

## Book Review

*In Search of a Language for Mind-Brain* edited by Anjum P. Saleemi, Ocke-Schwen Bohn and Albert Gjedde, Aarhus University Press, Denmark.

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Can we speak about the mind and the brain in the same breath and use similar jargon and still make our discourse comprehensible? Dualistic positions such as body and mind or mind and brain have remained zones of controversies since centuries and at the same time have provoked critical theorisation in several disciplines like Neuroscience, Linguistics, Cognitive Science and others. The current book under review, *In Search of a Language for Mind-Brain* brings together a collection of essays on varieties of topics linking mental functions, linguistic processing, and neurobiology of cognition to philosophy of mind. It seeks unification of ideas, approaches and a language to talk about it.

The independent identities of minds and bodies have existed since the time of Descartes and in the introductory chapter by Saleemi; we learn that Descartes' short sightedness may have resulted from the "incompleteness of the science of his time" (p. 17). That's acceptable, but then, if we take the massive developments in neuroimaging of mental functions of our time as a very positive shift in techniques compared to Descartes's, we will soon find out that, we are where we were centuries back. That has aptly been termed as new phrenology. Still, after the publication of an enormous amount of brain imaging pictures and computational models of cognitive functions and their neuronal bases, mind and brain, or mind and body exist separately even in specialised scientific discourses. Having called all types of Physicalism essentially dualist, Saleemi provides a schematic representation of the mind-brain interface where environmental inputs affect the mind-brain nexus in giving rise to behaviour. Then there

remains the problem of “consciousness” if it can be grounded to its neurobiological base. Issues such as “intentionality” in cognitive actions add further complexity to the issue of mind and brain and where very little development in empirical findings have taken place so far.

Unification of science or entities is ontologically easier and is easier with Occam’s razor. Saleemi, in this metaphysical introduction to the book as well to the issue of mind-brain takes “causation” as a tool and offers a view that tries to accept different and diversified approaches to the study of mind. Cognitive Linguists with flair of philosophy will appreciate the ideas and see links often seemingly conflicting approaches to the study of language and cognition.

Chomsky’s views on language, mind and brain and its centrality to human cognition, including his controversial positions on the links between language and genetics are well known to anyone with an interest in language. The development of cognitive linguistics as a discipline is often seen as a result of growing suspicion among language scholars of his amodal and mathematical views of language. Chomsky’s two papers in this collection titled, *Language and Mind: Current Thoughts on Ancient Problems* and *Language and Brain*, the latter an address given at European Conference of Cognitive Science, clearly reinforce the idea that faculty of language and its biological basis offer a clear picture of complexity involved in the unification agenda. Unification of the mental with the physical, the phenomenon vs epiphenomenon and the abstract vs the real require multiple approaches obviously and when it comes to the grounding language to its biology one cannot take a modular view to representation. Chomsky’s proposal that language has a unique mental and organic existence and its ancient philosophical roots are testimony to this fact needs reevaluation in the light of current findings from much more holistic approaches to cognition and language such as embodied cognition

Chomsky’s thinking, vastly modulated by 17<sup>th</sup> century naturalists and mentalists takes the study of language akin to any other natural and biological phenomenon and hence the application of rigorous methods and new theorisation. Chomsky asserts the “physicist” stand of Strawson and assumes all “mental” phenomenon as physical and hence the properties of the “grammar” of a language. This perspective brings mind-brain dichotomy at least closer. The chapters are excellently written in the characteristic Chomskyan vigour and clarity and cognitive linguistics would much appreciate the multidisciplinary orientations of his thought.

Grounding consciousness as a manageable problem to its biological base has never been easy for investigators. John Searle takes a broad,

non-dualist position and defines consciousness as something that is caused by neurobiological processes and is realised in the brain structures. This is similar to Chomsky's arguments regarding the physical existence of grammatical structures in the brain. Searle's position that the study of neural correlates of consciousness should be taken as similar to any other biologically grounded cognitive phenomenon stems from his understanding and appreciation of such researchers like Crick and Koch. The chapter is an excellent introductory material on features of consciousness as Searle defines them for the novice. The chapter is clear in its presentations and main arguments. The current cerebral and anatomical organisation of the "brain" and the "mind" that it generates, is an outcome of evolution. Hence we can't learn about the brain as such rather than to go by "reverse engineering." Pinker's thesis, that is strongly nativist and often cuts across ideas of brain, mind and modularity of Chomsky and Fodor is, however, rooted in his deep belief that minds are many and mental states are (?) caused by changing brain dynamics and are genetic products. Pinker takes a more popular approach rather than an intensive one. The chapter is from his popular book *How the Mind Works* and should be read as such.

We had already seen that John Searle in his contribution had defined various features of "consciousness" and the chapter by Gjedde goes a step further in explaining neurobiological aspects of consciousness. A claim that he makes, regarding the "self" as a base from which "consciousness" arises, is of course not yet taken seriously by neuroscientists who have approached consciousness from a neurobiological vantage point. For the author, consciousness is all encompassing and can include our investigations into modern cosmology or medical neurobiology. The chapter is a metaphysical excursion into neurobiological data on self and consciousness.

Many cognitive linguists who have had acquaintance with later developments in Chomskyan syntactic theories will remember the Minimalist programme. At a philosophical and more conceptual level, this framework, unlike earlier models of grammar, actually projects language as a very optimally designed cognitive module and how such a design may work. But unfortunately this elegant framework of human language has not lent itself for neuroscientific investigations compared to others. Atkinson's article on Minimalist programme of Chomsky is informative and well evaluated and offers insights that may be valuable for inter-disciplinary work on the interface of language and cognition.

Since the publication of Lenneberg's 1967 book on the biological foundation of language that brought the notion of "critical period" into

discussions of learning and biological maturation, developmental scientists, in a range of disciplines, have struggled with this. Ocke-Schwen Bohn in his contribution on this theme argues that the hypothesis is not tenable in the light of new evidence that has come from both child language acquisitional data as well as adult second language processes as it happens in case of cross-cultural immigrants. The author's review of a range of papers on the effects of age on acquisition of different aspect of linguistic knowledge shows that, the notion and timelines of critical period, as claimed by Lenneberg and popularised later, may not be, in fact, true. The article is a well argued anti thesis to the notion of critical period and opens new discussions.

Chris Sinha approaches the evolution of symbolisation in human communication from an "emergentist" perspective, where properties like "reference" and "construal" play a major role in representation of symbols. Humans, or for that matter, any symbol processing organism, biologically evolve following specific genetic instructions. "Intentionality" plays a major factor in allowing members of a community who have similar symbolic representational structures, to engage in activities of joint attention. Sinha's approach to the mind /brain issue in terms of processes of "symbolisation" is quite relevant to cognitive linguists who too use similar frameworks.

Shorish's article on "planning and decision making," Rainsford's on "literary language and scientific description of consciousness" extend the dimension and coverage of the book in different direction and are actually not quite related to the core focus of the book. The last article by Saleemi seeks philosophical explanations to the issue of unifiability of human knowledge and defends rationality. There are obviously issues larger and more pervasive than, the mind-body problem, and one such is the "intentional" aspect of "knowledge and consciousness." The article is a good place to go to for some metaphysics if one is tired of the empirical.

Overall, this is a book that is an excellent addition to one's bookshelf, if one wants to understand the multi-dimensional approaches to the study of mind-brain. Some of the papers are as classic as their authors i.e. Chomsky's and Pinker's and Searle's while one also gets to hear new voices. Chapters are well written and are extensive in their treatment of the subject matter and the book may work as a resource to further studies of some particular fields of insights like minimalist issues in syntax or current neurobiological approaches to the studies of consciousness. The collection is well edited and typos are kept to the minimum. Cognitive linguists and particularly those who are working on issues related to language and cognition or even

neurobiological aspects of cognition will find certainly very useful information in many of the articles and the references therein. One possible drawback may be that certain chapters do not fall under the scope of the collection, as the introductory chapter notes. But that's the case with any edited volume that has a wide ranging theme. Overall, an interesting collection of articles that is highly readable and multi-disciplinary in outlook.