mentalese is extremely tough to trace. So one may claim that if we mark mentalese as the language of thought, the mind would seem to involve expending resources to support and translate from one language to the other. Moreover, one may claim that if we accept language as a medium of human thinking, a larger number of avenues open up for further research. So far, in this chapter we have been defending the natural language as the language of thought.

But there is another side of the debate that is mentalese and now we will discuss why natural language can't be a language of thought. Supporters of mentalese argue that natural language is neither adequate nor necessary to explain the language of thought. After that we will discuss another side of this debate that is the explanatory power of mentalese as language of thought. However, all these claims against mentalese do not seem logical. All the counter arguments that can be provided against Pinkar's arguments are not sufficient enough to refute the language of thought hypothesis. But, as has been pointed out by some eminent philosophers of our time, a natural language can do all that Fodor says is the exclusive operation of the Language of Thought. To put it simply, thoughts may as well occur in a natural language. This is a philosophical position in open opposition with Fodor's view and based on some misunderstanding which we will explain next.

First, we will focus on the mentalese argument. For the present purpose, language of thought hypothesis claims that mental representation, which features in the cognitive process may constitute a language. According to the mentalese hypothesis, cognitive process is conducted by mental representation constituting a non-natural language in itself (Fodor, 1975). We need to remember here that when Fodor talks about unconscious thought processes not the conscious one but the natural language supporters have misinterpreted Fodor's language of thought hypothesis and they have dealt with conscious thoughts only and therefore, they gave their argument accordingly. According to natural language theory this introspective fact of inner speech is the evidence of our conscious thinking being done in the natural language. "Introspection informs us, in fact, that many of our thoughts are expressed in natural

language".[167] The Fodorians would take this admission of Carruther to be a glaring instance of the failure on the part of the supporters of natural language hypothesis to understand in which sense the word thought is taken in the language of thought hypothesis.

6.4. MACHERY'S POSITION ABOUT LANGUAGE OF THOUGHT:

An indirect support for the Fodorians can be formed with reference to Edouard Machery's argument against the natural language hypothesis. Machery(2005) holds a position against that natural language of thought argument which supports the claim that introspective fact of inner speech does prove the thinking process is done in natural language. According to Machery basically in introspection we utter sentences in inner speech. It could be true, but introspection does not provide evidence that, property of mental representation possesses the structures of any natural language sentences. Later we will discuss Machery's observation in detail.[168]

P. Carruthers in his book *Language, Thought and Consciousness* (1996), responded to Machery's objection, to support the view that the thinking process is done in natural language sentences. In his own words, "The best explanation of the available introspective data is that we mostly think (when our thinking is conscious) by imaging sentences of a natural language, and trains of thought consist of manipulation and sequences such images."[169] When we introspect on our conscious propositional thought, we find our thought to be occurring in the natural language sentences. Suppose P is a thought. Whenever we get access to introspective propositional thought P, then this thought is always get it in the natural language sentence that means P. though in our common sense point of view that often we get access about non-propositional thought through introspection, such as visual image, our introspection generally denies any kind of thought which is not expressed in the natural language sentence. All thoughts are represented through some propositional structures that are the same as natural language sentences. It is not possible that thought does not occur in natural language sentences. And if it is expressed through natural language sentences then the formation of thoughts are also done through natural language sentences. We can mention an experiment of Hurlburt and the result of this experiment shows that thought occurs in natural language.

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[167] Carruther, 1992, p. 50

[168]Machery, 2005, p. 469-485

[169] Carruther,1992, p. 228

Hurlburt did an experiment, where subjects put on headphones, through which they receive some signals. Their task was to register their conscious thought when the signals reached them via headphones. Each of his subjects reported that inner speech occurred in the mind on some occasions. They also reported some visual images, emotions and wordless thought occurrences. Hurlburt infers that the subject reports those thoughts that occur in the inner speech. And it might be possible that those thoughts have occurred in the natural language because the only way of reporting the thought is natural language.[170]

Machery would not accept the conclusion based on Hurlburt's experiment. To appreciate Machery's claim let us proceed in the following ways. There are some main points of this discussion about Machery's observation:

1. Sentential structures are concerned with the vehicles of our thought.

2. There is no introspective access to the property or properties of the vehicle of our thought.

3. Introspective explanation of thought cannot be an evidence for sentential structure.

4. So, introspective facts of inner speech are not evidence for language of thought.

Of these 4 points, Point No. 3 and 4 are particularly interesting because they apparently are in opposition to both Fodor and Carruther, because both Fodor and Carruther have accepted and grounded their theories on assuming that sentential structures do exist, and once such structures are completely denied following introspective evidences, it is difficult to accept either Fodor or Carruther. Let us now discuss why sentence structures are important for thinking. It is accepted by both the theories of natural language of thought hypothesis and innate language of thought hypothesis.

Firstly, we know that language of thought hypothesis includes sentential structures. According to this theory mental representation constitutes a language. Mental states are expressed by proposition, i.e. linguistic symbols. This set of symbols is linguistic, this set consists of atomic and complex symbols. Again, these complex symbols are combined by simple atomic symbols. Semantic property of complex symbols is determined by the semantic property of atomic symbols and their mode of composition.[171] By constituency

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[170] Hurlburt, 1990, p. 376

[171] Fodor & Pylyshyn, 1988 , p.13

principle, atomic/simple symbols get combined and produce complex symbols. This principle is the main pillar of the mentalese hypothesis.

The intentional realist admits reality of mental state with semantic properties. Many representations have complex content, and many complex representations have other representations as part of a complex representation. But one may argue in favor of Machary that with complex content theory, it is not possible to distinguish linguistic hypotheses from the other thesis. Complex content can be expressed by any mental representation. One can argue that this constituency principle is also applicable to non-propositional thought. For example, the visual image of the color red can represent the property of the color red. But it does not imply that the vehicle of this image should also have the same property.

Again we can say, in support of Machery that from introspective argument, we never get access to the property of our thoughts. The sentences that are uttered in the inner speech forms the constituent content of our thought. According to Machery when we tell ourselves that 'Kolkata is a great place', the sentence is represented in our conscious thought. The inner speech sentences are the content of the mental representation which is produced in auditory imagination. To support this imagination, phenomenological evidence is that a sentence in the inner speech has a particular way, speed, punctuation and it is similar to the auditory image. Auditory imagery is less developed than visual imagery. Some empirical research suggests that the inner speech also leads to some cognitive processes. Inner speech is a form of verbal imagination. What we hear we attribute to ourselves. A sentence is composed of words, but that doesn't imply that a thought is composed in the same way. For example, an image of a square has four sides. But from such observation it does not follow that the visual image of a square has four sides. In the same way, introspective thought of inner speech does not support the claim that the vehicle of our thought has sentential structure. Thought is never attributed with the linguistic nature of inner speech. We never get access to the property of vehicles of the thought. Introspective evidence of inner speech doesn't imply that we are thinking in natural language.

So, from the above discussion according to Machery, introspective evidence is not evidence for linguistic thought either. Some philosophers might say that, in introspection, we not only find what we are thinking, but also know the property of thinking.[172] But this claim has ambiguity. It is true that when we are thinking something, the conscious thoughts are

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[172] Carruther, 1992, p. 207

propositional. But it doesn't imply that the formations of thoughts are done by natural language which is sentential in nature. At most we might know introspectively how we can entertain a thought P. We might imagine sentences that mean P. Conscious thinking of P doesn't imply that in the level of formation or in the stage of occurrence thoughts are syntactically structured.

But, we can say in contrast to the above position that when we consciously think of the proposition 'Kolkata is a great place', we always imagine this sentence. So, on one hand, we admit that the vehicle of our conscious image is itself a sentence, while on the other hand, we are denying that the vehicle of our unconscious thoughts, when thoughts are originated, are composed not by words we represent - like, Kolkata, place etc. which is not acceptable.

To be precise what we understand of Machery's view is as follows. Our mental image consists of sentences that are expressed in inner speech, and hence, our conscious thoughts are syntactically structured. We use inner speech sentences for conscious thinking. The relation between inner speech and conscious thought are linguistically structured after thought formation. But we do not know how thoughts are formed by sentential structure; we only become aware of thoughts when it enters our consciousness and it is revealed by our natural language. So, we do not think in natural language sentences. We only express our readymade thoughts in natural language sentences.[173]

As we have already mentioned his main argument is that there is some introspective fact of inner speech which supports our conscious propositional thoughts, but we are unable to know the way in which thought occurs, or we can say that the vehicles of thought formation are unknown, or at least it is not done by sentences, i.e. natural language sentences. Machery's argument is not completely acceptable. Because all that he tells us is simply that conscious thought is propositional in nature and that some introspective evidences suggest it, but he does not tell us how such propositional thoughts originally occur or if such propositional thought bears sentential structure. In other words, Machery believes that it is impossible to know how thoughts occur or how it is being carried by structural uniformity peculiar to linguistic formation. What we find in introspection is found at a certain conscious level, and according to Machery, it is not clear how such unconscious content reaches such a conscious level.

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[173] Machery, 2005, p. 469-485

But, at least here, Fodor seems to be more reasonable, because he offers us an entire mechanism which explains how thoughts originally occur in mentalese before they are translated into natural language sentences.

Fodor is more acceptable for another reason. Indeed, even if we accept Machery, we have to accept Fodor beforehand. First of all, when Machery accepts that conscious thought occurs in a natural language, he does not say a word about how thoughts do so. If we accept his view, it does not explain the process of thinking. Logically, if anything has to 'occur', it has to 'originate'. Now, we cannot say that thoughts originate during introspection. Thoughts that are discovered through introspection are thoughts that have already originated elsewhere, because had they not originated linguistically, they could not have occurred linguistically. Machery's view is incomplete.

6.5. WHERE DO WE REACH?

We have seen that natural language theorists have some claims and mentalese theorists also have some claims. We have already discussed against the natural language view but there is still something to be said against the natural language view in the context of language of thought.

Natural language hypothesis is not an adequate theory overall. This is slightly absurd and even not supported by commonsense because we know that creatures and even preverbal children who have no access to linguistic sophistication do think. Then how do they think? Moreover, it is but natural that if they can think without having access to a natural language, they can also introspect in the same way. They think and their thoughts have a structure but they do not think in natural language.

It is a fact that psychological development depends on linguistic development to a large extent. This, in short, means that when you speak better, you are mostly found to think better. This, however, does not mean that thinking depends on speaking or that thinking comes from speaking, because one may be thinking without speaking and even without being intuitively aware of sentential structures influencing his thought process. Helen Keller is a case in point. We have seen that she herself admits that her preverbal thoughts were animalistic but were later on became refined once she was taught to use language. This may be, as already admitted, true. But such introspective evidence does not prove that she was thoughtless till she was taught to use language. Of course, she had thoughts, but they were not refined thoughts. They were chaotic and impure. But her thought process was on. Then, before she

was taught to use language, how was she thinking? Certainly she was thinking; because she was thinking chaotically we cannot say that she was not thinking at all. Now the point is if she was thinking, and if it is a fact that she had no linguistic training yet, it becomes evident that she was thinking without sentential structures that we find in a natural language. But, then the question is: How can thoughts be thoughts without structures? Evidently, if thoughts have structures, and if such structures are not derived from a natural language, they are unconsciously derived from elsewhere. This is the beginning of Fodor's philosophy because he has a hypothesis which he believes can offer us a better explanation.

Now, before we turn to support Fodor's language of thought hypothesis, we must try to understand one more point which, if and when understood properly, will render Fodor's basic assumption clear. The point is about introspection. Introspection involves familiar terms, or we can say already known terms. For example, when Othelo introspects that he has a thought that 'Desdemona cannot be unfaithful', Othelo is already aware what each term in 'Desdemona cannot be unfaithful' means, for unless he understands such component parts of a linguistic unit, be it a phrase or sentence, it is impossible for him to comprehend what such a unit indicates. 'Desdemona cannot be unfaithful' is, of course, a thought. But Fodor tells us a different tale. For him, 'Desdemona', 'cannot', 'unfaithful' etc – these ideas are invariably put together following some rules. These rules manifest themselves in a natural language as much as we discover them during introspection. But, Fodor would ask, where do they flow from? We cannot say that they flow from nowhere because both introspection and language indicate that such rules do exist, and if they exist, they must flow from somewhere – a source beyond all apparent limits of experience. This is why, according to Fodor, an empirical investigation is completely pointless here. To be precise, the language of thought is not something which can be explained by mere application of common understanding of how language operates.

Fodor does not tell us how thoughts arise before they occur in our conscious mind. But he wants us to see eye to eye with him that if they arise, they must arise before they occur, and if they occur following a structure, they must have either arisen or latter represented structurally, and because thoughts arise unconsciously, thoughts must be represented unconsciously, and such representation being an impossibility unto itself, structures that act as a medium must be innate – 'innate' primarily because it is not derived from experiences.

This is a point undisputedly important. After all we are aware of conscious thoughts only as they occur but if they occur systematically and productively, it is quite natural that they were

systematic and productive even before they occurred. It is unfortunate that Fodor did not bother to define thought. But, from his discussions so far, it is sufficiently clear that thought for him is not just some components, but a structure in which such components are systemically and productively arranged – in his own words, 'couched'. This is called language of thought (mentalese). Therefore, we see that all arguments borrowed from introspective evidence against language of thought utterly fail to establish that natural language may perform cognitive functions as effectively as Fodor's language of thought does.

So far we have tried to defend Fodor. But there are some cases that cannot be explained with the Fodorian theory of mentalese. We also saw that language of thought cannot be explained in terms of natural language. But the natural language must be kept in some cases. Language of thought cannot be explained by excluding natural language entirely.

According to Fodor, language of thought deals with some elemental and rudimentary ideas. But in reality we have many ideas that don't have any elemental or rudimentary base. There are many complicated concepts in physics like protons, neutrons etc and many other artificial concepts. The question is: are there any counter parts of such concepts in our language of thought? It is possible to redefine the concept of bachelor in terms of two basic concepts namely unmarried man: but the complicated concepts of quantum mechanism cannot be reduced to elementary concepts.

Another objection against mentalese is that in the case of complex and sophisticated thoughts of adults, there are many thought examples that don't have any counterpart in mentalese. Fodor argues, any new concept is the combination of some already known innate primitive concepts. But there are some cultural concepts which are not definitionally reducible or analyzable in their innate basic parts. For example; the Bengali word 'Anchol' or the word 'Ghomta' has a cultural content. To understand this word we must be aware of Bengali culture. We do not grasp the concept with literal meaning. Cultural concepts cannot be understood without participation in the language program or we can say the use of the particular word is important. Uses of the word make the word meaningful. This concept is completely dependent on a particular native language. Then, how can it be translated in the mentalese word? Each word of thought doesn't have any counterparts in the mentalese. We cannot explain those concepts within the boundary of Fodor's theory. As he says the complex concept of any thought reduces to primitive concepts and all primitive concepts are innate so basically all concepts of natural language are in some way reduced to the innate concept of

the mentalese. We want to claim that there are some exceptions, some concepts that are culturally formulated. Thus, it fully depends on one's culture and uses. In adulthood our natural language is more developed and the vocabulary of natural language becomes so rich and powerful that any sophisticated thought can occur in this well-developed language.

It is not possible to formulate all thoughts through innate language. Because innate language is limited and natural language can grow with the mature lifestyle of an adult.

But we can agree with Fodor on one point that those who do not have any spoken language they can also think and we can know it from their activity. We have already discussed it in chapter 2. So, the rudimentary or elementary thought of animals or preverbal children who don't have any spoken language they have the thought that is less developed and it is a primitive form of thought. This pattern of thought can be explained in terms of mentalese. So the basic claim of Fodor is acceptable and his language of thought hypothesis may be applicable in the primitive or basic forms of thought. But there are many thoughts that don't have any innate concepts or the combination of innate concepts. So, thought is couched in the more developed and complicated natural language of the speaker. Therefore the natural language and mentalese both are important in the context of thought process. There are many thoughts that cannot be understood without the help of natural language of thought process. The mentalese and the natural language of thought have the similar explanatory power to define thought.

The hypothesis that thoughts occur in mental language or "mentalese" continues to gain acceptance in both philosophy and cognitive science. According to Fodor (1975), mentalese is often considered as a language that is very much related to natural languages in content but it is distinct from all natural languages. We clarify and critically examine the idea of a language of thought. We would argue as well as contradict with Fodor on that point that it is possible to suppose that natural languages are also responsible for those mental states that have complex, linguistic content. We are also able to think in the language we speak when we achieve our fully developed natural language in adulthood. Those who don't have natural language are required to postulate an innate language that is not natural language and that is unknown to the senses. Therefore, thought apparently involves not only mentalese, but also natural languages.

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