Have Fodor and Chomsky resolved the Problem of Language-Thought Priority?

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Abstract

This study investigates the conceptual interplay between thought and language as illuminated by Noam Chomsky and Jerry Fodor. It explores how both scholars rekindled the age-old debate by positing language and thought within unique, modular frameworks. Central to this analysis are three core questions: Can thought or language be modular? Should one be prioritized over the other? How do their views engage with the assumptions of identity, difference, and precedence? Chomsky's theory posits language as prior to thought, emphasizing inherent linguistic structures, while Fodor advocates the primacy of thought, proposing a modular "language of thought". This comparative study seeks to clarify the theoretical underpinnings of each perspective, aiming to elucidate whether thought and language can be distinctly modular and how each paradigm advances our understanding of cognitive processes in language development.

Keywords: Language, thought, Fodor, Chomsky,cognitive concept of language, mentalese, innate linguistic modules

Introduction

Contemporary perspectives on language and thought emerge from intersections in philosophy, psycholinguistics, computer science, and biolinguistics. The absence of definitive information on their origins complicates determining which of them predates the other. Philosophers and cognitive scientists grapple with foundational questions: How did language evolve, and what forms and meanings underlie it? What was the first

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language and what might that initial word have been? Within the mind, what processes interpret language, and is language innate or acquired? Does the mind have distinct modular frameworks for language and thought, or are these processes interconnected? Furthermore, questions arise about thought itself: How are thoughts generated, assembled, and understood? Is thought an innate capability, or does it rely on external factors? What role do perception, sensation, imagery, and conceptual frameworks play in thought? Ultimately, understanding how humans represent and interlink language and thought informs whether human communication, survival, and evolution could occur independently of language.

Two primary frameworks define language: the *concept of language* and the *cognitive concept of language.* While the former, associated with Locke, Russell, Grice, and Lewis, views language as a structured communicative system, the latter, endorsed by thinkers like Frege, Davidson, Fodor, Chomsky, Wittgenstein, Pinker, Vygotsky, and Whorf, emphasizes language as an innate cognitive capability. In the analytical tradition, Fodor and Chomsky have notably advanced the debate on the nature of language and thought, which also intersects with fields such as psychology, biology, computer science, linguistics, and logic. The scientific study of language and thought contrasts with ancient and medieval philosophies, which often regarded these faculties as ideal and spiritual. Philosophers from these eras considered thought a mental construct that interprets sensory perception, viewing language and thought as metaphysical constructs rather than cognitive phenomena, thus highlighting an evolution in understanding these complex processes (Almeida 113-118).

Language is classified into categories such as verbal, symbolic, natural, artificial, algorithmic ideal, ordinary, and meta-language, while thought is similarly categorized into universal, semantic, syntactic, and representational types. A critical question arises: How do language and thought encompass syntactic (form) and semantic (meaning) components? The parallelism between language and thought lies in their logical structure—where the syntax of sentences mirrors the propositional structures of thought. This structural alignment suggests that sentences in language act as artifacts, embodying the logical form of propositions in thought, and underscores the intricate relationship between how ideas are formed in the mind and expressed through language. The parallelism between language and thought is that the logical structures of sentences are nothing but the parallel artifact of the propositional structures of thought. (Ferretti 245) Chomsky proposed that language has not evolved through natural selection because symbols and concepts we use have no external reality. The internal language of thought must have happened entirely within the brain, without reference to the external world. It has appeared in a single step (Corballis 40-41). Fodor described that the substance of a thought can be prominent from the medium which carries it (Almeida 113-118). Thought as per Fodor, contains both mode of presentation and referential semantics i.e. form and content. The tool engaged in thinking comprises of discrete (separate) and totally

compositional units along with rules for conjoining them (5).

Nativists such as Chomsky, Fodor, and Pinker argue that language is an autonomous cognitive system, distinct from other brain functions (Radford 11-20). Conversely, empiricists view language as a physical construct, while rationalists perceive it as non-physical (Fodor113). David Lewis suggested that thought is not necessarily structured in a language-like, logico-syntactic form, but could instead be map-like (Rey 134). Descartes defined thought as an attribute of the mind, encompassing conscious processes such as doubting, affirming, willing, imagining, and reasoning (Descartes19). Thought is further linked with concepts like reference, proposition, reasoning, imagery, and form. Philosophers have historically grappled with two foundational challenges—*intelligibility and transcendence*, later reframed as *perception and conception*, or *perception and thought*. Analytical philosophy has clarified and evolved these ideas into systematic concepts of language and thought, where language provides the structure for thought to interpret, abstract, relate, and judge. Language, in turn, evolves in response to time, space, and social context (Tantray et.al 25).

According to Frege, thoughts are the abstract materials which do not depend on mind like number and sets. (*MIT Encyclopedia* 327). Frege defined thoughts as "having denotational content and constitute the exclusive center of semantic enquiry" (Cann 29). Wittgenstein has argued that thought is impossible unless definite specified relations hold between the person and society. Frege further held that all human thoughts can be reduced to a precise language. (Sorin 319) Russell argued that simples are the atoms of thought found at the limit of analysis, and are represented in language with symbols (or names) (Sorin 322). William Lutz said that it is the language which hides thoughts, prevents it rather than extends it. According to Fodor, while we think in a form of language, this *language of thought* is distinct from the natural language used to communicate ideas (Preeti 50-53). The language of thought is not a conventional language; rather, it operates as an internal, structured cognitive system. Cartesian philosophers similarly viewed language as an extension of thought, emphasizing its creative nature and referring to it as the "creative aspect of language use" (Kampf 850). They further posited thought as inherently normative, shaping how language manifests (Hawthorne 42). Chomsky notes that while language is embodied in the brain, its exact neurological representation remains unknown (Chomsky,*Selected Readings* 28). Thus, language not only facilitates thought but actively shapes and generates it, underscoring a profound interdependence between linguistic structures and cognitive processes (Havelock 138).

Chomsky and Fodor assert that language is an innate cognitive module (Carruthers 3). This innateness grants the philosophy of language a foundational status within philosophy, particularly if thought operates independently of language. Fodor proposes that language functions both as an input and output module to the central cognitive system, with its input aspect as an innate, universal symbolic system, termed *Mentalese*

(Almeida 105). Mentalese represents the internal language through which thoughts are structured and expressed. For Fodor, the human mind is a system for manipulating symbols according to syntactic rules that govern the recursive complexity of thought—often referred to as the *language of thought* (Fodor,*Language of Thought*, 10). Despite structural parallels, the symbols of human language and thought remain distinct (Chomsky, *Selected Readings*, 21). Fodor and Chomsky argue that language and thought are interdependent: one cannot exist without the other. Chomsky describes language as an intricate reflection of human intelligence; a construct of the mind developed beyond conscious control. Fodor further characterizes thought as logical computation on internal sentences (Glock, 2008), highlighting its compositional nature, while suggesting that language itself may not possess this same compositionality (Fodor, 114). Chomsky regards that knowledge of language is innate. Similar views were held by Plato, Parmenides, Descartes, Spinoza, and Leibnitz. Plato believed that knowledge of Geometry and God are innate (Collins 125). Jean Piaget emphasized that language is deeply tied to the stages of cognitive development, reflecting how children construct meaning and reality. For Piaget, language is also a tool for social interaction, allowing children to move from egocentric speech toward cooperative dialogue.

Donald Davidson rejects the notion that thought holds precedence over language, asserting that thought cannot exist independently of language (Davidson 4-10). According to Davidson, for a being to possess thoughts, particularly propositional attitudes (beliefs, desires, intentions), it must participate in a linguistic community and have the capacity to interpret others' speech. This communal aspect implies that language provides the framework necessary for structuring thoughts, as linguistic engagement allows individuals to express and refine their ideas through interaction. Michael Dummett also supports the primacy of language over thought, positing that language is a prerequisite for forming and structuring thought (Dummett 87-90). He contends that an individual's thoughts can be analysed and understood through their linguistic expressions, as language provides both the vocabulary and syntax that shape cognitive processes. In this view, language serves not merely as a tool for communicating pre-existing thoughts but as the medium through which thoughts are formed, organized, and developed (Carruthers & Boucher 226). Thus, Dummett and Davidson share a position that language is foundational to thought, making linguistic capability essential for the articulation and interpretation of complex ideas. This perspective challenges the notion of innate, pre-linguistic thought, arguing instead that cognitive sophistication is directly tied to linguistic community and interpretive engagement.

Fodor asserted that human brain is encoded and computing which implies that brain is encoded within the language (Jackendoff 1). Chomsky thought that language is a mental computational or cognitive capacity (Rizzi 4-6). It has been argued that thoughts are neither mental processes nor abstract entities but propositions and sentences which have been projected into reality. However, Quine, Wittgenstein and Sellars recognized the

priority of language over thought (Glock 77-93). Fodor examined that the language in which humans think is an inner symbolic language (Schneider7). In addition, he argued that thinking as a species of symbol manipulation defends the semantic properties of the thoughts involved (Fodor 1975; Fodor & Pylyshyn). According to Whorf and Sapir's hypothesis, the distinction in languages leads to the distinction in thoughts. This kind of statement and examination is accepted by Vygotsky. The concept of language was inspired by the ideas of Alan Turing, who defined language computation in terms of the formal manipulation of uninterrupted symbols according to algorithm (Turing 1959; Fodor 1994). In 'Computing Machinery and intelligence', Turing introduced the idea that symbol processing devices can think, a view that many in cognitive science are concerned with, yet which has also been the centre of difference (Searle 1980; Dreyfus 1972; Turing 1950). Millikan assumed that human mental capacities are least dependent on linguistic capacities (Vicente 2010). Mind uses natural language to codify latent thoughts and unconscious token thoughts that belong to the conscious episodic thoughts.

Fodor regarding thought emphasized:

> "Every constituent of thought can be represented by a formal symbol in the mentalese representation and it is these symbols that enter into computations and thinking processes."(*Language of Thought 17)*.

Thought and Language (Priority Problem)

The question of whether language or thought holds priority parallels debates on existence versus essence and form versus meaning. Human thought arises as an innate faculty of the mind, yet thought formation requires content for cognitive processing. For thought to occur, intuition must synthesize sensory data within the mind. Thoughts emerge as products of sensory information, processed and interpreted by cognitive faculties. Notably, there is a distinction between thinking—which can be subjective and emotive—and thought, which is logical and can be evaluated as true or false. Chomsky suggests that while thought cannot generate language, language has the capacity to express thought (Chomsky, *Selected Readings* 62). Thus, thought implies the need for language, but language does not inherently require thought. Chomsky views language as an integral component of the human mind, designed primarily to express complex ideas, although some argue that thought itself does not require language for expression. Certain logicians propose that thought functions as a form of language, with its own internal structure. Language in the mind, then, not only represents thought but also facilitates connections and functions beyond the cognitive realm. Wittgenstein posits that thought pictures reality and conveys it through language; hence, while all language embodies thought, not every thought manifests as language. This perspective suggests a layered relationship, where language serves as the primary vehicle for expressing structured ideas and conceptualizing external reality.

Thoughts represent states of affairs that correspond to reality, inherently carrying

representational content. While thoughts can exist without language, they remain inaccessible and incomprehensible without linguistic expression. Human language serves as a symbolic representation of thought, with each thought typically organized around a subject, and a predicate (Almeida 5). This shared characteristic of representation links thought and language. Thoughts require sensory input to provide content. According to Chomsky, children possess two forms of language: internalized (I-language) and externalized (E-language). Internalized language, or a child's first language, suggests that thought itself may function as a form of language. Conversely, externalized language—acquired under specific social and environmental conditions—suggests that thought and language may operate as distinct entities. The debate on precedence remains unresolved (Gabriel 116). Fodor and Pinker argue that thought predates language, while Chomsky asserts the opposite, emphasizing language's foundational role. From this perspective, thought and language likely co-evolved to shape human cognition and our perception of reality. Thoughts, like linguistic expressions, are imbued with meaning, underscoring the interplay between mental content and linguistic representation in the conceptualization of the world (Guttenplan194). Wittgenstein regarding thoughts said:

If one says that thought is a mental activity, or an activity of the mind, one thinks of the mind as a cloudy gaseous medium (Wittgenstein 138).

Language processing relies on the mind's self-sufficient cognitive capacities, operating within its own distinct field of space, time, knowledge, and functions. The language faculty is often considered independent from other cognitive processes (Groome131). Fodor argued that linguistic rules are not obligatory for psychological processes and should not be considered as inherent plans guiding cognition (Groome140). This distinction raises the question of how objects and concepts enter our thoughts and how these thoughts are organized (Kenny79-83). While language may serve as the structure for thought, thinking itself is an ethereal, non-verbal process. The comparison of speech—with and without thought—to playing a piece of music highlights the dynamic relationship between language and thought, suggesting that thought can exist independently of speech (Wittgenstein 106-122). Chomsky posits that children's exceptional ability to learn language is due to the human mind's inherent biases. This raises the question of why children tend to favour nouns and objects over verbs and phrases in early speech development. However, Fodor disagrees with this hypothesis, asserting that thought is universal, independent of linguistic preferences, and equally accessible to all children. This suggests that while language may influence the expression of thought, the fundamental cognitive capacity for thought remains unaffected by linguistic structures (Nicoladis 33). Language is stimulus free. It is productive and generative; productive in the sense that we can produce many sentences from words and generative in the sense that it entails the infinite use of outputs in the shape of expressions with sounds and meanings. Chomsky asserts that language has unique characteristics

and it is a module of a "central system", which is accessed in the many kinds of use of language, including input analysis and externalization in production (Chomsky, *Selected Readings* 20).

Language in humans is an extraordinarily complex and structured cognitive ability, setting humans apart from animals. One of the key differentiators between humans and animals is the capacity to generate new sentences that express novel thoughts. While animals lack this advanced form of thought processing, humans possess the ability to create and manipulate language to convey abstract ideas. Both Fodor and Aristotle share the view that humans and animals can be distinguished by their capacity for thought (51-53). The scope of human language is infinite and boundless, reflecting the productive nature of language and its deep connection to thought (63). However, while language may appear finite and perceptual, thought is infinite and conceptual in its scope (70). The cognitive mechanisms responsible for generating language differ fundamentally from those involved in generating thought. As such, human language is considered a special, autonomous faculty of the mind, unique in its ability to express complex and abstract ideas (Chomsky 1986;2000).

Thinking is understood as the processing of information within the framework of the Language of thought, a concept suggesting that the mind functions similarly to a computer, processing actions through internal representations of the world. This "language of thought" is considered innate, distinct from natural languages such as English, Sanskrit, Persian, Arabic, Urdu, Hebrew, or Spanish. While the exact nature of this language remains uncertain, scholars have proposed various models, including symbolic, algebraic, computational, biological, mathematical, and universal perspectives. According to Fodor (1975), thinking involves performing computational operations on these internal representations, which are structured in a way that mirrors the basic properties of a language. (Almeida 7) This alignment allows for coordination among mental representations, enabling the mind to process complex cognitive tasks. Therefore, the *language of thought* serves as a fundamental system within the mind, facilitating cognition and providing a basis for higher-level mental activities (*Encyclopedia* 2856). Language has no existence outside the mind. It is the complex of knowledge represented in the mind of a speaker (4493).

Fodor's well-known claim is that thoughts are mental or symbolic representations within the *language of thought*, a system that governs cognitive processes. According to this view, mental processes are causal sequences determined by the syntactic structure of these symbols, rather than their semantic content. This position is supported by other philosophers, such as Putnam and Pylyshyn, who also argue that thoughts function as quasi-linguistic episodes, structured similarly to linguistic expressions but distinct in their non-public nature (4493). In contrast to Fodor's view, Donald Davidson argues that children and non-human animals do not possess thoughts in the same way humans do. He suggests that thought requires language, and since children and non-humans do not

possess the requisite language capabilities, they cannot have complex thoughts. However, Fodor counters this argument, claiming that both children and non-human animals do have thoughts, but these thoughts exist in a non-public "language of thought," often referred to as *Mentalese*. This language of thought is innate to the human mind, providing the cognitive framework for mental representation and processing. Mind requires innate medium in which things can be thought and that type of medium is not natural language but LoT (language of thought). This medium is only for the process of manipulation in computation (Borchert 695). Language of thought constitutes the common operations of putative cognitive processes. And, by hypothesis, the language of thought bears many of the properties of natural language: it is recursive, productive, compositional, and it is a typical computational system, for its processes too are computations over (symbolic) representations. There is a caveat, though: as Fodor warns us in the last chapter of LoT, quite possibly a few ("more than none") cognitive processes behave that way, but most likely not all do. Cognition is to a large extent holistic, context-sensitive (think about, e.g., decision making). And there might be lots of propositional attitudes that are not computationally derived—for example, those whose causes are not psychological. But if we were to have a (cognitive) psychology, a good way to start was to devise a theory of the internal representations and how these representations were manipulated in mental processes (Almeida 7-9). Critics have charged that LoT leads to an infinite regress of languages and interpreters. (Borchet 694) Alan Turing and Steven Pinker argued that Machine functions on program which operates only in the language of input and output. So, can we assume that machines think, surely not, machines are only programmed on the basis of rules of logic? Pinker depicted that thought consists of well specified rules. (Pinker 67-68) However, thoughts have a logical structure.

Philosophers of mind often argue that thought and language are deeply interconnected. One perspective holds that thoughts are self-sustaining and independent, relying on linguistic content to be expressed, while another view asserts that thoughts are the result of linguistic processes, with language serving as the foundational substance for thought. This debate centres on the question of whether thought can exist without language, with some philosophers arguing that language is the bedrock upon which thought is constructed. Chomsky, in particular, articulates the idea that the human brain contains a specialized module for language. He differentiates between *language-I* (the innate, internalized language) and externalized language, suggesting that words and sentences primarily function as representations of thoughts, echoing Aristotle's famous dictum that "words are the image of thought." However, Chomsky's model assumes an equivalence between thought, knowledge, and vision. This raises questions about the plausibility of a universal conceptual system, particularly when considering other metaphors for thought, such as taste or smell, which may not fit as neatly into this linguistic framework (Werry76). In contrast, Vygotsky proposed a more extreme view, asserting that there is no thought independent of language. According to Vygotsky, thought and language are

inseparable, and it is through language that thought is shaped and developed, emphasizing the role of language in cognitive development and intellectual function. (Flores 114) Regarding the mind Fodor said that if, as I have supposed, the central cognitive processes are non-modular then that is a very bad news for the cognitive science (Fodor, *The Mind* 27). In another statement he said that "at least some cognitive systems are non-modular" for example general intelligence (27). It means that there are two types of cognitive functions of the mind; the central cognitive system which processes the general functions of the mind and the modular system which processes the modular system of language, thought, reasoning, abstraction, decision making and so on.

Cognitive processes, according to Fodor (1975) and Fodor & Pylyshyn (1988), are understood as causal successions of the activation and manipulation of internal representations in the brain. These internal representations are structured with both syntactic and semantic components, where the syntactic rules govern the manipulation of symbols, while the semantics ensure that the thoughts retain their meaning throughout the process. Thinking, therefore, is a process of symbol manipulation, where the symbols involved follow a specific syntax and have associated semantics. These symbols can be interpreted in a way that maps them systematically onto the states of the world, providing the cognitive system with a structure for representing knowledge (Schneider 14). Fodor argued that all languages, whether natural or cognitive, share a common structure at some abstract level. This shared structure is reflective of the innate, universal *language of thought*, often referred to as *Mentalese*. He posited that this *Mentalese* is an underlying system that encodes the categories through which we think, making it a fundamental and universal aspect of human cognition. This framework supports the idea that the human mind's cognitive architecture is organized by an innate, symbolic system that underpins all thought and language (Levinson 3).

Language plays a critical role in making our thoughts conscious. Chomsky argued that any normal child can acquire a natural language due to the presence of Universal Grammar (UG), an innate knowledge structure that underpins all human language acquisition. According to Chomsky, Universal Grammar is genetically transmitted, suggesting that all humans possess this cognitive capacity for language. This innate structure enables children to learn any natural language, as it provides the foundational rules and principles common to all languages. It has been observed that language is deeply integrated with the central functions of the mind and serves as the primary medium through which thoughts are formulated and expressed. Natural language is not only used for communication but also for thinking. Language is conceptually necessary for thought, a view supported by philosophers like Wittgenstein (1953), Davidson (1975), and Dummett (1981, 1991). (Carruthers et al., 7) Wittgenstein famously stated, "If a lion could speak, we would not understand him," highlighting the deep connection between thought and language in shaping human understanding.Fodor contended that mental processes are formal and governed by systematic rules (Fodor, 1980a). Human thoughts

are representations of the world and are considered true when they correspond to reality—thoughts about necessity, contingency, possibility, and impossibility reflect the world as it is (Carruthers 12-13). While, Chomsky emphasized the innate nature of language, I argue that it is not language itself that is innate, but rather the capacity or cognitive structure for acquiring language (Boden 1393). This form of language acquisition is universal to all humans, distinguishing us from other animals like cats, rats, and owls, which do not possess this capacity for language (Chomsky,*Selected Readings* 10-20).

Fodor and Chomsky have made significant contributions to the philosophy of mind, particularly with their theories on the relationship between language and thought. Their work has sparked an enduring debate about which comes first—thought or language—and whether one is the foundational determinant of the other. In their analyses, Chomsky and Fodor present contrasting views: Chomsky argues for the precedence of language over thought, while Fodor emphasizes the primacy of thought. However, a careful examination of their theories reveals that thought and language are deeply interconnected and, to some extent, inseparable. This study suggests that while both language and thought have distinct functions and structures, they are not entirely separable, and their interplay shapes cognitive processes.

Three Philosophical Possibilities of the Thought–Language Relationship

The debate about the precedence of language or thought can be understood through three distinct possibilities:

1. *If thought itself is language*: In this case, language and thought are identical. This would imply that thoughts and language are not modular, separate entities in the mind but are essentially the same cognitive system. The process of thinking and the process of linguistic expression would be one and the same, suggesting that thought is inherently linguistic.
2. *If thoughts exist outside of language*: If thoughts exist outside of language, this would mean that cognition operates independently of linguistic structures. Mental representations, images, or concepts could be formed without words, with language functioning only as an instrument to communicate these pre-structured ideas.
3. *If the mind can think without language*: If the mind can think without language, it implies that non-verbal reasoning—through perception, intuition, or symbolic forms—constitutes an autonomous mode of cognition. Language, in this sense, becomes a secondary tool for refining and systematizing thoughts.

Both the perspectives emphasize the independence of thought from linguistic mediation. While the second point stresses cognition as a pre-linguistic reality that shapes mental content before expression, the third highlights the possibility of non-verbal modes

of reasoning such as visual, spatial, or intuitive thinking. Taken together, they suggest that language is not the origin of thought but a representational framework that externalizes, organizes, and communicates pre-existing mental activity. This view challenges linguistic determinism and opens the possibility of multiple cognitive formats, affirming that thought can exist in diverse modalities beyond the boundaries of linguistic expression.

Chomsky's Innate Linguistic Framework

Chomsky's theory posits that language is an innate, universal cognitive system, and he argues that the structures of language are biologically determined, which influences the way humans think. Fodor, on the other hand, suggests that thoughts are governed by an internal "language of thought" (Mentalese), which is separate from spoken language but still a form of symbolic representation. Despite these differences, both theories support the idea that language and thought are modular, meaning they have separate cognitive functions. However, their relationship is not one of simple precedence. Rather, they are part of an integrated cognitive system where thought and language continuously interact. Thought, in Chomsky's framework, is shaped by language, and language, according to Fodor, is an expression of thought. Thus, thought and language are not merely distinct or separate; they are intimately connected and function together to process information, form concepts, and communicate ideas. From this perspective, one can argue that while language might help shape thought, thought can also shape language. The nature of their relationship is dynamic and intertwined. This study ultimately concludes that thought and language are inseparable in the mind, each playing a crucial role in the other's development and functioning. Both Chomsky and Fodor's ideas are valuable in understanding the cognitive architecture of the human mind, but they must be reconciled in a way that acknowledges the mutual dependence of thought and language.

Chomsky's analogy between language and the human body's systems—such as the digestive, nervous, immune, and respiratory systems—serves to underscore his belief that language, like these systems, is a universal, innate part of human biology. Just as these physiological systems are hardwired into the human body, Chomsky argues that the capacity for language is an inborn feature of the human mind. This is a core aspect of his theory of Universal Grammar (UG), which posits that all humans are born with an innate linguistic structure that allows them to acquire any natural language. When Chomsky refers to the mind of a child as being "intrinsically structured," he emphasizes the idea that children are born with an innate, pre-configured cognitive framework that is specifically designed to learn and process language. This framework, Universal Grammar, is thought to contain universal principles that underlie all languages, regardless of their specific features. These principles form the basis for acquiring the grammar of any language a child is exposed to. The notion of "innately specified

propositional contents" refers to the idea that children are born with an inherent understanding of certain basic structures that allow them to form and comprehend propositions—statements that express ideas or facts. These propositions, which are abstract representations of meaning, do not require explicit learning from the environment; instead, they are pre-configured in the mind (De Almeida & Gleitman, 2017). For Chomsky, this supports the view that language acquisition is not simply a learned behaviour but a biologically driven process that taps into these inborn cognitive structures. Thus, Chomsky's argument implies that language is not a skill acquired through imitation or environmental input alone, but rather a natural, biologically rooted capability that humans are innately predisposed to develop. The structures of language—its syntax and grammar—are therefore part of the human cognitive apparatus from the moment of birth (Fodor,*The Mind* 7).

Fodor's Modularity of Mind and Mentalese

Fodor posits that the human mind is composed of specialized, domain-specific modules, each designed to process particular types of information. This modularity hypothesis suggests that cognitive functions such as perception, memory, and language are governed by distinct, dedicated systems within the brain. Language, according to Fodor, is one of these specialized cognitive modules. In his seminal work *The Modularity of Mind* (1983), Fodor argues that linguistic universals—the common structural properties shared by different languages—can be identified by examining and comparing actual human languages, such as English, French, Urdu, Arabic, and Persian. By analysing these languages, Fodor suggests that we can uncover the underlying properties that are universal across all languages, regardless of their specific grammatical structures or vocabulary. These linguistic universals are thought to be part of the innate cognitive framework that enables humans to acquire and process language. Fodor's theory posits that the mind is equipped with a dedicated module for language, separate from other cognitive functions. This module operates independently of other mental processes, such as visual or auditory perception, and is specialized for linguistic tasks. The modular view of language acquisition stands in contrast to theories that argue for a more general, non-specialized process of language learning. In this framework, the recognition of linguistic universals is facilitated by a cognitive system that is preconfigured to process language, allowing humans to recognize and generate linguistic patterns efficiently. By comparing different languages, it becomes possible to identify the core features of language that are common across human cultures, which Fodor suggests are reflective of the structure of the language module in the brain (Fodor 50).

Conclusion

The debate surrounding the precedence of thought over language, or vice versa, remains

a deeply nuanced and unresolved issue in cognitive science and philosophy of mind. Both Noam Chomsky and Jerry Fodor have significantly contributed to this discourse, but neither fully resolves the question of which comes first—thought or language. The following three arguments help clarify the obscurity in this debate.

When Chomsky asserts that language is innate, he refers specifically to the capacity for acquiring linguistic structures, rather than language itself. This capacity is embedded in what he terms "linguistic modules"—specific cognitive structures that enable humans to acquire and use language. These modules are innate to the human mind, yet the specific language(s) spoken are not. In this sense, Chomsky argues that while the ability to learn language is intrinsic to humans, the particular languages learned are shaped by environmental exposure. However, a crucial distinction must be made: the concept that makes thought possible is, in fact, language. Fodor refers to this as the "language of thought" (Mentalese), which he posits as an internal system for representing thoughts. Thoughts, therefore, are not merely abstract or unstructured; they are inherently linguistic, represented in a symbolic system that allows for their processing and interpretation. If thoughts lacked this linguistic structure, there would be nothing within the mind to interpret or manipulate. Thus, thoughts are shaped and determined by language.

Fodor's notion of the language of thought builds upon the idea that human beings are specially equipped to acquire and utilize language in a way that other species are not. This aligns with Chomsky's perspective, wherein the capacity for language is an innate faculty. This capacity is not simply the ability to speak a particular language, but the ability to process thoughts in a linguistic form, often referred to as Mentalese. Scholars and philosophers have speculated on the nature of this "mental language." Some argue it is mathematical, others suggest it is a universal, symbolic, and abstract system. While the exact nature of this mental language remains speculative, the notion that thoughts are inherently linguistic is gaining traction. This suggests that language, as a fundamental cognitive system, is not an external tool that is acquired after thought but is an integral part of thought processing itself (Wedgwood 399).

Several philosophers argue that thought precedes language. However, it seems more plausible to assert that language, in its abstract form, precedes thought. This position is analogous to the relationship between a computer and its programming: just as a computer cannot function without its program, thought cannot function without language. While Chomsky and Fodor both suggest that language is essential to cognition, they stop short of fully recognizing that language operates as a framework within which thoughts are constructed. In this context, Benjamin Lee Whorf's linguistic relativity hypothesis is important. Whorf argued that language not only expresses thought but shapes it. The grammatical structures and categories inherent in language provide models for how we conceptualize the world. If language can indeed shape cognition, it follows that the capacity for language must have existed prior to fully formed thoughts,

serving as a medium through which the mind organizes and processes experiences. In light of these arguments, it becomes evident that the relationship between thought and language is more intricate than a simple linear cause-and-effect model. Language does not merely express pre-existing thoughts, nor is it entirely external to thought processes. Rather, language provides the framework within which thoughts are constructed, interpreted, and communicated. As such, it seems more scientifically plausible to conclude that language precedes thought—not in the sense of spoken language, but as an internal system for organizing and representing thoughts. In this view, language is not merely an expressive tool but a foundational structure that shapes and constructs cognition itself (Beeman 533).

In cognitive science, it is posited that language serves as the expression of thought, with thought being an innate cognitive module. Thoughts are considered propositions, universally consistent across languages, and capable of existing independently of language. Linguistic theory, rooted in mentalism, seeks to uncover the underlying mental structures that give rise to linguistic forms. This perspective suggests that social linguistic input, while influential, is not a prerequisite for the formation of thoughts; thought processes can occur independently. Chomsky contends that language influences cognition, with linguistic differences between languages such as Urdu, Persian, English, Arabic, and Hebrew shaping thought. Conversely, Fodor asserts that thoughts are universal and independent of linguistic structure, arguing that language merely follows thought. Thus, from this standpoint, thought precedes language.

Fodor posits that a medium, which he terms "Mentalese," connects thought and language, facilitating their interaction. This abstract module, existing prior to language and thought, may either be a unified construct or multiple mediums translating between the two. Scientific research suggests that such abstract modules play a critical role in the interplay between thought and language. The coexistence of thought and language, which has evolved together, has not been sufficiently explored in Chomsky and Fodor's theories. Thought is seen as the application of rules in the mind, transforming sensory data. In contrast to Fodor and Chomsky's frameworks, integrating the concept of abstract mediums, such as those proposed in the theories of Einstein, Hawking, and Penrose, could clarify the relationship between language and thought. Chomsky's framework, which distinguishes between deep and surface structures of language, parallels the debate between thought and language. The analogy of a computer, with its hardware (thought) and software (language), highlights the interdependence of these elements in cognition. This comparison aids in conceptualizing the structure of thought and language within the mind.

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