

LANGUAGE IN INDIA
Strength for Today and Bright Hope for Tomorrow
Volume 11 : 7 July 2011
ISSN 1930-2940

Managing Editor: M. S. Thirumalai, Ph.D.
Editors: B. Mallikarjun, Ph.D.
Sam Mohanlal, Ph.D.
B. A. Sharada, Ph.D.
A. R. Fatihi, Ph.D.
Lakhan Gusain, Ph.D.
Jennifer Marie Bayer, Ph.D.
S. M. Ravichandran, Ph.D.
G. Baskaran, Ph.D.
L. Ramamoorthy, Ph.D.

**Insights regarding Parapraxis in
Classical Tamil Literature *Thirukkural***

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Abstract

Introduction

Language plays a critical and central role in various aspects of human life. Study of the neural mechanisms that control comprehension, production, and acquisition of language is a separate interdisciplinary field in neurophysiology called “Neurolinguistics”.

Sigmund Freud introduced the word “Parapraxis” in 1901 which encompasses the range of mistaken perceptions, actions or speech occurring when the subconscious and the conscious mind work in non-aligned agendas.

Enumerating the scientific wisdom in the ancient Indian literature is a highly potential area for integrating medial and linguistic research

Aim

To conduct a Psychophysiological linguistic medical research by doing a critical analysis of the insights related to “Word processing in human beings” which are embedded in the *Kural* numbered 139, in the 14th chapter of the Classical Tamil Literature, *Thirukkural*.

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*

Material and Methods

This neurolinguistic study elucidates the insights embedded in one single specific Kural numbered as “139”, which relates to the neuropsychological phenomena of “**Word processing in Human brain.**” A word by word critical analysis was done in an unbiased manner based on the authenticated English translations.

Results and Discussion

Valuvar portrays the idea that “**by the slip of the tongue**”, it is possible for humans to utter inflammatory words which can otherwise be preferentially avoided consciously by virtue of suppression.

Conclusion

In Kural 139, Valluvar has put forward a concept which was reflected by Sigmund Freud in the beginning of the 20th century and proved by Neurolinguistics in the 21st century. Astonishingly the words that carry the literal meaning of “**SLIP**” were used by both Valluvar and Freud in their own languages.

Introduction

Language is a specific human capacity, universal to all humans and it is innate in nature¹, the scientific study of it is denoted by the term “Linguistics”, for a metamorphic relation exists between "Language" and the "Tongue". Language plays a critical and central role in various aspects of human life. It involves the activation, co-ordination and integration of a complex representational system and it plays an important role in the social functioning of the human society as a whole. Neurobiologically, it refers to the cognitive faculty of the higher centers of the brain that enable learning and the use of complex communication systems. From a comparative physiology point of view, the faculty of language in the human species is fundamentally different and is comparatively of a greater complexity. The architectural arrangement of language is built upon the basis of a set of rules which relates symbols to their meanings enabling an infinite number of possible utterances from a finite number of elements. Moreover, it can only be acquired through social interaction, unlike as in lower animals in which a finite number of utterances are mostly transmitted via the gene².

According to the concepts of evolutionary physiology, the expressive signs initially used by early hominids for communication later evolved into Language due to expansion of the brain volume. The spoken language contains a phonological system that governs the usage of sounds to form sequences known as words and a syntactic system that governs the usage of words and morphemes. The richness is enormous for the spoken language

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*

when compared to its written form, as the spoken words are strung into syntactically organized sentences and phrases. The vocabulary and syntax together with the speech sounds it uses define its identity as a particular natural language.

Even as the speech errors play a crucial role in speech production research, little is known about the underlying brain processes. The human language system is complex and obviously lacks an animal model for research. In speaking aloud, humans produce up to 150 words in a minute. Speech production is an extremely rapid and seemingly effortless process with speech errors in normal subjects being rare. Even as the psycholinguistic models incorporate elaborate monitoring mechanisms to prevent and correct errors, the brain regions involved in their commitment, detection, and correction have remained elusive. The event-related brain potentials enable to locate the specific brain activity prior to the vocalization of speech errors.

Language is the bridge to reality. The words used by humans in their daily lives can reveal important aspects of their social and psychological worlds, the individuals' choice of words can hint at their social status, age, sex, and motives, the unconscious asserts itself through language. The act of speaking requires to proceed from the intention of what to say to semantic, syntactic, phonological, and articulatory processing stages within milliseconds (Levelt 1989)³. The study of the neural mechanisms that controls comprehension, production, and acquisition of language is a separate interdisciplinary field in neurophysiology called "Neurolinguistics", which is the study of the physiological mechanisms by which brain processes information related to language and evaluates the linguistic and psycholinguistic theories⁴. Research in it investigates the process of language formation and processing and relates it to the brain structures to explore the pathophysiology related to speech and language. Whereas Psycholinguistics is an interdisciplinary field concerned with the nature of the computations and processes that the brain undergoes to comprehend and produce language. It deals with the elucidation of the cognitive mechanisms related to language. Analyses of speech errors are an important source of speech production research, since it reveals the insights in underlying representations and processes.

Parapraxis

Sigismund Schlomo Freud (1856 – 1939) in his monograph, "*Psychopathology of everyday life*" (1901) introduced the word Parapraxis. It literally means as "*die Fehlleistung*", 'Faulty action'. It describes the unintentional miscommunication occurring during daily human interactions. It encompasses the range of speech errors which occurs when the subconscious and the conscious mind work in non-aligned agendas. It is referred to as the Freudian slips and also as Slip of the Tongue (S O T). Most models of speech production planning are developed out of errors in speech production planning, the SOT, are extensively used in psycholinguistic research to answer questions about

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*

both the structures of specific languages and the representation and processing of language in general.

Parapraxis describes an act that appears to be unintentional but understandable through psychoanalytic exploration. It can be perfectly motivated and unconsciously determined. It raises an issue that is fundamental for psychoanalytic thought, the link between psychic determinism and the unconscious⁵. Freud described and analyzed a large number of seemingly trivial, bizarre, or nonsensical errors and slips and postulated that these phenomena are not accidental and that they carry a meaning tagged to them which can be interpreted as occurring due to the interference of some unconscious ("dynamically repressed") wish, conflict, or thought, Freud placed this phenomena under the preview of Classical Psychoanalysis.

Parapraxes are brief delimited disturbances which are accidental verbal slips of the tongue⁶; clear deviations from the apparently intended form of an utterance⁷. They can be subdivided into spontaneously and inadvertently produced speech errors and intentionally produced word-plays or puns. Errors in speech production and perception can also be called as performance errors. They are of an explanatory value with regards to the nature of language and its production. Slips can happen at multiple levels, which can be syntactic , phrasal , lexical semantic and even at the morphological and phonological level and they can assume more than one form like additions, substations, deletion, exchange, anticipation, perseveration, shifts, and haplogies, they represent an important demonstration of disturbances created by the unconscious mind.

Freudian slip are verbal or memory mistakes linked to the subconscious mind. Freud believed that these errors are actually psychologically relevant and so can reveal an unconscious thought, belief or wish. Two factors can play a role in bringing to consciousness the substitutive names, first the effort of attention and second the inner determinant which adheres to the psychic material. Moreover the cognitive psychologists claim that these slips can also represent a sequencing conflict in grammar production and may be due to cognitive underspecification.

The low incidence of speech errors not amounting to more than about 1 in every 1000 words of normal speech (Leuninger 1993) demonstrate that the production of speech is a highly skilled behavior with low susceptibility to interference. The speakers have the capability to detect and correct some of their errors even before they are produced, as suggested by early interruptions of unintended utterances (Levelt 1989; Blackmer and Mitton 1991), speak for the existence of mechanisms allowing for the self-monitoring of ones own speech production even before articulation³. They occur on an occasional basis by all speakers and can occur more often when the speakers are nervous, tired, and anxious or inebriated.

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*

The prefrontal cortex is of fundamental importance in executive control across a wide range of cognitive domains including language, the left temporal regions, especially the anterior and midventrolateral aspects are critical for the semantic store, the left inferior frontal gyrus (IFG) regulates the recovery of semantic information presumably via top-down signals to temporal cortex.

Multiple areas of the brain play an established role in the “multiple-demand” system, which mediates all tasks of high executive requirements irrespective of domain. Neuroimaging studies show that a distributed set of brain regions is activated by multiple executively demanding tasks, both semantic and nonsemantic, including inferior frontal sulcus, dorsolateral prefrontal cortex, supplementary motor areas, adjacent cingulate cortex, and areas in and around the intraparietal sulcus. Recent neuroimaging studies report the activation of posterior middle temporal gyrus (pMTG) alongside IFG during situations of high semantic control demand, the IFG-pMTG activation is complemented by increased neural responses in dorso and ventrolateral prefrontal cortex, anterior cingulate, angular gyrus, and/or superior parietal cortex.

Deficits of semantic control are noticeable also in patients following left temporoparietal lesions. The importance of IFG in semantic control can be appreciated better in patients with active pathophysiological processes occurring in the brain. It leads the patients to manifest behavioral deficits in situations characterized by strong competition between potential responses, increasing the need for semantic selection, as is encountered during sentence completion tasks with low compared to high predictive endings.

Ancient Indian Literature and Slip of the Tongue

Enumerating the scientific wisdom in the ancient Indian (Tamil) literature is a highly potential area for integrating medial and linguistic research. An elaborate list of classical literatures extending up to 2800 separate works by more than 470 separate authors, which were cherished for their literary excellence for more than 2000 years were actually carrying varying grades of scientific information hidden and embedded. This research paper enumerates a specific neurophysiological insight and reviews it with the latest neurophysiological observations which are less than a few decades older.

Thirukkural

Thirukkural is first work of the Dravidian literature that focuses on ethics. Authored by a single author - Thiruvalluvar, it stands as a classical literature truly unique in its anatomical architecture amongst all the literary works of the world. It is a highly organized collection up of 1330 rhyming Tamil couplets placed into 3 sections spread over 133 chapters, each containing 10 couplets. The timeline of Valluvar has been derived to be between 200 BC and 30 BC.

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*

Critical analysis of the Kural allows us to comprehend a clearer picture about the intellectual acumen of the ancient Tamils who inhabited our landscape some twenty centuries earlier.

Aim

To conduct a psychophysiological linguistic medical research by doing a critical analysis about the insights related to “Word processing in human beings” which are embedded in the **Kural numbered 139**, in the **fourteenth chapter** of the Classical Tamil Literature, **Thirukkural**. The heading for the chapter is “**The Wealth of Demeanour.**”

Material and Methods

This study comes under the preview of Neurolinguistics as it elucidates the insights embedded in one single specific Kural numbered as “139”, which relates to the neuropsychological phenomena of “**Word processing in Human brain**”. A word by word critical analysis was done in an unbiased manner based on the authenticated translation of the Thirukkural done by Rev. Dr. G. U. Pope, Rev W. H. Drew, Rev. John Lazarus and Mr. F. W. Ellis and M.S. Purnalingam Pillai.

Results and Discussion

In the specifically analyzed Kural numbered 139, Valluvar dwells on the psychophysiology related to the process of word processing in humans. The original Tamil version reads as, “ஒழுக்க முடையவர்க்கு ஒல்லாவே தீய; வழுக்கியும் வாயாற் சொல்லல்”. The authentic English translation for this Kural is “*It cannot be that they who 'strict decorum's' law fulfil, E'en in **forgetful mood**, should utter words of ill*” and the explanation for the Kural is that “*Those who study propriety of conduct will not **speak evil**, even forgetfully.*” “*It is not possible for men of good demeanour to utter evil words even by way of **slip**.*”

In the above mentioned *kural*, Valluvar portrays the idea that “**by the slip of the tongue**”, it is possible for humans to utter inflammatory words which can otherwise be preferentially avoided consciously by virtue of suppression. In other words, without proper conscious control on the vocabulary, aberrant slips of full words are a clear possibility. Furthermore, Valluvar describes the possibility of a person speaking a word even in the absence of any intention of uttering that specific word. The uttered word may well be uttered by mistake and by forgetfulness. The particular concept that unintended words can slip from the subconscious mind into the conscious utterances carries with it a greater significance, which can be appreciated by considering an exact parallel description of it which was made by one of the greatest pioneers in the world of

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*

psychology, Sigmund Freud. The concept is that the inner workings of a highly complex system can be easily revealed when the system breaks down.

The focus that Valluvar touches upon elegantly is a scintillating arena in the Neurophysiology related to Language use by humans. Valluvar has coined the Kural numbered 139, with a premise that the process of word formation in the brain can be influenced by the other parts of the brain, a concept which is absolutely accepted and proved by modern neurophysiology by virtue of research done across the past century.

Modern neurophysiology elucidates that the subcortical circuits of the brain are the centers for emotion, and they play an important role in the functioning of the prefrontal cortical activities of thinking, planning, deciding, and reasoning, physiological views strongly supported by neuroscientific evidences³.

Valluvar refers that the slipping word can reflect the true character of an individual. In a parallel thought process, Freud also believed that such slips result from the repressed thoughts that are revealed by the particular errors which actually paint an idea about the structure and organization of the mental dictionary. Interestingly, Freud declared that the motives behind the slips can often be classified as sexual⁷ akin to the view of Valluvar that the slips are evil words released unintentionally reflecting the internal decorum suppressed by the conscious part of the brain.

Valluvar believes in the concept that speech errors can be averted by conscious awareness and by exerting cognitive control, again - facts accepted by modern neurophysiology. Gehring and Donchin (1993) reported with electrophysiological evidence about the brain mechanism that are dedicated to monitor performance and to compensate for errors, they described about a component of the human event-related potential, called the error-related negativity (ERN), characterized by a negative peak about 100 ms following the onset of electromyographic (EMG) activity suggesting the existence of a neural system whose activity is reflected by the ERN is involved in the active inhibition and correction of an error as soon as it is detected. The localization of this neural system in the brain may be at the anterior cingulate cortex and supplementary motor areas⁸.

The idea shared by Valluvar and Sigmund Freud that the uttered words can reflect the inner self is truly fascinating when viewed on the basis of the timeline at which it is revealed, the language use can well be an attractive as well as subtle diagnostic marker, for the features of disease and / or health-related behaviors may also well be tied to language use. Modern day neurophysiologists and behavioral scientists have identified and have started to appreciate the link that exists between language use and clinical disorders only during the past century, which has resulted in a comparatively large number of clinical case studies as well as empirical investigations.

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*

The general inquirer can well be a diagnostic tool for psychiatric disorders. The linguistic analyses of speech samples can reliably and accurately classify patients into diagnostic groups, such as schizophrenia, depression, paranoia, or somatization disorder. Depressed individuals show an elevated use of first person singular pronouns and use less of second person and third person pronouns. The suicidal ideation in an individual can also be linguistically detected. The convergent results from studies of depression, suicidal ideation, and mania suggest that affective disorders are characterized by a high degree of self-preoccupation.

First person pronoun use in the structured interview is related to systolic and diastolic blood pressure, coronary atherosclerosis, and prospectively to CHD incidence and mortality, interestingly the relationship between self-involvement and CHD outcomes in most cases remains significant even after statistically controlling for traditional risk factors such as age, cholesterol, cigarette smoking, and Type A behavior.

The neural underpinnings of the crucial function of language processing is complex. It draws a large-scale distributed network of interconnected brain regions⁹. The connectivity analyses by neurophysiologists supports the view that PMTG works in concert with left prefrontal cortex to permit strategic access to semantic representations stored elsewhere in the brain like the anterior and inferior portions of the temporal lobe.

With particular reference to the words of Valluvar that, “*It is not possible for men of good demeanour to utter evil words even by way of slip*”, Valluvar believes that inner levels of honesty and integrity can negatively affect the word processing. This concept is completely accepted by neurophysiology and is in tune with the concept that the voice characteristics and other nonverbal and paralinguistic cues can shift depending on the formality of the situation, the nature of the audience, and the degree to which the speaker is integrated with or excluded from the other actors¹⁰.

Human brain has the ability to change the ways a talk is delivered when being honest versus deceptive. Liars often avoid statements of ownership either to “dissociate” themselves from their words or owing to a lack of personal experience, similarly the liars were more “non-immediate” than truth-tellers, and referred to themselves less often in their stories¹⁰.

Analysis of laboratory studies in which subjects were induced either to tell the truth or to lie about their thoughts or behaviors reveals that the truth-tellers consistently use a higher rate of first person singular pronouns (Newman et al. 2002). When the individuals are made to be self-aware, they are more “honest” with themselves (Vorauer & Ross 1999) and their self-reference increases, thus the deceptive communications are characterized by fewer first person singular pronouns, and in addition to pronoun use the act of deception is generally associated with heightened anxiety and, in some cases, guilt. Studies done elsewhere have found slight but consistent elevations in the use of negative

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*

emotion words during deception compared with telling the truth (Vrij 2000). During routine comprehension those who reveal the truth usually include in their vocabulary far more exclusive words when compared to lying. The truth-tellers use far more words than did liars. In the act of deception, it is far too complex to invent what was done versus what was not done (Newman et al, 2002). Thus, it can be concluded that the markers of cognitive complexity are associated with truth-telling¹⁰.

Thus, both Valluvar and Freud, the two great personalities separated across centuries, have actually shared a similar thought process and have believed that the slips can be the reflections of the inner self, more exactly - the negative aspect of the self, facts endorsed by modern psychophysiology.

Conclusion

In Kural 139, Valluvar has put forward a concept some twenty centuries earlier that during the process of word processing, unintended uttering of slips are a possibility and moreover they are clearly under the influence of the emotional stature of the person, a concept which was reflected by Sigmund Freud in the beginning of the twentieth century and was proved by Neurolinguistics in the twenty-first century. It is astonishing to note that the words that carry the literal meaning of “**SLIP**” were used by both Valluvar and Freud in their own languages.

References

1. Marc D. Hauser; (2003). What are the uniquely human components of the Language faculty? *Language Evolution: The States of the Art*. Oxford University Press.
2. Tomasello, Michael (2008). *Origin of Human Communication*. MIT Press.
3. Jurn Moller;(2007);What the Brain Does before the Tongue Slips. *Journal of Cerebral Cortex* 17:1173-1178.
4. Peng F.C.C. (1985). What is neurolinguistics? *Journal of Neurolinguistics* 1 : 7.
5. Freud, Sigmund (1901b). *The psychopathology of everyday life*. SE,6.
6. Tom McArthur. Freudian Slip. *Concise Oxford Companion to the English Language*. Oxford University Press, 1998.
7. Bussmann, Hadumod. *Routledge dictionary of language and linguistics*. Routledge: London 1996, 449.

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*

8. Stanislas Dehaene. (1994) Localization of a Neural System for Error Detection and Compensation. *Journal of Psychological Science*. Vol. 5, Number 5.
 9. Carin Whitney. 2011. The Neural Organization of Semantic Control: TMS Evidence for a Distributed Network in Left Inferior Frontal and Posterior Middle Temporal Gyrus. *Cerebral Cortex*. May 2011; 21:1066—1075.
 10. James W. Pennebaker. 2003. Psychological Aspects of Natural Language Use; Our Words, Ourselves. *Annual Review of Psychol.* 54:547–77.
-

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.
Psychophysiology Research Scholar
Assistant Professor in Physiology
Sri Ramachandra University
Chennai 600040
Tamilnadu
India

Language in India www.languageinindia.com

11 : 7 July 2011

M. Semmal Syed Meerasa, MBBS,DLO, M.Sc., MD., M.Phil.

Insights regarding Parapraxis in Classical Tamil Literature *Thirukkural*