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PSYCHOLINGUISTICS AND SANSKRIT: IS DEVABHASHA MOTHER OF PSYCHOLINGUISTICS?

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Language, in other words the storehouse of all human Knowledge is represented by words and meanings. Language by itself has an Ontological structure, Epistemological underpinnings and Grammar. Across languages, even though words /usages differ, the concept of meanings remain the same in respective communications. Yet the «Meanings» are understood by human beings based on Contextual, Relative, Tonal and Gestural basis. The dictionary meanings or 'as it is' meanings are taken rarely into consideration,thus human language is ambigious in one sense and flexible in other. Computers on the other hand are hard-coded to go by the dictionary meanings. Thus teaching (programming) Computers to understand natural language (human language) has been the biggest challange haunting Scientists ever since the idea of Artificial Intelligence (AI) came into existance. In addition this has lead to the obvious question of «What is intelligence» from a Computation perspective. Defining intelligence precisely being impossible, this field of study has taken many shapes such as Computational Linguistics, Natural Language Processing and «Machine Learning» etc. Artificial Intelligence instead of being used as a blanket term, is now being used increasingly as «Analytics» in many critical applications. Sanskrit being the oldest is also the most Scientific and Structured language. Sanskrit has many hidden Algorithms built into it as part of its vast scientific treatises, for analysing «Meanings» or «Word sense» from many perspectives since time immemorial. «It is perhaps our job to discover and convert the scientific methods inherent in Sanskrit into usable Computational models and Tools for Natural Language Processing rather than reinventing the wheel» – as some Scientists put it. This blog's purpose is to expose some of the hidden intricate tools and methodlgies used in Sanskrit for centuries to derive

181

precise meanings of human language, to a larger audiance particularly Computational Linguists for futher study, analysis and deployment in Natural Language Processing. In addition, Sanskrit even though being flexible as a human language, is the least ambigious as the structure of the language is precisely difined from a semantical and syntactical point of view. From a Psycholinguistic perspective this blog could also give us a glimpse of the advanced linguistic capabilities of our forefathers as well their highly disciplined approach towards the structure and usage.

Sanskrit and Psycholiguitics: Sanskrit scholar William Jones formulated the lexical affinities between Sanskrit, Greek, and Latin in his 1786 lecture for the Asian Society of Calcutta. Such affinities among Indo-European languages had been observed since medieval times, but the budding Romantic notion of evolution became the impetus of explaining these affinities from a common origin of these languages. There must have been some proto-language from which all languages in the family evolved. This raised the question of how primordial human beings began to speak such a simple proto-language. This, one realized, was a psychological issue. Ever since, the empirical study of language origins and language functions in human communication has been an important chapter of psycholinguistics. Studying the emergence of language, in particular of sign languages, is still a rich chapter of psycholinguistics.

Origin, Development and Growth of Psycholinguistics in India and World:

In the nineteenth century, western philosophers began a serious study of the science of language. Vedic scholars had started investigating the etymology and linguistic development (*nirukta*) about two millennium previous. Yāska (fourth century B.C.E) noted the similarity between the roots of words in different languages and created a collection of Sanskrit roots, similar to the recent Proto-Indo European language development. Pānini(fourth century B.C.E) was a grammarian who is often considered the earliest known founder of linguistics.

Psycholinguistics was first developed by Bhartrhari in the fifth century A.D. He taught that the language we use indicates how we perceive and therefore how an individual creates their personal reality- reality as perceived by them. Tāntric literature developed his psycholinguistics more deeply and religiously.

Tāntric philosophy considered the scripture (the tantra) to create reality. It was fundamental to them that reality is perceived through concepts and language, therefore scripture (the tantra or āgama) gives particular concepts and language which alter your individual understanding of reality. A completely objective perspective of the world was not possible through thought that was conditioned by the language we utilize.

Thinking requires language/speech (*vac*), so thought has linguistic form. Therefore thinking cannot exist independently of words/sound (*śabda*). Bhratṛhari used the terms 'consciousness' and 'word/speech' (*vac*) interchangeably. Bhratṛhari believed that as our personal reality is created by the perceiving consciousness, the world we live in is made of the words and sounds which we learn.

Ken Wilber talks about the great *linguistic turn* in western philosophy, which is the realization that language constructs the world we perceive and is not just a simple representation of an objective world. Wilber calls this linguistic turn «just another name for the great transition from modernity to postmodernity. Where both premodern and modern cultures simply and naively used their language to approach the world, the postmodern mind spun on its heels and began to look at language itself.» Wilber naively states that «in the entire history of human beings, this, more or less, had never happened before.» He believes that European-Americans are evolving from phylogenetic consciousness and becoming transverbal since they are now aware of the limits of language and have gained an ability to look at it.[i]

The issue with Wilber's belief here is that linguistics entered Europe in the nineteenth century from a professor of Sanskrit. It existed for two millennia previous to that time. So either the *linguistic turn* is not the signpost of postmodernism or India was postmodern in the fifth century after Bartṛhari.

The pioneering linguist Ferdinandde Saussure taught Sanskrit and Indo-European at the University of Geneva. The Germans found a great interest in the generative grammar of Sanskrit since it explained many of the grammatical structures of many European languages. Saussure lived in a time that India was a British colony. It would have been unscientific to reference coloured skin Hindus for what would become the foundation of modern linguistic science. The British campaign to degrade Indian philosophy was still in vogue but Germany was translating more Sanskrit texts into German than

there are in English today. The first modern Sanskrit dictionary was made in German. The importance to this is that all the major insights taught by Saussure who founded the school of structuralism and hence postmodern poststructuralism were translations of concepts belonging primarily to Bartṛhari. To not reference the actual source of these concepts is to promote Euro-centric prejudice. Even if there is a language and cultural barrier with Sanskrit, it is only scientific to acknowledge the individuals who taught the great insights translated into English by Saussure.

We will look at two primary examples of Saussure's translations. Saussure taught that a linguistic sign is composed of three parts: a material signifier (written or spoken word), the signified (a concept associated with the word), and the actual referent. Bratṛhari taught that within the comprehension of sound there are three primary elements to perceiving. The first is the sound or word (*śabda*) which denotes an object. Then there is the mental apprehension (*pratyaya*) of the meaning of the word, connecting the sound to the object. For example, if I say 'chair', you have the apprehension that I mean something you sit upon (an image of a chair is created in the mind). Then there is the actual object (*artha*) denoted by the word. The consciousness has pratyaya (apprehension) of artha (objects) and names those objects by śabda (word). This concept was developed much more deeply in Tantra and Yoga philosophy and is utilized to understand different levels and states of consciousness.[ii]

In Sanskrit, words can sometimes have over ten meanings. Freedom Cole's perspective is that this is because Sanskrit is a conceptual language not a literal language. A word indicates a concept which can be made to refer to an object, not like European languages that have words that refer to literal objects.[iii] While the English word 'car' refers to a specific thing, the word 'vāhana' in Sanskrit means that which carrying, or conveying, or bringing. Therefore while a car can only be a car, a vāhana can be a car, or a horse, or a poster that conveys a message. And a horse in English only means an animal we know as a horse and it would be poetic to say, «he has the stamina of a horse.» In Sanskrit one would normally just say, «he has horse-stamina» as the concept of horse would be natural to use as an adjective. Because the words have so many possibilities, the meaning is derived from the context. Context creates the meaning. This is standard Sanskrit grammar, not a new discovery of the nineteenth century.

Conclusion

Deeper than this Bratṛhari gave his opinion about how we get meaning from the words in the sentence which I would call psycholinguistics. There was the nyāya philosophy that believed that each word was taken into the consciousness, analysed, understood and then made into meaning. Bratṛhari believed that there was a deeper level of consciousness that 'intellectually-intuited' what the sentence was meaning. He called this pratibha (intelligence-intuition). As a grammarian and psycholinguist he felt that the grammar was the method of allowing the words to come together in a way that conveyed a concept, and that the higher intellect gets that concept (even before a sentence is complete sometimes).

If linguistics is the sign of postmodernity, was fifth century India postmodern or is the concept that the *linguistic turn* as the signpost of postmodernism an incorrect statement. The opinion of Freedom Cole is that the nomenclature of modernism and its pre and post development is only temporally appropriate and will be called something much different by future generations. Proper nomenclature will remove the question itself, and proper sourcing of Saussure's concepts will give a less Eurocentric world for the future.

[i]   Wilber, *Integral Psychology*, 164-165

[ii] Which Freedom plans to write about in some upcoming works speaking on the anatomy of consciousness from the perspective of Tantra, Yoga and Āyurveda. Linguistics is a very important element of traditional Tāntric andĀgamic literature.

[iii] It is for this reason that there are no ancient Sanskrit dictionaries. There are collections of word roots, and thesauruses and manuals describing how they are using their terminology, but there are not dictionaries as they taught the concepts of the base root word and then understood how the grammatical changes influenced how that word would be utilized. Then context was required to make meaning of this creation. Sanskrit does not have a static dictionary of words, they have rules about how words are made, and new words can be made even today following those rules.

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